



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

20 December 2012

MEMORANDUM Adjutant General VI ARNG, ATTN: **Non-Responsive** Armory
Commander, 10 and 18 A Estate Bethlehem, St. Croix, USVI 00850

Thru: **Non-Responsive** Deputy State Surgeon 4031 la Grande, Princesse Lot IB, Christiansted,
Virgin Islands 00820-4353

SUBJECT: Transmittal of Industrial Hygiene Survey Report of VIARNG LTC Lionel A.
Jackson Armory, St. Croix, VI

1. References.
 - a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.
 - b. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
 - c. Title 29, Code of Federal Regulations (CFR), 2009 rev., part 1910, Occupational Safety and Health Standards.
 - d. Title 29 CFR, General Industry, revised 1996 rev. Part 1940
 - e. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007
 - f. AR 385-10, the Army Safety Program, 23 August 2007.
 - g. AR 11-34, 15 February 1990, the Army Respiratory Protection Program.
 - h. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 12 September 2008.
 - i. TB MED 503, the Army Industrial Hygiene Program, 30 October 2000.
 - j. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
 - k. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
 - l. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

2. General. At the request of **Non-Responsive** Deputy State Surgeon and the Safety & Occupational Health Office an Industrial Hygiene Service was put together to conduct an IH Survey of the VI ARNG LTC Lionel A. Jackson Armory, St. Croix, USVI.

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Armory, St. Croix, VI

3. Findings. All sampling data and field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1). Operations of very short duration were not sampled due to the requirements of the sampling method. If the operation changes or if the length of the operation is increased, contact this office to schedule sampling if it is deemed needed then.

4. Recommendations.

- a. Follow all recommendations made in the report enclosed, requesting industrial hygiene (IH) services where needed to complete the recommendations
- b. The remarks 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.
- c. Have all HHIM data entered into the HHIM computer module.
- d. Use the report to help in correcting all deficiencies noted.
- e. 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.
- f. Contact the State Occupational Health Office, for any medical Surveillance that may be needed.
- g. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

Non-Responsive

State Safety Manager, ATTN: **Non-Responsive** 4031 La Grande Princess, Lot
1B, Christiansted, St. Croix USVI 00820-4353.

ENCL.

as

VIRGIN ISLANDS ARMY NATIONAL GUARD
(VI ARNG)



LTC LIONEL A. JACKSON ARMORY
10 AND 18 A ESTATE BETHLEHEM
ST. CROIX, VI 00850

Industrial Hygiene Report
For
Virgin Island Army National Guard
(VI ARNG)

At
LTC Lionel A. Jackson Armory
10 and 18 A Estate Bethlehem
St. Croix, USVI 00850

Prepared for:
Department of the Army and Air Force
National Guard Bureau
Industrial Hygiene Office
Region South
510 Plaza Drive, Suite 1530
College Park, Georgia 30349

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- D. HHIM REPORTS
- E. PHOTOGRAPH INDEX AND PHOTOGRAPHS
- F. NGB DG 415-2, TABLE 8, ELECTRICAL REQUIREMENTS

SUBJECT:

Industrial Hygiene Survey of the Virgin Islands Army National Guard's Lionel A. Jackson Armory, located in St. Croix, USVI.

BACKGROUND:**Introduction:**

At the request of **Non-Responsive** of the Army National Guard Bureau Region South Industrial Hygiene Office, an Industrial Hygiene Survey was conducted for the Virgin Islands Lionel A. Jackson Army National Guard Armory, located in St. Croix, USVI. George W. Hinchliffe, dba HINCHCO, along with the VI ARNG IHT and Occupational Health Nurse, conducted the survey on 22-23 OCT 2012. The last Industrial Hygiene Survey was conducted on 21 July 2009. The main Point of Contact for the Armory is **Non-Responsive**

Non-Responsive**Site Description:**

The Lionel A. Jackson armory sits within the USVI Army National Guard complex that also includes the USPFO and Warehouse, and the new RTI which is currently under construction (85% complete). The armory was constructed in 1994 and is of concrete and steel construction. The approximate square footage of the building is in excess of 45,000 square feet.

The Armory houses seven (7) main units: 661st MP, 651st MAINT CO, 652nd ENG, HQ, HHD, 104th TRP CMD, 630th TWDS, and the Readiness Group.

The Armory has an Indoor Firing Range which is currently closed due to lead contamination. The Armory also has four (4) Arms Vaults. Lead wipe testing was accomplished for the vaults and the armory drill floor. Results will be addressed later in the narrative of this report.

The Armory has undergone a complete rehab over the last year and a half. The armory had several water leaks, mold and mildew build-up, and ventilation problems.

A new metal roof has been placed on the building, new HVAC duct work and HVAC systems installed. Mold damaged materials have been replaced (walls, studs, flooring, carpeting, ceiling tiles, etc.). New drywall, flooring, studs, roof, ceiling tiles, have been installed. The work is approximately 90% complete. There are a few areas that need minor work to complete and a couple of areas such as the men's locker room which needs a lot of work to complete. New illumination has been installed in several areas. There are still several areas that need improvement to bring up to illumination standards as per NGB DG 415-2.

Overall, the interior of the armory looks basically new. At the present time, there appears to be no water leaks, mold build-up, or ventilation problems within the armory.

Scope of Work:

The Industrial Hygiene Survey conducted at the St. Croix armory consisted of an Illumination Survey, Indoor Air Quality Survey, water leakage, inspection of the building for mold, mildew, ventilation issues, and lead wipe testing of the four arms vaults and the armory drill floor. There were no noise hazardous items encountered during the surveying process. There were no hazardous chemicals present in the armory environment.

Methodology:

Interviews with the armory manager, LTC Harvey and several of the fulltime employees was completed to ensure the armory provided a safe and healthy work environment for the work force. There were no complaints about any of the issues examined in the scope of work section above.

Two main instruments were utilized during the Industrial Hygiene Survey at the armory:

- Extech Heavy Duty Light Meter, Serial Number Q00947, Calibration Date of 04 JAN 12.
- SUPCO, Indoor Air Quality Meter, Model IAQ5, Serial Number 9923463, Calibration Date of 12 JUN 12.

Lead wipe collection was accomplished with 12" X 12" templates and medium utilized was "Ghost Wipes."

All tests and procedures conducted during the Industrial Hygiene Surveying process were conducted in accordance with usual and customary generally accepted Industrial Hygiene protocol.

FINDINGS:

The main point of contact during the Industrial Hygiene Survey was LTC Elvis Harvey. He can be reached telephonically at 340-712-7920.

Illumination Survey:

An Illumination Survey was conducted for all available areas within the St. Croix Armory. Measurements were taken with the aforementioned Extech Heavy Duty Light Meter. Settings were in foot-candles, in accordance with the type illumination present, and within proper range (fc). Measurements were taken on work surfaces and approximately four (4') feet from the floor. Emphasis was placed on actual work stations in areas where employees regularly work.

The standard utilized for measurement of adequate illumination was National Guard Bureau's Design Guide 415-2, Table 8, Electrical Requirements. A copy of table 8 is attached in Appendix F of this report.

The illumination survey was performed on a bright sunny day.

FINDINGS:

The chart below depicts the average illumination recorded within a specific area. For areas where more than one reading was taken, refer to the Illumination Worksheet located in Appendix B of this report.

<u>LOCATION</u>	<u>FOOT-CANDLES RECORDED</u>	<u>STANDARD PER NGB DG 415-2</u>	<u>STD. MET?</u>
RM 1001 VEHICLE BAY	9	50	NO
RM 1054 STORAGE	12	20	NO
RM 1062 STORAGE	22	20	YES
RM 1001 OFFICE	14	50	NO
RM 1052 STORAGE	29	20	YES
RM 1051 STORAGE	26	20	YES
RM 1047 MEN'S LOCKER RM	19	30	NO
RM 1043 FOOD STORAGE	29	50	NO
RM 1048 KITCHEN	40	50	NO
RM 1045 SCULLERY	65	50	YES
RM 1046 FEMALE LOCKER RM	39	30	YES
RM 1038 OFFICE	74	50	YES
RM 1037 OFFICE	61	50	YES
RM 1036 OFFICE	74	50	YES
RM 1035 OFFICE	53	50	YES
RM 1033 OFFICE	52	50	YES
RM 1006 DRILL FLOOR	7	50	NO
RM 1011 STORAGE	10	20	NO
RM 1010 STORAGE	20	20	YES
RM 1009 STORAGE	14	20	NO
RM 1014 OFFICE	82	50	YES
RM 1015 LIBRARY	55	50	YES
RM 1017 CLASSROOM	67	50	YES
RM 1019 OFFICE	33	50	NO
RM 1020 OFFICE	33	50	NO
RM 1022 OFFICE	59	50	YES

<u>LOCATION</u>	<u>FOOT-CANDLES RECORDED</u>	<u>STANDARD PER NGB DG 415-2</u>	<u>STD. MET?</u>
RM 1023 OFFICE	41	50	NO
RM 1025 OFFICE	54	50	YES
RM 1026 OFFICE	27	50	NO
RM 1027 OFFICE	57	50	YES
RM 1030 OFFICE	31	50	NO
RM 1029 OFFICE	70	50	YES
RM 1031 OFFICE	75	50	YES

*The Drill Floor does not have any operational lighting. Several areas throughout the St. Croix Armory are well under the illumination standard as set forth in NGB DG 415-2, Table 8, Electrical Requirements.

Ventilation Survey and Indoor Air Quality Survey:

The SUPCO IAQ Meter was utilized to gather Indoor Air Quality readings throughout the St. Croix Armory.

FINDINGS:

Ventilation checks were conducted throughout the armory. Air handlers appeared to be well balanced and are providing good air movement throughout the armory. The air conditioning units are either new or refurbished. New duct work has been installed and more efficient HVAC systems installed. There were no complaints by any of the employees regarding working conditions. Everyone felt it was a marked improvement from past times.

Indoor air quality readings were taken throughout the armory. The base outside ambient air readings were: Carbon Dioxide 406ppm; Temperature 87F, and relative humidity of 64%. The temperature dew point spread was 20 degrees.

THE CHART BELOW DEPICTS THE READINGS/RECORDINGS THROUGHOUT THE ST. CROIX ARMORY:

<u>AREA</u>	<u>CO2 (ppm)</u>	<u>TEMP F</u>	<u>HUMIDITY%</u>
RM 1054	536	74	57
RM 1047	482	77	63
RM 1038	558	72	54
RM 1015	492	73	55
RM 1033	615	72	52
RM 1024	560	67	52
RM 1020	593	74	50
RM 1017	631	69	51

CARBON DIOXIDE LEVELS ABOVE 1000ppm USUALLY INDICATES THE POSSIBILITY OF CARBON MONOXIDE PRESENCE. NO READINGS CAME CLOSE TO APPROACHING THE 1000ppm.

THE STANDARD STATES IDEAL TEMPERATURE RANGE OF 68F TO 76F. RECOMMENDED HUMIDITY LEVELS OF 30%-60%.

The armory appears to meet the standards and the formation of mold should not occur if the temperature, humidity, and no water leakage is present.

BUILDING SURVEY/CONDITION:**FINDINGS:**

There has been a marked improvement to the condition of the building since the last Industrial Hygiene Survey. The armory has undergone pretty much a complete rehab. A new metal roof has been installed which replaced the old leaking roof. Mold and mildew problems have been addressed and completely abated. The HVAC system has been refurbished and some parts replaced. The indoor air quality is much better and the ventilation system is very efficient.

New walls, ceiling tiles, and flooring have been installed throughout most of the building. The rehab is approximately 90% complete. All of the main items have been addressed. The only items remaining are painting and flooring in a few areas, and the men's locker room requires remodeling.

The indoor firing range has been closed some time ago and is still closed due to lack of funds for cleaning. Range is kept locked and no one allowed entrance.

The arms vaults are relatively clean with a few exceptions (in regard to lead contamination).

There were no signs of water leakage since the new roof was installed. There were no indications of any mold or mildew presence.

There were no indications of rodent or insect infestations.

There are several areas where the illumination is well under the prescribed standard.

LEAD WIPE SAMPLING:**FINDINGS:**

Lead wipe sampling was performed for the four (4) arms vaults located in the armory and for the armory drill floor.

The wipe samples were taken utilizing 12" X12" templates and "Ghost Wipes" as the collection medium. The submission forms and lab results for the sampling are located in Appendix C of this report.

EACH OF THE ARMS VAULTS AND THE DRILL FLOOR WILL BE DISCUSSED SEPARATELY:

ARMORY DRILL FLOOR:

FIFTEEN (15) LEAD WIPE SAMPLES WERE TAKEN ON THE ARMORY DRILL FLOOR. THE SAMPLES WERE TAKEN NORTH TO SOUTH AND LEFT TO RIGHT IN ROWS OF THREE (SEE DIAGRAM OF SAMPLE LOCATIONS IN APPENDIX C. THE RESULTS INDICATED 3.0ug OF LEAD AT SAMPLE 00-08L, 2.7ug AT SAMPLE 00-15L, AND NO LEAD DETECTED AT ALL OTHER SAMPLE AREAS.

ARMS VAULT #1, 630TH OM:

FIVE (5) LEAD WIPE SAMPLES WERE TAKEN IN THE 630TH OM ARMS VAULT. SEE DIAGRAM IN APPENDIX C FOR THE WIPE SAMPLE AREAS. SAMPLE ANALYSIS WAS AS FOLLOWS: CO-01A = 30ug; CO-02A = 44ug; CO-03A = 28ug; CO-04A = 13ug; and CO-05A = 4.0ug.

ARMS VAULT #2, 652ND ENG:

FIVE (5) WIPE SAMPLES WERE TAKEN IN THE 652ND ENG ARMS VAULT. SEE DIAGRAM IN APPENDIX C FOR THE WIPE SAMPLE AREAS. SAMPLE ANALYSIS WAS AS FOLLOWS: CO-01A2 = 45; CO-02A2 = 41ug; CO-03A2 = 19ug; CO-04A2 = 6.2ug; and CO-05A2 = 9.0.

ARMS VAULT #3, 651ST ENG:

EIGHT (8) LEAD WIPE SAMPLES WERE TAKEN IN THE 651ST ENG ARMS VAULT. SEE DIAGRAM IN APPENDIX C FOR THE LEAD WIPE LOCATIONS. SAMPLE ANALYSIS AS FOLLOWS: CO-01A3 = ND; CO-02A3 = 280ug; CO-03A3 = 91ug; CO-04A3 = 410ug; CO-05A3 = 160ug; CO-06A3 = 92ug; CO-07A3 = 23ug; and CO-08A3 = 24ug.

ARMS VAULT #4 661ST MP

SEVEN (7) WIPE SAMPLES WERE TAKEN IN THE 661ST MP ARMS VAULT. SEE DIAGRAM IN APPENDIX C FOR WIPE SAMPLE LOCATIONS. SAMPLE ANALYSIS AS FOLLOWS: CO-01A4 = 120ug; CO-02A4 = 83ug; CO-03A4 = 57ug; CO-05A4 = 50ug; CO-06A4 = 29ug; and CO-07A4 = 45ug

ARMS VAULTS # 1, 2, AND 4 HAVE LEAD PRESENT. HOWEVER, THE LEAD LEVELS ARE BELOW THE ACTION LEVEL OF 200ug/sq.ft.

ARMS VAULT #3 HAS LEAD LEVELS PRESENT ABOVE THE ACTION LEVEL OF 200ug/sq.ft. (2 Samples).

GUARD SHACK MOLD SAMPLING**FINDINGS:**

At the request of the Command, mold sampling was performed for the east guard shack leading into the St. Croix Armory Complex. The results indicated no presence of mold. The results are located in Appendix C of this report. An IAQ of the shack was completed. The results indicated: 424ppm of carbon dioxide, 90F, and 66% humidity. The outside ambient air readings were 412ppm carbon dioxide, 89F, and 64% humidity. The guard shack is not utilized due to no air conditioning, ventilation, and assuming there was mold growth in the shack. The air conditioning unit is inoperable.

EXECUTIVE SUMMARY**TOPIC: ILLUMINATION SURVEY****FINDINGS:**

There were several areas within the armory that did not meet the NGB DG 415-2, Table 8, Electrical Requirements, standard. Several of these areas are inhabited on a full-time basis. There are no operational lights on the Drill Floor. The kitchen area is under illuminated. Several offices do not meet the 50 foot-candle requirement. There are also several uninhabited areas that do not meet the standard. (RAC 3)

TOPIC: VENTILATION SURVEY/INDOOR AIR QUALITY SURVEY**FINDINGS:**

A complete rehab of the HVAC has been performed over the last several months. New duct work has been installed in several areas. The air handlers appear to be well balanced and the ventilation meets the standards. Indoor Air Quality was tested in regard to carbon dioxide, temperature, humidity, and tem/dew point spread. Under the current conditions, the IAW appears to be exceptional good. There were no unusually high carbon dioxide readings, the temperature was within the guidelines (68 -76 degrees), the humidity levels were also within range (30-60%). The temperature dew point spread was 20 degrees. (RAC 4)

TOPIC: BUILDING SURVEY/CONDITION**FINDINGS:**

The armory has been undergoing a complete rehab since the last Industrial Hygiene Survey. There were leaks in the roof, mold/mildew accumulation, poor ventilation, and deteriorating walls and flooring. The HVAC system underwent a major rehab. Walls and floors have been replaced (for the most part), all mold and mildew infested items have been abated and replaced with new material (drywall, studs, ceiling tiles, etc.). A new metal roof has been installed. There are no signs of water leakage, mold, mildew, or pest infestation. There is still a small percentage work still left to be finished (flooring, walls, and men's locker room). Overall, there has been a vast improvement throughout the armory. There were no complaints regarding ventilation of indoor air quality. (RAC 4)

TOPIC: LEAD WIPE SAMPLING**FINDINGS:**

Lead wipe sampling was performed for the Drill Floor and four (4) Arms Vaults. The Drill floor was well under the action level of 200ug/sq.ft. Only one sample indicated a trace amount of lead (00-15L @ 2.7ug). Arms Vault #1 indicated lead presence on all of the lead wipes. The ug/sq.ft. ranged from a low of 4.0 to a high of 44ug/sq.ft. All samples were below the 200ug/sq.ft. action level. Arms Vault #2 also indicated the presence of lead on all wipe samples. The samples ranged from a low of 6.2 to a high of 45ug/sq.ft. These levels were also below the prescribed action level. Arms Vault #3 wipe samples indicated one sample was over the 200ug/sq.ft. action level (280ug/sq.ft.). All other samples, with the exception of 00-01A3 indicated the presence of lead. The range was from a low of ND to a high of 280ug/sq.ft. Arms Vault #4 indicated the presence of lead on all wipe samples. The range ran from a low of 29ug/sq.ft. to a high of 120ug/sq.ft. (RAC 4) for vaults 1,2,&4. (RAC 3) for vault #3.

TOPIC: GUARD SHACK AT ENTRANCE OF COMPLEX

FINDINGS:

At the request of the Command, an inspection of the east guard shack was performed. The concern was mold accumulation. Mold sampling was performed and the results indicated no presence of mold. The guard shack has virtually no ventilation, is in disrepair, and requires a new air conditioning unit. In the present state a (RAC 3) should be assigned. With repairs and HVAC it could easily be brought up to a RAC 4.

RECOMMENDATIONS**TOPIC:** ILLUMINATION SURVEY**RECOMMENDATIONS:**

Establish a work order to provide illumination within the drill floor area. In areas that are not regularly inhabited, utilize supplemental illumination when and where required. In areas where personnel are working full time, provide supplemental illumination, where feasible, and establish a work order in the remaining areas to bring the illumination up to NGB DG 415.2 standards. (RAC 3)

TOPIC: VENTILATION SURVEY/INDOOR AIR QUALITY SURVEY**RECOMMENDATIONS:**

Ensure maintenance is scheduled on a regular/periodic basis to ensure the existing HVAC and IAQ is maintained/sustained. Be ever cognizant of any water leaks and report immediately so repairs can be attended to in a timely manner. (RAC 4)

TOPIC: BUILDING SURVEY/CONDITION**RECOMMENDATIONS:**

At the present time, disregarding the reconstruction work that is still ongoing, the building is in excellent condition. Ensure preventive maintenance is continuous and any discrepancy is reported in a timely manner to prevent a problem from getting worse or out of hand. (RAC 4)

TOPIC: LEAD WIPE SAMPLING**RECOMMENDATIONS:**

All areas tested for lead indicated levels below the 200ug/sq.ft. action level except arms vault #3. Contact the Safety and Occupational Health Office for guidance on abating the lead contamination in Vault #3. The Safety and Occupational Health Office, along with the EPA office and Facilities and Engineering, should determine the procedures required for cleaning and abating. If funds are available, the other vaults should be cleaned also (even though they did not reach the action level). (RAC 3-4)

TOPIC: GUARD SHACK**RECOMMENDATIONS:**

The Guard Shack was tested for mold presence. No mold was present. The guard shack is in disrepair, has no operating ventilation or air conditioning. Recommend installing a ventilation system, replacing the inoperable window air conditioner, repairing the windows, and interior paneling. (RAC 3)

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APPENDICES

APPENDIX A

REFERENCES

- a. Army Regulation 11-34, The Army Respiratory Protection Program, 15 February 1990.
- b. Army Regulation 40-5, Medical Service, Preventative Medicine, 22 July 2005.
- c. Army Regulation 385-10, Army Safety Program, 29 February 2000.
- d. Department of the Army Pamphlet 40-501, Hearing Conservation, 10 December 1998.
- e. National Guard Regulation 385-10, Army National Guard Safety Program, 12 September 2008.
- f. Department of Defense Instruction 6055.1 Department Defense Occupational Safety and Health (OSH) Program, 26 October 1986, with update dated 19 August 1998.
- g. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.
- h. TB MED 503, The Army Industrial Hygiene Program, 1 February 1985.
- i. Technical Guide 040, Noise Hazard Evaluation/Sound Level Data of Noise Sources.
- j. USAHA TG-141, Guidelines for Air Sampling and Bulk Sample Collection, 25 MAY 2010.
- k. Army National DG 415-2, Logistics Facilities Design Guide, Table 8, Electrical requirements, pgs. 53-55 Dated 01 June 2011.
- l. Army National Guard DG 415-3, Aviation Facilities Design Guide, Table 8, Electrical Requirements, pgs. 39-41, Dated 01 June 2011.

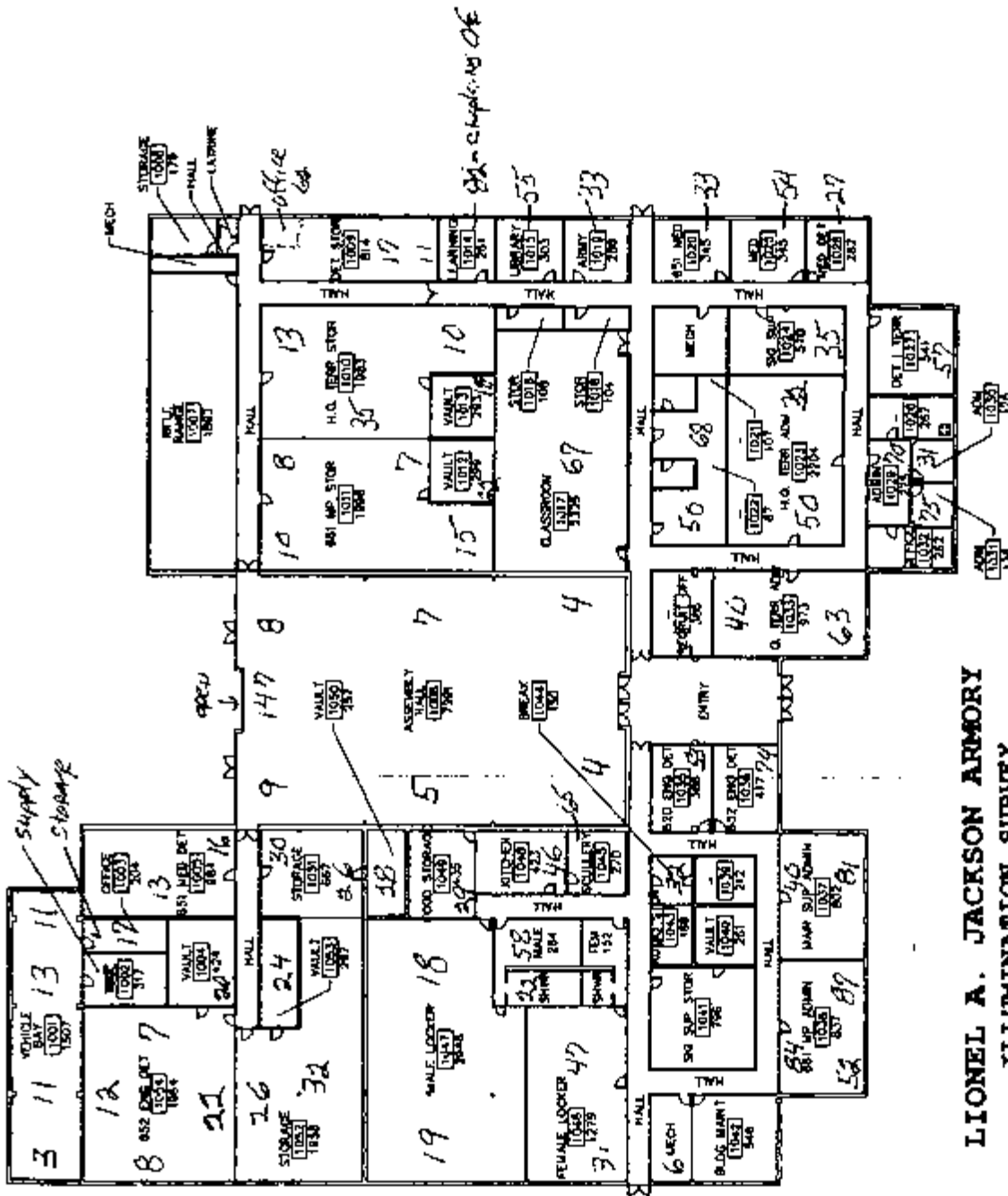
- m. Life Safety Code Handbook, Eighth Edition, National Fire Protection Association, Quincy, Massachusetts, July 2012.
- n. National Electric Code Handbook, 2008 Edition, National Fire Protection Association, Quincy, Massachusetts.
- o. IES Lighting Handbook, Application Volume, Illumination Engineering Society of North America, 2011.
- p. Industrial Ventilation, 26th Edition, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- q. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2011, American Conference of Industrial Hygienists, Cincinnati, Ohio.
- r. Title 29, Code of Federal Regulations, Part 1910, Occupational Safety and Health Standards, rev. 2009.
- s. NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, September 2008.

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**APPENDIX B
ILLUMINATION SURVEY**



F1



LIONEL A. JACKSON ARMORY
ILLUMINATION SURVEY
22 OCTOBER 2012
BRIGHT SUNNY DAY
ALL MEASUREMENTS IN FOOT-CANDLES



ROOM USE ---
 ROOM ID ---
 NET SF ---

APPENDIX C
LEAD WIPE SAMPLING FORMS, MOLD FORM
AND
RESULTS FOR LEAD WIPES/MOLD BULK SAMPLE

INDEX

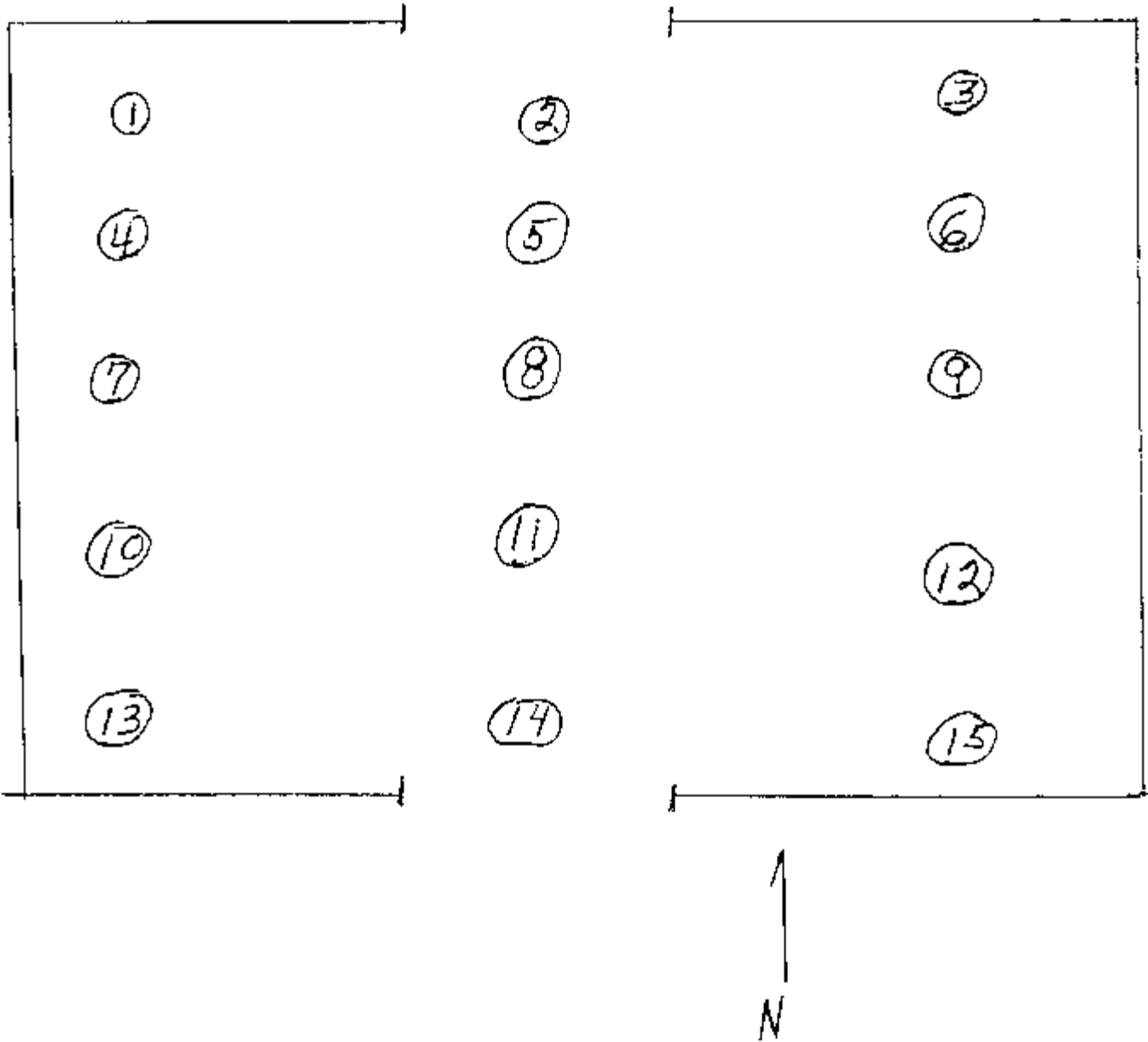
1. ARMORY DRILL FLOOR
2. ARMS VAULT #1 630TH QM
3. ARMS VAULT #2 652ND ENG
4. ARMS VAULT #3 651ST ENG
5. ARMS VAULT #4 661ST MP

**LEAD WIPE SPREADSHEET
FOR: VI ARNG ARMORY DRILL FLOOR**

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<u>DATE</u>	<u>SAMPLE#</u>	<u>LOCATION</u>	<u>TIME</u>	<u>SAMPLE FOR</u>
22 OCT 12	00-001	BLANK	0825	LEAD
22 OCT 12	00-011	ROW 1, LEFT SIDE	0827	LEAD
22 OCT 12	00-021	ROW 1, MIDDLE	0830	LEAD
22 OCT 12	00-031	ROW 1, RIGHT SIDE	0835	LEAD
22 OCT 12	00-041	ROW 2, LEFT SIDE	0842	LEAD
22 OCT 12	00-051	ROW 2, MIDDLE	0845	LEAD
22 OCT 12	00-061	ROW 2, RIGHT SIDE	0847	LEAD
22 OCT 12	00-071	ROW 3, LEFT SIDE	0850	LEAD
22 OCT 12	00-081	ROW 3, MIDDLE	0855	LEAD
22 OCT 12	00-091	ROW 3, RIGHT SIDE	0900	LEAD
22 OCT 12	00-101	ROW 4, LEFT SIDE	0912	LEAD
22 OCT 12	00-111	ROW 4, MIDDLE	0915	LEAD
24 OCT 12	00-121	ROW 4, RIGHT SIDE	0925	LEAD
24 OCT 12	00-131	ROW 5, LEFT SIDE	0940	LEAD
24 OCT 12	00-141	ROW 5, MIDDLE	0950	LEAD
24 OCT 12	00-151	ROW 5, RIGHT SIDE	0955	LEAD

**ARMORY DRILL FLOOR
DRAWING
AND
LEAD WIPE LOCATIONS**
(SAMPLES TAKEN NORTH TO SOUTH
AND LEFT TO RIGHT)



ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
 Project: VI ARNG ARMORY DRILL FLOOR
 Work Order: 1211134

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1211134-01	00-00L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-02	00-01L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-03	00-02L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-04	00-03L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-05	00-04L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-06	00-05L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-07	00-06L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-08	00-07L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-09	00-08L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-10	00-09L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-11	00-10L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-12	00-11L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-13	00-12L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-14	00-13L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-15	00-14L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211134-16	00-15L	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>

SS Page 1 of 1

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMORY DRILL FLOOR

Work Order: 1211134

Lab ID: 1211134-01A Collection Date: 10/22/2012
Client Sample ID: 00-00L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:00 PM

Lab ID: 1211134-02A Collection Date: 10/22/2012
Client Sample ID: 00-01L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:06 PM

Lab ID: 1211134-03A Collection Date: 10/22/2012
Client Sample ID: 00-02L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:12 PM

Lab ID: 1211134-04A Collection Date: 10/22/2012
Client Sample ID: 00-03L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:19 PM

Lab ID: 1211134-05A Collection Date: 10/22/2012
Client Sample ID: 00-04L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:25 PM

Note:

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMORY DRILL FLOOR

Work Order: 1211134

Lab ID: 1211134-06A Collection Date: 10/22/2012
Client Sample ID: 00-05L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:31 PM

Lab ID: 1211134-07A Collection Date: 10/22/2012
Client Sample ID: 00-06L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:37 PM

Lab ID: 1211134-08A Collection Date: 10/22/2012
Client Sample ID: 00-07L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 10:44 PM

Lab ID: 1211134-09A Collection Date: 10/22/2012
Client Sample ID: 00-08L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	3.0		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:02 PM

Lab ID: 1211134-10A Collection Date: 10/22/2012
Client Sample ID: 00-09L Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:08 PM

Note:

AR Page 2 of 4

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMORY DRILL FLOOR

Work Order: 1211134

Lab ID: 1211134-11A
Client Sample ID: 00-10L

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:15 PM

Lab ID: 1211134-12A
Client Sample ID: 00-11L

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:21 PM

Lab ID: 1211134-13A
Client Sample ID: 00-12L

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:27 PM

Lab ID: 1211134-14A
Client Sample ID: 00-13L

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:33 PM

Lab ID: 1211134-15A
Client Sample ID: 00-14L

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 11:40 PM

Note:

AR Page 3 of 4

ALS Environmental

Date: 13-Nov-12

Client: HENCHCO
Project: VI ARNG ARMORY DRILL FLOOR

Work Order: 1211134

Lab ID: 1211134-16A

Collection Date: 10/22/2012

Client Sample ID: 00-15L

Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SWG010B		Prep Date: 11/7/2012	Analyst: VAW
Lead	2.7		2.0	µg/sample	1	11/12/2012 11:46 PM

Note:

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
 Work Order: 1211134
 Project: VI ARNG ARMORY DRILL FLOOR

QC BATCH REPORT

Batch ID: 14004 Instrument ID: ICP3 Method: SW6010B

MBLK	Sample ID: mblk-14004-14004	Units: $\mu\text{g}/\text{sample}$	Analysis Date: 11/12/2012 08:16 PM							
Client ID:	Run ID: ICP3_121112A	SeqNo: 529096	Prep Date: 11/7/2012 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	NO	2.0								

LCS	Sample ID: lcs-14004-14004	Units: $\mu\text{g}/\text{sample}$	Analysis Date: 11/12/2012 09:47 PM							
Client ID:	Run ID: ICP3_121112A	SeqNo: 529097	Prep Date: 11/7/2012 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4280	2.0	4490	0	95.3	80-120	0			

LCSD	Sample ID: lcsd-14004-14004	Units: $\mu\text{g}/\text{sample}$	Analysis Date: 11/12/2012 09:53 PM							
Client ID:	Run ID: ICP3_121112A	SeqNo: 529098	Prep Date: 11/7/2012 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4311	2.0	4490	0	96	80-120	4280	0.71	20	

The following samples were analyzed in this batch:

1211134-01a	1211134-02a	1211134-03a
1211134-04a	1211134-05a	1211134-06a
1211134-07a	1211134-08a	1211134-09a
1211134-10a	1211134-11a	1211134-12a
1211134-13a	1211134-14a	1211134-15a
1211134-16a		

Note: See Qualifiers Page for a list of Qualifiers and their explanation

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
 Project: VI ARNG ARMORY DRILL FLOOR
 WorkOrder: 1211134

**QUALIFIERS,
 ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MIDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/sample	

ALS Environmental

Sample Receipt Checklist

Client Name: HINCHCO-FLACIDA

Date/Time Received: 06-Nov-12 00:00

Work Order: 1211134

Received by: SAD

Checklist completed by:

Non-Responsive

07-Nov-12
Date

Matrices:

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

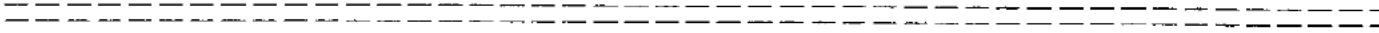
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



BEST AVAILABLE COPY
ANALYTICAL REQUEST FORM

REGULAR Status

RUSH Status Required - ADDITIONAL CHARGE

RESULTS REQUIRED BY _____ DATE _____

CONTACT ALS LABORATORY GROUP PRIOR TO SENDING SAMPLES

Date 31 Oct 19 Purchase Order No. _____

Company Name HINCHCO

Address 18 Boat Court

Placida FL 33946

Person to **Non-Responsive**

Email Address **Non-Responsive**

Telephone **Non-Responsive**

Fax Telephone () _____

Billing Address (if different)

Industrial Hygiene Region South

610 Plaza Drive, Suite 1500

College Park, GA 30089

Quote No. _____

Sampling Site VI ARNG Army Drill Field

Date/Time of Collection 29 Oct 19 0505 - 90

Laboratory Use Only	Client Sample Number	Media Type	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	00-00L	Sheet wipe		Lead
	00-01	↓		
	00-02			
	00-03			
	00-04			
	00-05			
	00-06			
	00-07			
	00-08			
	00-09			
	00-10			
	00-11			
	00-12			
	00-13			
	00-14			
	00-15		↓	↓

CHAIN OF CUSTODY

Non-Responsive	Date / Time	Received by (Signature)	Date / Time
	<u>31 Oct 19</u>	<u>[Signature]</u>	
	Date / Time	Received by (Signature)	Date / Time



13-Nov-2012

Non-Responsive

Fax:

Re: VI ARNG ARMORY DRILL FLOOR

Work Order: 1211134

Dear **Non-Responsive**

ALS Environmental received 16 samples on 06-Nov-2012 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Non-Responsive

ADDRESS 4388 Glendale Millroc Rd Cincinnati Ohio 45242 | PHONE (513) 733-5336 | FAX (513) 733-5347
ALS GROUP USA, CORP. Part of the ALS Laboratory Group | A Campbell Brothers Limited Company



ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMORY DRILL FLOOR
Work Order: 1211134

Case Narrative

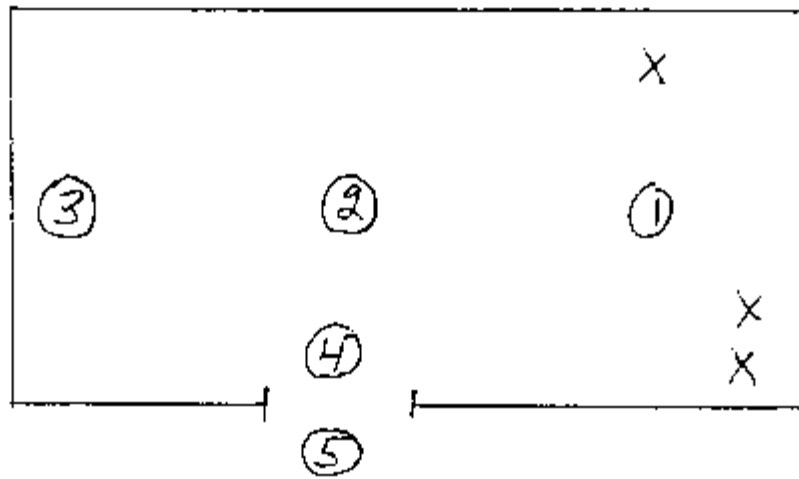
The sample condition upon receipt was acceptable except where noted.

Results relate only to the items tested and are not blank corrected.

LEAD WIPE SPREADSHEET
FOR: VI ARNG ARMORY ARMS VAULT #1
630TH QM

<u>DATE</u>	<u>SAMPLE #</u>	<u>LOCATION</u>	<u>TIME</u>	<u>SAMPLE FOR</u>
24 OCT 12	00-00A	BLANK	1100	LEAD
24 OCT 12	00-01A	FLOOR, FRONT ARMS RACK	1102	LEAD
24 OCT 12	00-02A	FLOOR, MIDDLE	1104	LEAD
24 OCT 12	00-03A	FLOOR, LEFT SIDE	1106	LEAD
24 OCT 12	00-04A	FLOOR, INSIDE THRESHOLD	1108	LEAD
24 OCT 12	00-05A	FLOOR, OUTSIDE THRESHOLD	1112	LEAD

630TH QM ARMS VAULT
VAULT DRAWING
AND
LEAD WIPE LOCATIONS
(X = ARMS RACK)



ALS Environmental

Date: 13-Nov-12

Client: HINCHICO
Project: VI ARNG - ARMS Vault
Work Order: 1211126

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Dpt</u>	<u>Date Received</u>	<u>Hold</u>
1211126-01	00-00A	Wipe		10/31/2012	11/6/2012 13:10	<input type="checkbox"/>
1211126-02	00-01A	Wipe		10/31/2012	11/6/2012 13:10	<input type="checkbox"/>
1211126-03	00-02A	Wipe		10/31/2012	11/6/2012 13:10	<input type="checkbox"/>
1211126-04	00-03A	Wipe		10/31/2012	11/6/2012 13:10	<input type="checkbox"/>
1211126-05	00-04A	Wipe		10/31/2012	11/6/2012 13:10	<input type="checkbox"/>
1211126-06	00-05A	Wipe		10/31/2012	11/6/2012 13:10	<input type="checkbox"/>

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG - ARMS Vault

Work Order: 1211126

Lab ID: 1211126-01A
Client Sample ID: 00-00A

Collection Date: 10/31/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 05:36 PM

Lab ID: 1211126-02A
Client Sample ID: 00-01A

Collection Date: 10/31/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	30		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 06:08 PM

Lab ID: 1211126-03A
Client Sample ID: 00-02A

Collection Date: 10/31/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	44		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 06:14 PM

Lab ID: 1211126-04A
Client Sample ID: 00-03A

Collection Date: 10/31/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	28		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 06:20 PM

Lab ID: 1211126-05A
Client Sample ID: 00-04A

Collection Date: 10/31/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	13		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 06:27 PM

Note:

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
 Project: VI ARNG - ARMS Vault

Work Order: 1211126

Lab ID: 1211126-06A

Collection Date: 10/31/2012

Client Sample ID: 00-05A

Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW6010B		Prep Date: 11/7/2012	Analyst: VAW
Lead	4.0		2.0	µg/sample	1	11/7/2012 06:33 PM

Note:

ALS Environmental

Client: HINCHCO
Work Order: 1211126
Project: VI ARNG - ARMS Vault

QC BATCH REPORT

Batch ID: 14001 Instrument ID: ICP3 Method: SW6010B

Sample ID	Units	Analysis Date								
mbtk-14001-14001	µg/sample	11/7/2012 03:32 PM								
Run ID: ICP3_121107B	SeqNo: 527730	Prep Date: 11/7/2012 DF: 1								
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	ND	2.0								

Sample ID	Units	Analysis Date								
ics-14001-14001	µg/sample	11/7/2012 03:44 PM								
Run ID: ICP3_121107B	SeqNo: 527732	Prep Date: 11/7/2012 DF: 1								
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4020	2.0	4490	0	89.5	80-120	0			

Sample ID	Units	Analysis Date								
icad-14001-14001	µg/sample	11/7/2012 03:51 PM								
Run ID: ICP3_121107B	SeqNo: 527733	Prep Date: 11/7/2012 DF: 1								
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	3952	2.0	4490	0	88	80-120	4020	1.71	20	

The following samples were analyzed in this batch:

1211126-01a	1211126-02a	1211126-03a
1211126-04a	1211126-05a	1211126-06a

Note: See Qualifiers Page for a list of Qualifiers and their explanation



BEST AVAILABLE COPY
ANALYTICAL REQUEST FORM

REGULAR Status

RUSH Status Required - **ADDITIONAL CHARGE**
 RESULTS REQUIRED BY _____ DATE _____
 CONTACT ALS LABORATORY GROUP PRIOR TO SENDING SAMPLES

Date 3/10/12 Purchase Order No. _____
 Company Name HINKHO
 Address 18 Boat Court
Placida, FL 33946
 City _____
 Person to _____
 Email Ad _____
 Telephone _____
 Fax Tele _____

Billing Address (if different)
NG-B Industrial Hygiene Region South
510 Plaza Drive, Suite 1520
College Park, GA 30899
 Quote No. _____
 Sampling Site UI ARMS - ARMED LIGHT
 Date/Time of Collection 3/10/12 / 1100-1112

Non-Responsive

Laboratory Use Only	Client Sample Number	Media Type	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	00-00A	ghost wipe		Lead
	00-01A	↓		↓
	00-02A			
	00-03A			
	00-04A			
	00-05A	↓		↓

CHAIN OF CUSTODY

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time



13-Nov-2012

Non-Responsive

Re: VI ARNG - ARMS Vault

Work Order: 1211126

Dear **Non-Responsive**

ALS Environmental received 6 samples on 06-Nov-2012 01:10 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Non-Responsive

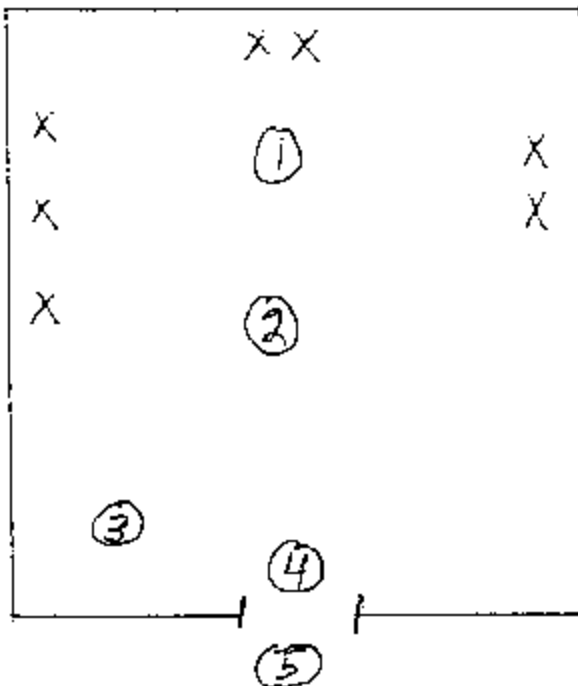
ADDRESS: 4200 Glendale Millard Rd. Cincinnati, Ohio 45242 | PHONE: (513) 733-5836 | FAX: (513) 733-5141
ALS ENVIRONMENTAL CORP. Part of the ALS Laboratory Group. A Campbell Dresser Limited Liability Company



LEAD WIPE SPREADSHEET
FOR: VI ARNG ARMORY ARMS VAULT #2
652ND ENG

<u>DATE</u>	<u>SAMPLE#</u>	<u>LOCATION</u>	<u>TIME</u>	<u>SAMPLE FOR</u>
22 OCT 12	00-00A2	BLANK	1300	LEAD
22 OCT 12	00-01A2	FLOOR, UPPER END	1302	LEAD
22 OCT 12	00-02A2	FLOOR, MIDDLE	1304	LEAD
22 OCT 12	00-03A2	FLOOR, LEFT SIDE	1306	LEAD
22 OCT 12	00-04A2	FLOOR, INSIDE THRESHOLD	1308	LEAD
22 OCT 12	00-05A2	FLOOR, outside Threshold	1320	Lead

652ND ENG ARMS VAULT
VAULT DRAWING
AND
LEAD WIPE LOCATIONS
(X = ARMS RACK)



ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG - ARMS Vault
Work Order: 1211127

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1211127-01	00-00 A2	Wipe		10/22/2012	11/6/2012 13:00	┌
1211127-02	00-01 A2	Wipe		10/22/2012	11/6/2012 13:00	┌
1211127-03	00-02 A2	Wipe		10/22/2012	11/6/2012 13:00	┌
1211127-04	00-03 A2	Wipe		10/22/2012	11/6/2012 13:00	┌
1211127-05	00-04 A2	Wipe		10/22/2012	11/6/2012 13:00	┌
1211127-06	00-05 A2	Wipe		10/22/2012	11/6/2012 13:00	┌

ALS Environmental

Date: 13-Nov-12

Client: HJNCHCO
Project: VJ ARNG - ARMS Vault

Work Order: 1211127

Lab ID: 1211127-01A Collection Date: 10/22/2012
Client Sample ID: 00-00 A2 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:58 PM

Lab ID: 1211127-02A Collection Date: 10/22/2012
Client Sample ID: 00-01 A2 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	45		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 11:04 PM

Lab ID: 1211127-03A Collection Date: 10/22/2012
Client Sample ID: 00-02 A2 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	41		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 08:44 PM

Lab ID: 1211127-04A Collection Date: 10/22/2012
Client Sample ID: 00-03 A2 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	19		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 08:51 PM

Lab ID: 1211127-05A Collection Date: 10/22/2012
Client Sample ID: 00-04 A2 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	6.2		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/12/2012 08:57 PM

Note:

AR Page 1 of 2

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG - ARMS Vault

Work Order: 1211127

Lab ID: 1211127-06A
Client Sample ID: 00-05 A2

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW601DB		Prep Date: 11/7/2012	Analyst: VAW
Lead	8.0		2.0	µg/sample	1	11/12/2012 08:03 PM

Note:

Batch ID: 14003 Instrument ID: ICP3

MBLK	Sample ID: mblk-14003-14003	Units: µg/sample	Analysis Date: 11/7/2012 09:38 PM							
Client ID:	Run ID: ICP3_121107B	SeqNo: 527776	Prep Date: 11/7/2012 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	ND	2.0								

LCS	Sample ID: lcs-14003-14003	Units: µg/sample	Analysis Date: 11/7/2012 09:42 PM							
Client ID:	Run ID: ICP3_121107B	SeqNo: 527777	Prep Date: 11/7/2012 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4184	2.0	4490	0	93.2	80-120	0			

LCSD	Sample ID: lcsd-14003-14003	Units: µg/sample	Analysis Date: 11/7/2012 09:49 PM							
Client ID:	Run ID: ICP3_121107B	SeqNo: 527778	Prep Date: 11/7/2012 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4119	2.0	4490	0	91.7	80-120	4184	1.57	20	

The following samples were analyzed in this batch:

1211127-01a	1211127-02a	1211127-03a
1211127-04A	1211127-05A	1211127-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation



13-Nov-2012

Non-Responsive



Re: VI ARNG - ARMS Vault

Work Order: 1211127

Dear **Non-Responsive**

ALS Environmental received 6 samples on 06-Nov-2012 01:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Non-Responsive



ADDRESS: 4386 Georgetown Mill Rd., Cincinnati, Ohio 45242-1113, PHONE: (513) 726-0300 / FAX: (513) 726-6347

ALS GROUP USA, CORP. Part of the ALS Laboratory Group, A Campbell Dresser Limited Company



RIGHT SOLUTIONS. RIGHT PARTNERS.



BEST AVAILABLE COPY
ANALYTICAL REQUEST FORM

REGULAR Status

RUSH Status Required - ADDITIONAL CHARGE
RESULTS REQUIRED BY _____ DATE _____
CONTACT ALS LABORATORY GROUP PRIOR TO SENDING SAMPLES

Date 3/10/18 Purchase Order No. _____ Billing Address (if different) _____
Company Name HINCHCO NSB Industrial Hygiene Regional South
Address 18 Boat Court 510 Plaza Dr, Suite 153A
Placida, FL 33744 College Park, GA 30049
City _____
Person to Call _____ Quote No. _____
Email Address _____ Sampling Site VI ARNS B&M Vault
Telephone 813-311-0111 Date/Time of Collection _____
Fax Telephone () _____

Non-Responsive

Laboratory Use Only	Client Sample Number	Media Type	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	00-00 AQ	5 liter w/ps		Lead
	00-01 AQ	↓		↓
	00-02 AQ	↓		↓
	00-03 AQ	↓		↓
	00-04 AQ	↓		↓
	00-05 AQ	↓		↓

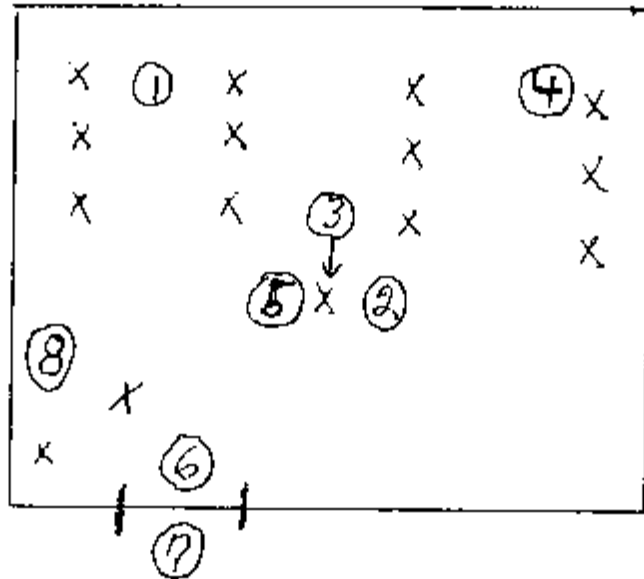
CHAIN OF CUSTODY

Non-Responsive	Date / Time	Received by: Signature:	Date / Time
	Date / Time	Received by: Signature:	Date / Time

LEAD WIPE SPREADSHEET
FOR: VT ARNG ARMOY ARMS VAULT #3
651ST ENG

<u>DATE</u>	<u>SAMPLE#</u>	<u>LOCATION</u>	<u>TIME</u>	<u>SAMPLE FOR</u>
22 OCT 12	00-00A3	BLANK	1400	LEAD
22 OCT 12	00-01A3	FLOOR, UPPER LEFT	1402	LEAD
22 OCT 12	00-02A3	FLOOR, MIDDLE RIGHT	1404	LEAD
22 OCT 12	00-03A3	RACK, MIDDLE	1406	LEAD
22 OCT 12	00-04A3	FLOOR, UPPER RIGHT	1408	LEAD
22 OCT 12	00-05A3	FLOOR MIDDLE LEFT	1415	LEAD
22 OCT 12	00-06A3	FLOOR, INSIDE THRESHOLD	1420	LEAD
22 OCT 12	00-07A3	FLOOR, OUTSIDE THRESHOLD	1430	LEAD
22 OCT 12	00-08A3	TABLETOP, LEFT SIDE	1440	LEAD

**651ST ENG ARMS VAULT
VAULT DRAWING
AND
LEAD WIPE LOCATIONS**
(X = ARMS RACK)



ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMS VAULT#3
Work Order: 1211132

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Dat</u>	<u>Date Received</u>	<u>Hold</u>
1211132-01	00-01A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-02	00-01A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-03	00-02A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-04	00-03A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-05	00-04A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-06	00-05A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-07	00-06A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-08	00-07A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>
1211132-09	00-08A3	Wipe		10/22/2012	11/6/2012	<input type="checkbox"/>

ALS Environmental

Date: 13-Nov-12

Client: HDNCHCO
 Project: VI ARNG ARMS VALU (F#)

Work Order: 1211132

Lab ID: 1211132-01A
 Client Sample ID: 00-00A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: VAW 11/7/2012 07:04 PM

Lab ID: 1211132-02A
 Client Sample ID: 00-01A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	280		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: VAW 11/7/2012 07:23 PM

Lab ID: 1211132-03A
 Client Sample ID: 00-02A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	91		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: VAW 11/7/2012 07:30 PM

Lab ID: 1211132-04A
 Client Sample ID: 00-03A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	390		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: VAW 11/7/2012 07:38 PM

Lab ID: 1211132-05A
 Client Sample ID: 00-04A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	410		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: VAW 11/7/2012 07:42 PM

Note:

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
 Project: VI ARNG ARMS VAULT#3

Work Order: 1211132

Lab ID: 1211132-06A
 Client Sample ID: 00-05A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	180		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: YAW 11/7/2012 07:49 PM

Lab ID: 1211132-07A
 Client Sample ID: 00-06A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	92		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: YAW 11/7/2012 07:55 PM

Lab ID: 1211132-08A
 Client Sample ID: 00-07A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	23		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: YAW 11/7/2012 08:01 PM

Lab ID: 1211132-09A
 Client Sample ID: 00-08A3

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	24		SW6010B 2.0	µg/sample	1	Prep Date: 11/7/2012 Analyst: YAW 11/7/2012 08:07 PM

Note:

ALS Environmental

Client: HINCHCO
 Work Order: 1211132
 Project: VI ARNG ARMS VAULT#3

Date: 13-Nov-12

QC BATCH REPORT

Batch ID: 14002 Instrument ID: ICP3 Method: SW6010B

MBLK	Sample ID	mbtk-14002-14002	Units	µg/sample	Analysis Date	11/7/2012 06:46 PM				
Client ID	Run ID	ICP3_121107B	SeqNo	527755	Prep Date	11/7/2012 DF 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	ND	2.0								

LCS	Sample ID	lcs-14002-14002	Units	µg/sample	Analysis Date	11/7/2012 06:52 PM				
Client ID	Run ID	ICP3_121107B	SeqNo	527756	Prep Date	11/7/2012 DF 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4183	2.0	4490	0	93.2	80-120	0			

LCSD	Sample ID	lcad-14002-14002	Units	µg/sample	Analysis Date	11/7/2012 06:58 PM				
Client ID	Run ID	ICP3_121107B	SeqNo	527757	Prep Date	11/7/2012 DF 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	4202	2.0	4490	0	93.6	80-120	4183	0.466	20	

The following samples were analyzed in this batch:

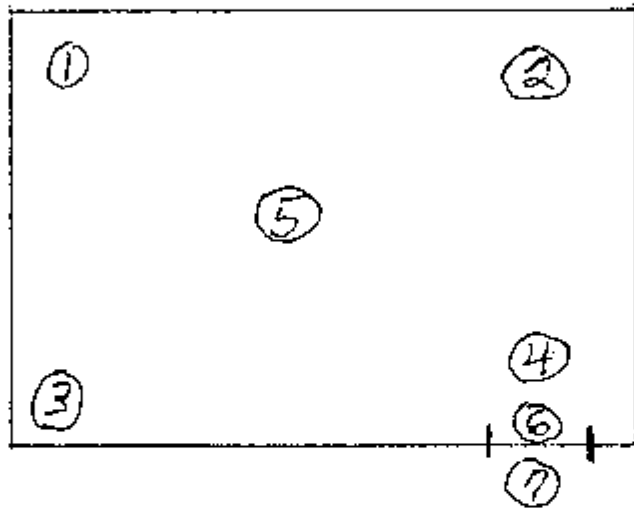
1211132-01a	1211132-02a	1211132-03a
1211132-04a	1211132-05a	1211132-06a
1211132-07a	1211132-08a	1211132-09a

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

LEAD WIPE SPREADSHEET
FOR: VI ARNG ARMORY ARMS VAULT #4
661ST MP

<u>DATE</u>	<u>SAMPLE#</u>	<u>LOCATION</u>	<u>TIME</u>	<u>SAMPLE FOR</u>
22 OCT 12	00-00V4	BLANK	1400	LEAD
22 OCT 12	00-01V4	FLOOR, UPPER LEFT	1402	LEAD
22 OCT 12	00-02V4	FLOOR, UPPER RIGHT	1404	LEAD
22 OCT 12	00-03V4	FLOOR, LOWER LEFT	1406	LEAD
22 OCT 12	00-04V4	FLOOR, LOWER RIGHT	1408	LEAD
22 OCT 12	00-05V4	FLOOR, MIDDLE	1412	LEAD
22 OCT 12	00-06V4	FLOOR, INSIDE THRESHOLD	1420	LEAD
22 OCT 12	00-07V4	FLOOR, OUTSIDE THRESHOLD	1430	LEAD

661ST MP ARMS VAULT
VAULT DRAWING
AND
LEAD WIPE LOCATIONS
(X = ARMS RACK)



ALS Environmental

Date 13-Nov-12

Client: HINCHCO
 Project: VI ARNG ARMS VAULT #4
 Work Order: 1211135

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Dat</u>	<u>Date Received</u>	<u>Hold</u>
1211135-01	00-00V4	Wipe		10/22/2012	11/6/2012	
1211135-02	00-01V4	Wipe		10/22/2012	11/6/2012	
1211135-03	00-02V4	Wipe		10/22/2012	11/6/2012	
1211135-04	00-03V4	Wipe		10/22/2012	11/6/2012	
1211135-05	00-04V4	Wipe		10/22/2012	11/6/2012	
1211135-06	00-05V4	Wipe		10/22/2012	11/6/2012	
1211135-07	00-06V4	Wipe		10/22/2012	11/6/2012	
1211135-08	00-07V4	Wipe		10/22/2012	11/6/2012	

SS Page 1 of 1

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMS VAULT #4

Work Order: 1211135

Lab ID: 1211135-01A
Client Sample ID: 00-00V4

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:07 PM

Lab ID: 1211135-02A
Client Sample ID: 00-01V4

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	120		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:14 PM

Lab ID: 1211135-03A
Client Sample ID: 00-02V4

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	53		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:20 PM

Lab ID: 1211135-04A
Client Sample ID: 00-03V4

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	44		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:27 PM

Lab ID: 1211135-05A
Client Sample ID: 00-04V4

Collection Date: 10/22/2012
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	67		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:33 PM

Note:

ALS Environmental

Date: 13-Nov-12

Client: HINCHICO
 Project: VI ARNG ARMS VAULT #4

Work Order: 1211135

Lab ID: 1211135-06A
 Client Sample ID: 00-05V4

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	60		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:30 PM

Lab ID: 1211135-07A
 Client Sample ID: 00-06V4

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	29		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:45 PM

Lab ID: 1211135-08A
 Client Sample ID: 00-07V4

Collection Date: 10/22/2012
 Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	48		SW6010B 2.0	µg/sample	Prep Date: 11/7/2012 1	Analyst: VAW 11/7/2012 10:52 PM

Note:

ALS Environmental

Date: 13-Nov-12

Client: HINCHCO
Project: VI ARNG ARMS VAULT #4
Work Order: 1211135

Case Narrative

The sample condition upon receipt was acceptable except where noted.

Results relate only to the items tested and are not blank corrected.

Test Report

Dixon Information, Inc.

78 W 2400 S, Salt Lake City, UT 84115
 Phone: 801-486-0800, Fax: 801-486-0849

Type	Number
Tape	1
Air	0
Rush Tape	0
Rush Air	0

Batch#: 110912-5934
 Received: November 9, 2012
 Client:
 Company: ALS Laboratory Group
 Address: 960 W LeVoy Drive
 Salt Lake City, UT 84123
 Phone: 801-266-7700
 Fax:
 Email:

Project #: UIARNG, Guard Shack
 Project : PO#: 1231406
 Sampled by:
 Description: 1 - 00-01M

	Sample #1	Sample #2	Sample #3	Sample #4
Sample ID:	1	-	-	-
Location of Sample:	00-01M	-	-	-
Date Sampled:	11/08/12	-	-	-
Volume:	-	-	-	-
	None-Detected			
Alternaria	-	-	-	-
Ascospores	-	-	-	-
Aspergillus/Penicillium	-	-	-	-
Basidiospores	-	-	-	-
Botrytis	-	-	-	-
Chaetomium	-	-	-	-
Cladosporium	-	-	-	-
Curvularia	-	-	-	-
Drechslera/Bipolaris	-	-	-	-
Epicoccum	-	-	-	-
Fusarium	-	-	-	-
Ganoderma	-	-	-	-
Leptosphaeria	-	-	-	-
Nigrospora	-	-	-	-
Oidium/Peronospora	-	-	-	-
Arthrimum	-	-	-	-
Pithomyces	-	-	-	-
Pleospora	-	-	-	-
Polythrincium	-	-	-	-
Rhizopus /Mucor	-	-	-	-
Spegazzinia	-	-	-	-
Smuts/Myxomycete/Periconia/Rust	-	-	-	-
Stachybotrys	-	-	-	-
Stemphylium	-	-	-	-
Torula	-	-	-	-
Ulocladium	-	-	-	-
Unidentified Fungi	-	-	-	-
Hyphal-like fragments	-	-	-	-
Pollen	-	-	-	-
Skin Cells	-	-	-	-
Debris	-	-	-	-
Totals	-	-	-	-
Analyst:	Alyce S. Dixon			
Date Analyzed:	November 10, 2012			

Sampling Procedure: Tape Lift, Spore Trap, Mold ID, Culture, Microscopy

Mold Concentrations: 1X = Trace 2X = M

Non-Responsive

Analyst Signature

10388/1

ANALYTICAL REQUEST FORM

5934



1231406



REGULAR Status

1231406

RUSH Status Required - ADDITIONAL CHARGE

RESULTS REQUIRED BY _____ DATE _____

CONTACT ALS LABORATORY GROUP PRIOR TO SENDING SAMPLES

P.O. # _____

Company Name ALS Laboratory Group

Address 960 W. LeVoy Drive
Salt Lake City, UT 84123-2547

Billing Address (if different)
NG-B Industrial Hygiene Region South
610 Plaza Dr, Suite 1030
College Park, GA 30397

Contact Person _____

Telephone # _____

E-mail Address _____

Billing Address _____

Quote No. _____

Sampling Site VIARNG - Guard Shack

Date/Time of Collection 25 Oct 18 / 1225

Non-Responsive

Laboratory Use Only	Client Sample Number	Media Type	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known
	00-01M-	NA		Test for mold

CHAIN OF CUSTODY

Non-Responsive

BEST AVAILABLE COPY

**APPENDIX D
HHIM REPORTS**

HHIM Report Date: 27 NOVEMBER 2012

HHIM SURVEY SUMMARY REPORT (PART I)

Arloc Code: VQ000	Installation: VI ARNG
Building Number: St. Croix, VI	Room Number: Armory
Location Code: AA	Location: Entire Bldg.
Operation Code: OTE	Operation: TRAINING
Survey Date: 22 October 2012	

Organization/Unit:

Macom Code: NG	Command: NGB
Submacom Code: ARNG	Submacom: VI ARNG
Supervisor: LTC Elvis Harvey	Phone: 340-712-7920
RAC: 4	Frequency: 8 Hours/Day

Number of: Military:
 Civilians: 28
 Contractors:
 Others:

Staffing Data

Lab Hoods:	Spray Booths/Hoods:
Open Surface Tanks:	Vapor Degreasers:
Maintenance Bays:	Ventilation Units:
Other:	

Operation Comments:

1. The Armory located in the complex is the main armory for the St. Croix Army National Guard.
2. Seven units drill at the armory. There is an Assembly Hall (Drill Floor), Indoor Firing Range, and four (4) Arms vaults. Lead wipe samples were taken in all of the Arms Vaults. No samples in the firing range due to no changes since last IH Survey (not cleaned/heavy lead contamination. Firing range is kept closed, locked, and notice of lead contamination posted on range door.
3. The HVAC system has recently undergone a complete rehab. New AC units, duct work, wiring, etc. has been completed over the last year. Ventilation throughout the building is well within the standard for air movement, humidity, temperature, and dew point. Carbon Dioxide readings were all well under 1000ppm.

4. The illumination survey indicated several areas were under the prescribed standard (NGB DG 415-2, Table 8, Electrical Requirements. Recommendations made.
5. The entire armory had had a complete rehab in respect to walls, floors, ceilings, and a new roof. It appears there was an accumulation of mold, mildew, and moisture throughout the armory. All mold infested materials, water soaked materials, and carpeting has been removed and replaced with new materials.
6. There are still several areas that are in the process of being completed. The rehab is approximately 95% complete.
7. There were no complaints of indoor air quality by any of the armory employees.
8. The employees appear to be quite pleased with all of the changes made over the last one to two years.

Report Date: 27 NOVEMBER 2012

HHIM SURVEY SUMMARY REPORT (PART II)

Arloc Code: VQ000

Building Number: St. Croix, VI

Location Code: AA

Operation Code: OTE

Survey Date: 22 October 2012

Installation: VI ARNG

Room Number: Armory

Location: Entire Bldg.

Operation: TRAINING

HAZARDS INVENTORY:

HAZARD
NONE OBSERVED

CAS CODE

PAC

EPC

Report Date: 27 NOVEMBER 2012

HHIM SURVEY SUMMARY REPORT (PART III)

Arloc Code: VQ000
Building Number: St. Croix, VI
Location Code: AA
Operation Code: OTH
Survey Date: 22 October 2012

Installation: VI ARNG
Room Number: Armory
Location: Entire Bldg.
Operation: Training

Personnel:

<u>Last Name</u>	<u>First Name</u>	<u>MI</u>	<u>SSN</u>	<u>SEX</u>	<u>Category</u>
------------------	-------------------	-----------	------------	------------	-----------------

ALL EMPLOYEES WORKING IN THE ARMORY

REPORT DATE: 27 NOVEMBER 2012

HSIM SURVEY SUMMARY REPORT (PART IV)

ARLOC CODE: QV000	INSTALLATION: VI ARNG
BUILDING NUMBER: St. Croix, VI	ROOM NUMBER: Armory
LOCATION CODE: AA	LOCATION: Entire Bldg.
OPERATION CODE: OTH	OPERATION: TRAINING
SURVEY DATE: 22 October 2012	

/ ENGINEERING CONTROLS PRESENT / EVALUATION / UNIT CODE /

/ ENGINEERING CONTROLS REQUIRED / STATUS /

ILLUM - REC

LEAD - REC

REPORT DATE: 27 NOVEMBER 2012

HHIM SURVEY SUMMARY REPORT (PART V)

ARLOC CODE: QV000
 BUILDING NUMBER: St. Croix, VI
 LOCATION CODE: AA
 OPERATION CODE: OTH
 SURVEY DATE: 22 October 2012

INSTALLATION: VI ARNG
 ROOM NUMBER: Armory
 LOCATION: Entire Bldg.
 OPERATION: TRAINING

RESPIRATOR R / U MANUFACTURER TC NUMBER

 1/2 FACE AIR PURIFYING
 FULL FACE AIR PURIFYING
 ABRASIVE BLASTING HOOD
 AIRLINE
 DISPOSABLE
 FULL FACE AIR PURIFYING
 POWERED AIR PURIFYING
 SELF CONTAINED

BODY R / U

 APRONS
 COLD WEATHER CLOTHING
 COVERALLS
 FULL BODY SUIT
 HEAT REFLECTIVE VEST/SUIT
 SAFETY BELT/HARNESS
 SPECIAL PURPOSE CLOTHING

GLOVES R / U

 ACID
 COLD SURFACES
 COTTON GLOVES
 HOT SURFACES
 NBC AGENTS
 OIL
 SOLVENTS
 SURGICAL GLOVES

EYES/FACE R / U

CHEMICAL/SAFETY
CHEMICAL/SAFETY
FULL FACE SHIELD
LASER EYE PROTECTION
SAFETY/IMPACT
SUNGLASSES/GOGGLES
WELDING HELMET

HEAD/FEET R / U

COLD WX BOOTS/HATS
HARD HATS
IMPERMABLE BOOTS
SAFETY/CONDUCTIVE SHOES
SAFETY/NON-CONDUCTIVE BOOTS

HEARING R / U

EAR PLUGS
HELMETS
MUFF/PLUG COMBINATION
MUFF/PLUF COMBINATION + TIME
MUFFS

Non-Responsive

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APPENDIX E
PHOTOGRAPH INDEX
AND
PHOTOGRAPHS

PHOTOGRAPH INDEX

1. SOUTH SIDE (ENTRANCE)
2. EAST SIDE
3. NORTH SIDE
4. WEST SIDE
5. DRILL FLOOR (LOOKING NORTH)
6. DRILL FLOOR (LOOKING SOUTH)
7. TYPICAL REMODELED OFFICE AREA
8. OFFICE AREA AWAITING FLOORING
9. EMERGENCY OPERATIONS CENTER
10. TYPICAL UNIT ADMINISTRATION OFFICE
11. CLASSROOM
12. UNFINISHED HALLWAY
13. VEHICLE BAY (STORAGE USE)
14. MEN'S LOCKER ROOM
15. GUARD SHACK (RIGHT SIDE)
16. GUARD SHACK INTERIOR
17. GUARD SHACK INTERIOR

ST. CROIX ARMORY PHOTOGRAPHS



#1 – SOUTH SIDE (ENTRANCE)



#2 – EAST SIDE

ST. CROIX ARMORY PHOTOGRAPHS



#3 - NORTH SIDE



#4 - WEST SIDE

ST. CROIX ARMORY PHOTOGRAPHS



#5 – DRILL FLOOR (LOOKING NORTH)



#6 – DRILL FLOOR (LOOKING SOUTH)

ST. CROIX ARMORY PHOTOGRAPHS



#7 – TYPICAL REMODELED OFFICE AREA



#8 – OFFICE AREA AWAITING FLOORING

ST. CROIX ARMORY PHOTOGRAPHS



#9 – EMERGENCY OPERATIONS CENTER



#10 – TYPICAL UNIT ADMINISTRATION OFFICE

ST. CROIX ARMORY PHOTOGRAPHS



#11 – CLASSROOM



#12 – UNFINISHED HALLWAY

ST. CROIX ARMORY PHOTOGRAPHS



#13 – VEHICLE BAY (STORAGE USE)



#14 – MEN'S LOCKER ROOM

ST. CROIX ARMORY PHOTOGRAPHS

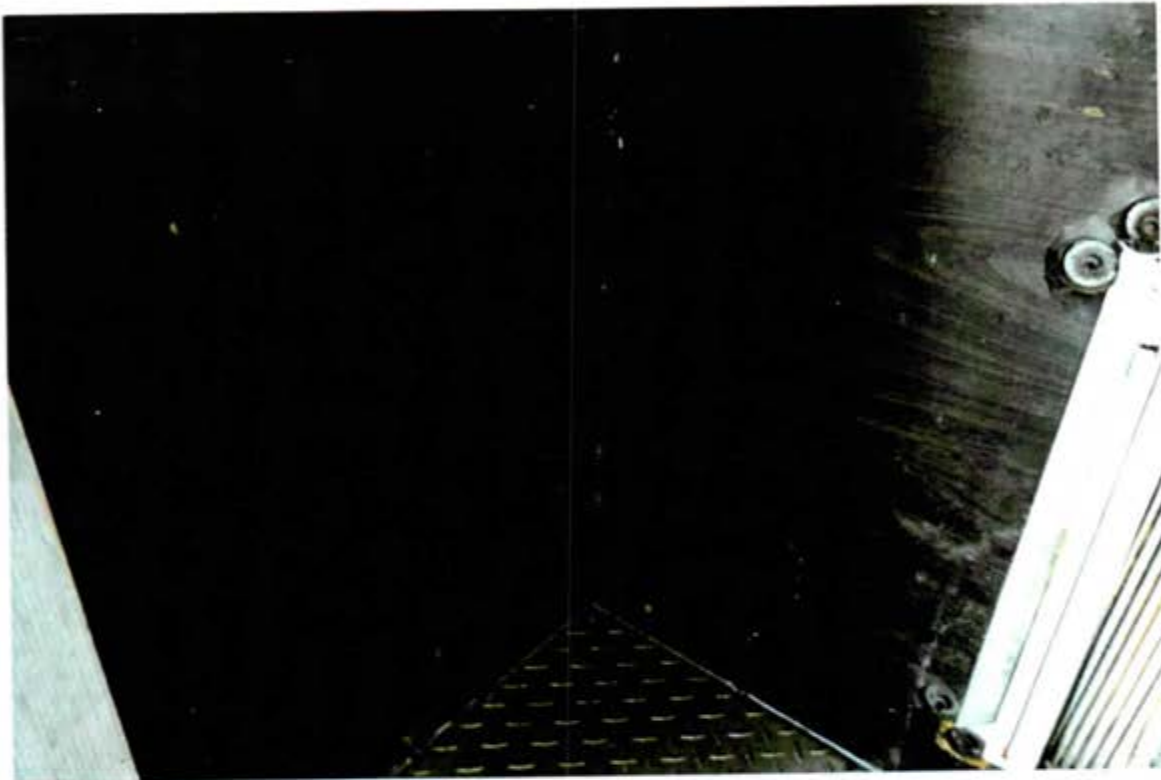


#15 – GUARD SHACK (RIGHT SIDE)



#16 – GUARD SHACK INTERIOR

ST. CROIX ARMORY PHOTOGRAPHS



#17 – GUARD SHACK INTERIOR

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APPENDIX F
NGB DG 415-2, TABLE 8,
ELECTRICAL REQUIREMENTS

DG 415-2 01 JUNE 2011



**ARMY NATIONAL GUARD DG 415-2 LOGISTICS
FACILITIES DESIGN GUIDE**

NATIONAL GUARD BUREAU INSTALLATIONS DIVISION

111 SOUTH GEORGE MASON DRIVE ARLINGTON, VA 22204-1382

DG 415-2 01 JUNE 2011

Table 8. Electrical Requirements

	FUNCTIONAL AREA	LIGHTING	OUTLETS	NOTES
Office Areas				
1	General Supervisor	50FC		1
2	Supervisor	50FC		1
3	Production Controller	50FC		1
4	Inspection and Library	50FC		1
5	Automation Clerk	50FC		1
6	Common IT Space	50FC		2
7	IT Support Activities	50FC		2
8	Classroom	70FC		
Personnel Areas				
1	Toilet shower	30FC		
2	Locker Room	30FC		
3	Break Area	50 FC		
4	Physical Fitness Area	40FC		2
Work Areas				
1	Tool Room	30FC		
2	Supply Room	40FC		
3	Battery Room	50FC		4
4	Comm. & Electronic Shop	70FC		2
5	Instrument Repair Shop	70 FC		2
6	Small Arms Repair Shop	70FC		2
7	Small Arms Test Room	50FC		2
8	Vault (Small Arms)	40 FC		
9	Vault (CBT Vehicle Arms)	40FC		
10	Injector Test Room	70FC		2
11	Fuel and Ignition Repair Shop	70FC		2
12	BII Storage/Issue	30 FC		
13	Machine Shop	70FC		2
14	Carpenter Shop	50 FC		2
15	Lumber Storage Shed	20 FC		

DG 415-2 01 JUNE 2011

Table 8. Electrical Requirements (Continued)

	FUNCTIONAL AREA	LIGHTING	OUTLETS	NOTES
16	Canvas Shop	SOFC		2
17	Missile Repair Shop	70 FC		2
18	Vault (Missile)	40FC		
19	Calibration Room	70 FC		
20	Calibration Storage	30 FC		
21	Glass Repair Room	SOFC		2
22	Radiator Test & Repair Room	SOFC		2
23	COMSEC Repair Room	70FC		2
24	Radiation Calibration Room	70FC		
25	Bulk POL Storage for Lubrication Systems	30 FC		
26	Bulk POL Storage	30FC		
27	Controlled Waste Handling	30FC		
28	Bulky Equipment Storage	30 FC		
29	Flammable Materials Storage	30 FC		
30	Enclosed Unheated Storage	30FC		
Work bays				
1	General Purpose Work bay	SOFC		2
2	Warm-Up Bay	SO FC		2
3	Welding Shop	SO FC		2
4	Wash Bay	SOFC		2
5	Paint Stripping Bay	SOFC		2
6	Paint Preparation Bay	SOFC		2
7	Paint Booth	SOFC		2
8	Engine/Transmission Test Cell	SOFC		2
9	Electronics Bay	SOFC		2
10	Body Shop	SOFC		2

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

NGB-AVN-SI

January 21, 2003

MEMORANDUM FOR: ADJUTANT GENERAL VI ARNG, ATTN.: Commander St Croix
Army National Guard Armory, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353

SUBJECT: Transmittal of the St Croix Armory Survey Report.

1. References.

- a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.
- b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.
- c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.
- d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.
- e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.
- f. DA PAM 40-501, 30 October 2000, The Army Industrial Hygiene Program. (Updates TB MED 503, 1 February 1985, The Army Industrial Hygiene Program).
- g. DA PAM 40-501, 27 August 1991, Hearing Conservation (Updates TB MED 501, 15 March 1980, Hearing Conservation).
- h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.
- k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.
- l. Report dated 18 December 2002, Industrial Hygiene Survey, Environmental Mgmt. Solutions, Atlanta, GA.

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2. General.

- a. At the request of VI ARNG 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 St Croix Armory, St Croix, VI.
- b. Environmental Mgmt. Solutions, 247 Mary Lane, Dallas, GA. 30132 conducted the survey.

3. Findings. All HHIM field survey forms and survey findings of the report. (See ENCL. 1)

4. Recommendations.

- a. Follow all recommendations made in reference 1.1., requesting industrial hygiene (IH) services where needed to complete the recommendations.
- b. The recommendations given in the comments section of the HHIM data sheets and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY04 IHIP.
- c. 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.
- 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.
- e. 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, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353
State Safety Manager, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353
Industrial Hygiene Technician, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353

CF: NBG-AVN-SH
State Occupational Health Office, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353
State Safety Manager, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353
Industrial Hygiene Technician, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353

ENCL.
As

Non-Responsive

CF: NBG-AVN-SH

State Occupational Health Office, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353

State Safety Manager, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353
Industrial Hygiene Technician, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353

ENCL.

As

ENVIRONMENTAL MANAGEMENT SOLUTIONS
INDUSTRIAL HYGIENE CONSULTING

**VIRGIN ISLANDS ARMY NATIONAL GUARD
ST. CROIX ARMORY
ST. CROIX, VIRGIN ISLANDS**

247 MARY LANE, DALLAS, GEORGIA 30157
PHONE: 678 429-4084 • FAX: 770.234.6297

St. Croix Armory
Survey Date: 18 December 2002

SUBJECT: Industrial Hygiene Survey of the St. Croix Armory performed 18 December 2002 at the St. Croix Armory in St. Croix, Virgin Islands.

BACKGROUND:

Introduction. At the request of **Non-Responsive** of the National Guard Bureau Region South Industrial Hygiene Office, an industrial hygiene survey was performed at the St. Croix Armory in St. Croix, Virgin Islands. **Non-Responsive** contract industrial hygienist, Environmental Management Solutions, and **Non-Responsive**, industrial hygiene technician, Virgin Islands, conducted the survey on 18 December 2002. The purpose of the survey was to perform a comprehensive industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The facility houses five units and has twenty-five full time personnel. Duties of personnel include administrative and supply operations. The armory was constructed in approximately 1992. The facility houses several administrative areas, one kitchen/mess hall, two classrooms, a Drill hall, two supply areas, and an indoor firing range.

Scope of Work. The Armory was visually examined and personnel were consulted to accurately assess potential hazards present. An illumination survey was performed in all areas surveyed and wipe samples were taken in the indoor firing range, drill hall, kitchen, and administrative areas. Health Hazard Information Module (HHIM) forms were completed for all operations. Reference information, Instrumentation, Methodology, and Assessment Criteria can be found in Appendix A.

St. Croix Armory
 Survey Date: 18 December 2002

FINDINGS and DISCUSSION:

- a. **Building Condition.** The building is in good condition although considerable water damage could be seen in both ceiling and floor tiles. Ceiling tiles were seen bulging from where the weight of the water had been. Broken floor tiles can be seen throughout the armory. Evidence of previous water leaks can also be seen in carpeted areas such as the classrooms. Personnel indicate that the source of the water leaks are in the roof, and the facility has suffered flooding from the sewer lines and from broken water pipes in the water desalination unit room.
- b. **Indoor Firing Range.** The indoor firing range is no longer being used for weapons training and qualification and has not been converted for alternate use. Personnel now perform computerized marksmanship training in the indoor firing range. The FATS system has been in the range for approximately two years. Computer equipment, tables, and other equipment and materials are being stored in the range. A dry broom and dustpan were also found. Bullet bins in the backstop were still full. Several wipe samples were taken in the range to confirm the presence of lead in the range.

Sample Number	Sample Site	Results ($\mu\text{g}/\text{ft}^2$)
STX-02	Rear table, IFR	29.0
STX-06	Storage room behind IFR	41.0
STX-07	Floor behind entrance door, IFR	1370
STX-08	Drum, left side of IFR	408
STX-09	Left side, bullet backstop, IFR	181
STX-10	Training equipment center of floor, IFR	122000
STX-11	Floor in front of backstop, right side	10500
STX-12	Back of range door	42.0

Lead wipe levels greater than $200 \mu\text{g}/\text{ft}^2$ are considered contaminated. Five of the eight samples taken in and on equipment in the range show signs of contamination.

Lighting levels in the area ranged from 5.8 to 52.5 FC averaging 22.3 FC. Light levels are required to be 100 FC at the target line and 30 FC in all other areas for weapons qualification and training.

- c. **Drill Hall.** Personnel officially use the Drill Hall two days per month. It may be rented out approximately once every other month for other special occasions. Some weapons cleaning during February and March are performed here. Wipe samples for lead were also taken in the area and the results are as follows:

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St. Croix Armory
 Survey Date: 18 December 2002

Sample Number	Sample Site	Results ($\mu\text{g}/\text{ft}^3$)
STX-03	Top of soda machine	31.0
STX-04	Floor corner of drill hall	BRL
STX-05	Table, kitchen area	BRL

* BRL = Below Recording Limits

Lead results were well within required limits and indicate good housekeeping practices. Light levels in the area ranged from 17.3 to 26 FC averaging 25 FC. Several bulbs were blown out. Light levels required are 50 to 100 FC. Light levels are below required limits.

- d. **Supply Room.** There are five supply rooms for each of the five units. Each supply officer uses the computer between three and four hours per day. Heavy lifting is performed with the aid of hand jacks and lifts. Help can also be obtained from the USPFO Warehouse next door. The USPFO warehouse though has a broken mechanical lift in the cargo area. The lift is activated unintentionally at times and rises away from the floor without prior notice to personnel, which could cause injury. Personnel have made a makeshift catch, however, it is not the appropriate piece needed for the broken lift. Chemical use is limited to lubricating oil for weapons cleaning and detergent. All MSDSs are not kept in an easily accessible location. One person commented on problems with blurry vision during computer operations. Administrative office areas with air conditioning are provided for administrative tasks although the warehouse itself is not air-conditioned. Personnel during inventory tasks, issuing, or weapons cleaning may need to be in the administrative area for prolonged periods of time. Lighting levels in the storage areas ranged from 16.4 to 20.6 FC averaging 19.2 FC. Light levels in the supply office areas where administrative duties are performed ranged from 50.5 to 56 FC, averaging 53 FC. Illumination and Engineering Society of North America (IES) requires 20 to 50 FC for storage areas and 50 to 100 FC for administrative areas. Light levels in the storage areas are slightly below required levels. Administrative areas just meet the required levels.
- e. **Administrative Offices.** 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. Light levels found in administrative areas are as follows:

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St. Croix Armory
Survey Date: 18 December 2002

Location	Readings in Footcandles (FC)	IES requirements	Meets Requirement?
Signal Spt. Acty. Strg.	11 to 20	50 to 100 FC	No
661 MP ORD Room	103	50 to 100 FC	Yes
652 GS MAINT CO ORD ROOM	89 to 105	50 to 100 FC	Yes
Headquarters TERARC-VI	17 to 82	50 to 100 FC	No *
620th QM WP	67 to 85	50 to 100 FC	Yes
AMEDD Orderly Room	13.5 to 24	50 to 100 FC	No
Dispensary	24	50 to 100 FC	No
Medical Office Room	36 to 40	50 to 100 FC	No
OPN Off	53.5	50 to 100 FC	Yes
Non-Responsive	47	50 to 100 FC	No
	59.5	50 to 100 FC	Yes
PSP/SIBPERS	21 to 54.5	50 to 100 FC	No *
Battalion Commander Office		50 to 100 FC	
XO	78	50 to 100 FC	Yes
Computer Area	45 to 58	50 to 100 FC	Yes
104th Admin Office	80	50 to 100 FC	Yes
Det. 1 Admin. Office TRP/CMD	41 to 50	50 to 100 FC	No*
Classrooms	9 to 18.5	50 to 100 FC	No
Men's Locker Room	1.2 to 23	10 to 20 FC	Yes
Women's Locker Room	2 to 57	10 to 20 FC	Yes

* Based on average reading

A lead wipe sample was taken on a supply grille in an administrative area. Results are below 200 $\mu\text{g}/\text{ft}^2$, however the presence of lead was detected.

- f. **Kitchen/Mess Hall.** The kitchen was found in good condition and is used during drill weekends. Personnel are responsible for cooking meals. Lead wipes taken in the area do not indicate the presence of lead and indicate good housekeeping practices. Lighting levels in the kitchen area ranged from 43.4 to 53 FC averaging 48.2 FC. Required lighting levels are 50 to 100 FC.
- g. **Material Safety Data Sheets (MSDS).** Material Safety Data Sheets were unavailable for the materials utilized by supply personnel. Personnel reportedly receive some training.

St. Croix Armory
Survey Date: 18 December 2002

- h. **Hearing Conservation Program.** Due to low noise levels in the area, there is no requirement for a Hearing Conservation Program.
- i. **Respiratory Protection Program.** Presently at this facility, no operations are being performed that warrant the need for implementation of a respiratory protection program.

St. Croix Armory
Survey Date: 18 December 2002

Recommendations:

1. Develop 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 further indoor air quality issues. Clean and disinfect all contaminated surfaces such as the supply diffusers throughout the facility with a 10 percent Clorox™ solution during off-hours. Any carpet that has been contaminated over a large area with sewage backup should be discarded under controlled conditions and the entire area disinfected with bleach and water.
2. Personnel indicate that IDT training that will be taking place within the next month. As an interim measure personnel utilizing the computer system should be briefed on the presence of lead in the range and the appropriate procedures to take while in and upon leaving the range. See NGB 385-15, which addresses Indoor Firing Range use and maintenance. Upon completion of training, decontamination and removal of stored equipment should be completed and the range closed until appropriate action can take place.
3. An indoor firing range can only be used for other purposes once it is free of lead dust contamination. Equipment should not be stored in the area, since stored items can also become contaminated with lead dust. All stored items should be removed as soon as possible and thoroughly decontaminated before their removal. Personnel should be restricted from using the range for purposes other than intended until the range has been properly converted. See NGB 385-16, which addresses guidelines for converting indoor firing ranges to other uses.
4. 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.
5. 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.
6. The lift manufacturer should appropriately repair the broken mechanical lift in the USPFO. Use of the lift should be discontinued until it is repaired to prevent possible injury to personnel.
7. 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.
8. Consider heat stress monitoring for personnel working in hot environments for extended periods of time to measure employee

St. Croix Armory
Survey Date: 18 December 2002

exposure and develop appropriate work/rest schedules as needed. A thermometer or other temperature reader should be placed in the area so that personnel are mindful of temperatures during the day. Personnel are allowed rest breaks as needed and should be trained in the recognition of danger signs and symptoms. Heavy workloads during hot days should be done during cooler parts of the day as much as possible.

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

Non-Responsive

APPENDIX A

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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 Guard Pamphlet (NG PAM), 385-15, **Evaluation and Maintenance of Indoor Firing Ranges**, 25 April 1998.

National Guard Pamphlet (NG PAM), 385-16, **Guidelines for Converting Indoor Firing Ranges to Other Uses**, 31 January 1994.

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

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APPENDIX B

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	PAC	EPC	Hazard Description
7139-92-1	2	C	Lead dust
701510	3	A	Asbestos

Social Security Number or Unique Identifier	First Name (20 characters max)	MI	Sex	Category

Personnel data provided by the facility is attached to this form

Insert Privacy Act Statement

Comments

Operation described is *indoor firing range used for computerized marksmanship training*

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This operation was explained to the evaluators, but was not actually observed.

There is a noise data sheet attached to this form

There is a ventilation data sheet attached to this form

(comments continued on attached)

HHIMS Industrial Hygiene Survey Form

AR/LOC	Installation	Building	Room Number
Location	Survey Date	Evaluator	Unit / Organization (15)
Supervisor	Month	MACOM	No. MIL
Supervisor, or Point of Contact	Day	Subcommand	Contractors
Telephone Number	Rank	RAC	No. LOCs
Vapor Degreasers	OSM	Commercial	No. CVTs
Spray Booths	Frequency (hr/day)	Frequency (hr/day)	
Open Surface Tanks	Ventilation Units		

Controls Present (N=6, continue in comments)(25)	Evaluation (25 characters max)	Unit code	Controls Required (25 characters max)
OTH			

	G	R	U	Manufacturer's Description (10 characters max)	G	R	U	Body	G	R	U	Head and Feet	G	R	U
Gloves	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	cold surfaces	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	hot surfaces	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NBC agents	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	solvents	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	surgical gloves	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	leather / cotton	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Eyes and Face	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	chemical splash	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	full face shield	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	chem/safety impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	safety impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	welding helmet	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	sunglasses	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	welding goggles/glasses	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	laser eye protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Respirator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	airline	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	abrasive blasting hood	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	disposable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	full face air purifying	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1/2 face air purifying	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	powered air purifying	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1/4 face air purifying	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	self-contained	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hearing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	canal caps	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	> 85-108 dBA steady earplugs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	helmets w/ muffs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1108-118 (muff/earplug comb	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	muffs and earplugs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	with time limit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Reminder: ergonomics - dermal/le - physical agents - flammable storage
 EYE (permanent) _____ EYE (portable) _____ SHW - GMV - LEV

Legend:
 G = evaluator's recommendation
 R = agreement
 U = other

HHIMS Industrial Hygiene Survey Form

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PONISECO	CAS code	PAC	EPC	Hazard Description
	7439-9-2-1	3	A	WIND DUST
	00000000000000000000	3	A	WATER OIL, GREASE
	00000000000000000000	3	A	Petroleum distillates
	00000000000000000000	3	A	NAPHTHOL
	00000000000000000000	3	A	Iron II3
	00000000000000000000	3	A	Oil Mist, Rifle Box Cleaner
	00000000000000000000			Corrosion Preventative Compound

Social Security Number or Unique Identifier	Last Name (20 characters max)	First Name (20 characters max)	MI	Sex	Category

Insert Privacy Act Statement

Personnel data provided by the facility is attached to this form

Comments

Operation described is cleaning & unloading
 of weapons cleaning facility during early morning months of February and March
 MSDS unavailable

This operation was explained to the evaluators, but was not actually observed.
 There is a noise data sheet attached to this form

(comments continued on attached)

HHIMS Industrial Hygiene Survey Form

Admin
Front Page

Room Number	Building		Installation	Survey Date	Month	Day	Macom	Submacom	Unit / Organization (45)		
			02	02	12	18	AG	XIX			
			Mr.	Rank			RAC				
			Telephone Number		DSN Commercial		Frequency (per day)	No. CIVs	No. MILL		
							0000				
			Vapor Degreasers		Open Surface Tanks		Ventilation Units				
			00		00		00				
Controls Present (N = 8, continue in comments) (25)			Evaluation (25 characters max)			Unit code			Controls Required (25 characters max)		
OTA			11-105			ETC			50-100 FIC		
									NIOSH TC # or foreign equivalent (10 characters max)		

Category	e	s	r	u
Gloves				
acid surfaces				
cold surfaces				
hot surfaces				
NBC agents				
oil				
solvents				
surgical gloves				
leather / cotton				
other				
Eyes and Face				
chemical splash				
full face shield				
chem/radiat impact				
safety impact				
welding helmet				
sunglasses				
welding goggles/glasses				
laser eye protection				
other				
Respirator				
airline				
abrasive blasting hood				
disposable				
full face air purifying				
1/2 face air purifying				
powered air purifying				
1/4 face air purifying				
self-contained				
other				
Body				
aprons				
cold weather clothing				
coveralls				
full body suit				
heat reflective				
vest/suit				
safety belt/business				
special purp. clothing				
other				
Head and Feet				
cold weather boots/shat				
hard hats				
impermeable boots				
safety shoes (conductive)				
safety (nonconductive)				
other				
other				
other				
other				

Reminders: ergonomics - dermatitis - physical agents - flammable storage
 EYE (permanent) - EYE (portable) - SHW - GMV - LEV
 ACO ADM DSA DSN LAB LCK
 RAN FRP CMI BUR

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	PAC	EPC	Hazard Description
POH05CO	2	F	VDT Computer use
POFO01HAZ	2	D	Inadequate lighting
POMLYPR0J			
POEYEHZA			
POFLAMHAZ			
POLIFTING			
POSHARPOB			
POFOTOBJE			
POELSHOCK			
COLUBECIL			

Social Security Number or Unique Identifier	Last Name (20 characters max)	First Name (20 characters max)	Mi	Sex	Category
					BEST AVAILABLE COPY

Personnel data provided by the facility is attached to this form

Insert Privacy Act Statement

Comments

Operation described is administrative operations to include writing, typing, filing, and computer use. Ergonomics survey recommended. Repair beam lighting and provide task lighting where necessary.

This operation was explained to the evaluators, but was not actually observed.

There is a noise data sheet attached to this form

There is a ventilation data sheet attached to this form

Comments continued on attached

HHIMS Industrial Hygiene Survey Form

AIROC _____

Location _____

Installation _____

Operation _____

Survey Date _____
 month: _____ day: _____

Supervisor _____
 Mr. _____ Ms. _____

Supervisor, or Point of Contact _____

Telephone Number _____

Evaluator _____

Macrom _____

Subsum _____

No. MIL _____

Contractors _____

No. LOCs _____

Frequency (min/day) _____

No. CIVs _____

DSH _____

Commercial _____

Verification Unit _____

Open Surface Tanks _____

Spray Booths _____

Vapor Degreasers _____

Controls Present (If > 6, continue in comments) _____

Room Number _____

Unit / Organization (15) _____

Unit code _____

Evaluation 125 characters max. _____

Controls Required 126 characters max. _____

Manufacturer's Description (10 characters max) _____

Unit code _____

Manufacturer's Description (10 characters max) _____

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OSHA TC 9 or Foreign equivalent (10 characters max)

OSHA TC 9 or Foreign equivalent (10 characters max)	Respirator				Hearing				Body				Head and Feet			
	e	s	r	u	e	s	r	u	e	s	r	u	e	s	r	u
acid																
cold surfaces																
hot surfaces																
NBC agents																
oil																
solvents																
surgical gloves																
leather / cotton																
other																
Eyes and Face																
chemical splash																
full face shield																
chemical safety impact																
safety impact																
welding helmet																
sunglasses																
welding goggles/goggles																
laser eye protection																
other																
Body																
cold weather clothing																
coveralls																
full body suit																
heat reflective																
vest/vest																
safety belt/arness																
special purp. clothing																
other																
Head and Feet																
cold weather boots/hat																
hard hats																
impermeable boots																
safety shoes (conductive)																
safety (nonconductive)																
other																
other																
other																

* = evaluator's recommendation or agreement

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

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	PAC	EPC	Hazard Description
PONISECO	X	F	VIX Computer Use
POFOOTHAZ	X	D	Inadequate Lighting
POFLYPROJ	X	A	Heavy Lifting
POEVEHAZA	X	F	Heat Stress
POFLAMHAZ			
POLIFTING			
POSHARPOB			
POHOTOBJE			
POELSHOCK			
COLUBEOL			

Social Security Number or Unique Identifier	Last Name (20 characters max)	First Name (20 characters max)	MI	Sex	Category

Personal data provided by the facility is attached to this form

Insert Privacy Act Statement

Operation described is storage, inventory and use of unit case and equipment

Comments

This operation was explained to the evaluators, but was not actually observed.

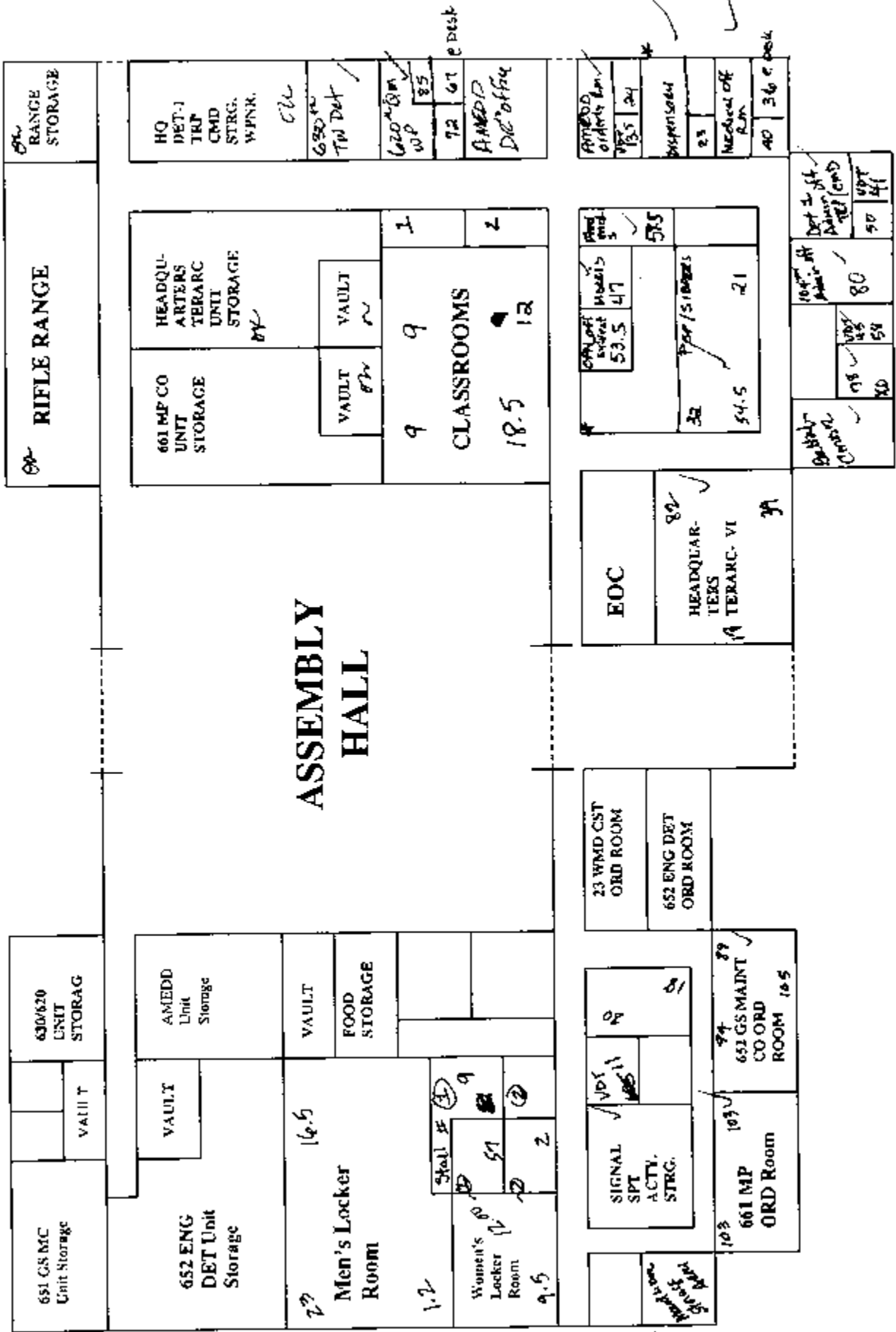
There is a noise data sheet attached to this form

There is a ventilation data sheet attached to this form

Comments continued on attached

APPENDIX C

Estate Bethel from Harmony
ST. Croix, VI

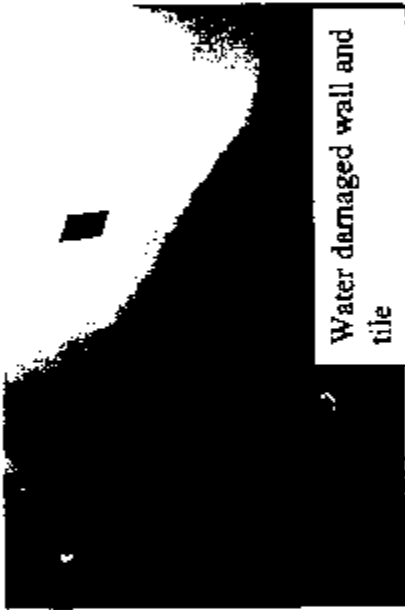


Virgin Islands Army National Guard
St. Croix Armory

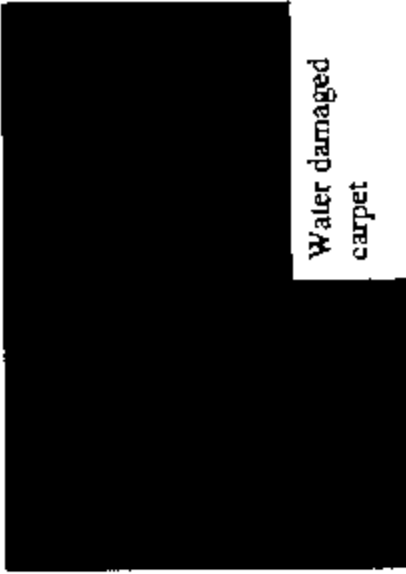
BEST AVAILABLE COPY



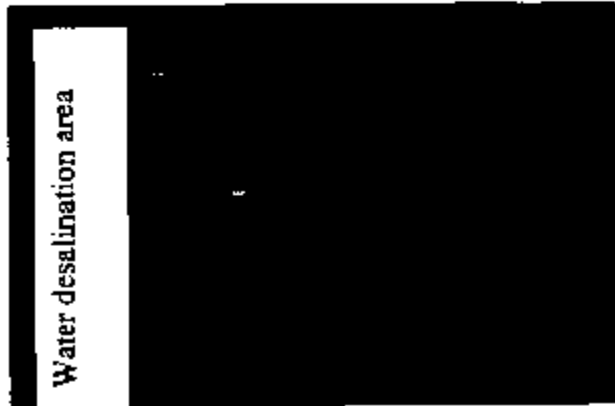
Water damaged ceiling tiles,
administrative area



Water damaged wall and
tile



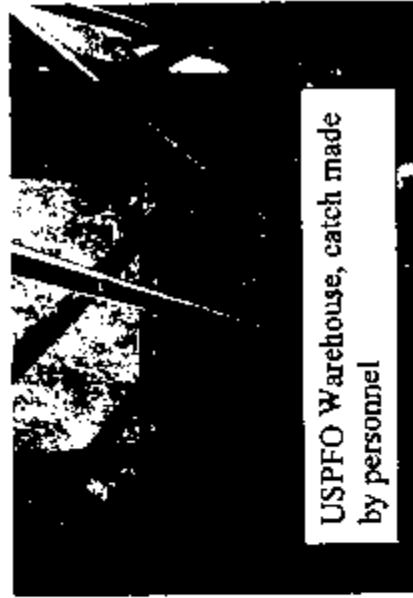
Water damaged
carpet



Water desalination area

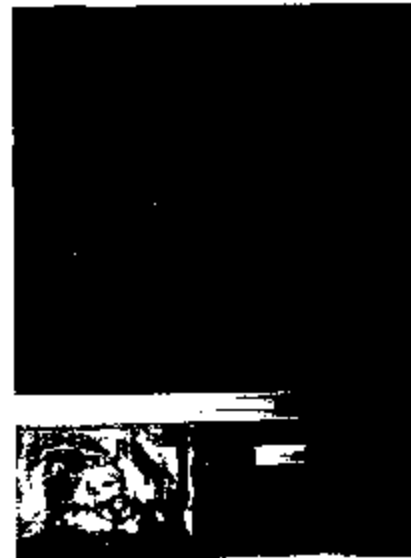
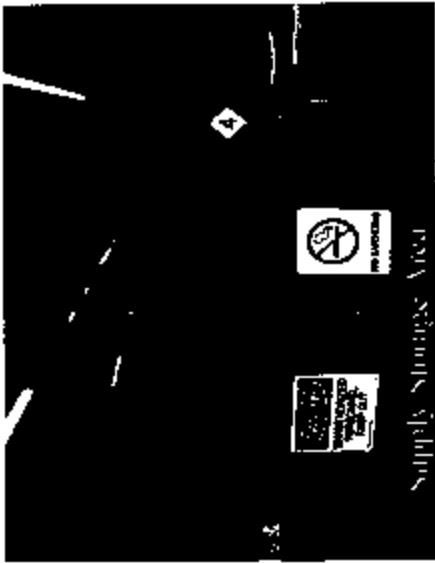


USPFO Warehouse,
broken pallet jack

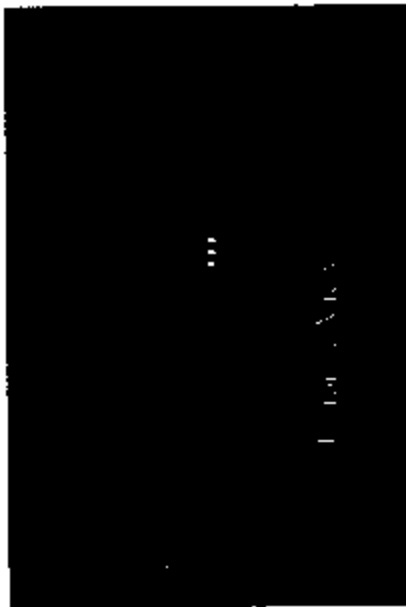
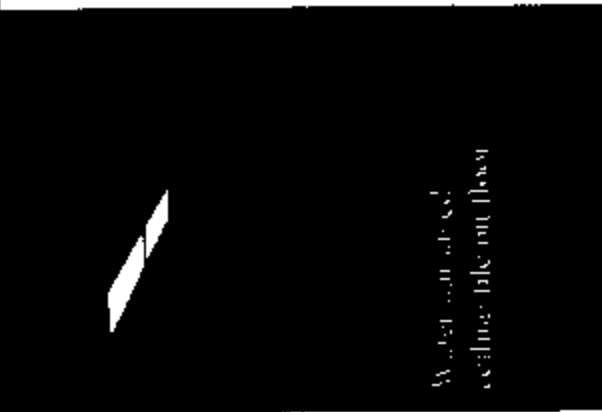


USPFO Warehouse, catch made
by personnel

Virgin Islands Army National Guard
St. Croix Armory



Virgin Islands Army National Guard
Indoor Firing Range



APPENDIX D

KUSH

BULK SAMPLE DATA

For use of this form see USAEHA TG 141; the proponent is MCHB-DC-LLC

Return Address (complete address including zip code)

217 Mary Lane
Dallas, GA 30157

Non-Responsive

Sampled Installation

St. Croix Amenity

Project Number

Non-Responsive

Dec 02

Date Shipped

23 Dec 02

Location (BLDG/AREA)

Associated Complaints (be specific)

None

Associated Air Samples

If yes, list sample numbers

YES

NO

Label Information

Trade Name

N/A

NSN

N/A

Manufacturer

N/A

Address

N/A

MECS Attached

YES

NO

Analysis Desired

Lead

Lab Use Only	Sample No.	Constituents	Results	Remarks
001A	STX-01	Supply Grille		
002A	STX-02	Rein. table		
003A	STX-03	Top of soda machine		
004A	STX-04	Floor corner of drill hall		
005A	STX-05	Table, kitchen area		
006A	STX-06	Storage room behind range		
007A	STX-07	Floor behind entrance door		

Comments to Lab:

curb

Lab Use Only

Analyst Initials

Non-Responsive

Received

9:20

Date Reported

12/27/02

Procedures Performed

0212638

BJLK SAMPLE DATA				
For use of this form see USAEHA TG 141; the proponent is MCHB-DC-LLC				
Return Address (complete address including zip code)			Point of Contact (name/AUTOVON)	
Sampled Installation	Project Number		ARLOC <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Sample Collected By	Date Collected		Date Shipped	
Description of Operation			Location (MILCOMAREA)	
Associated Complaints (be specific)				
Associated Air Samples If yes, list sample numbers				
<input type="checkbox"/> YES <input type="checkbox"/> NO				
Label Information				
Trade Name	NSN		Manufacturer	
Address			MDS Attached	
<input type="checkbox"/> YES <input type="checkbox"/> NO				
Analysis Desired				
Lab Use Only	Sample No.	Constituents	Results	Remarks
008A	STX-08	left side of range, down		
009A	STX-09	Training equip, center of floor		
010A	STX-10	Bullet back stop left side		
011A	STX-11	Floor, right @ backstop		
012A	STX-12	Back of door		
Comments to Lab:				
Lab Use-Only				
Analyst (initials)		Non-Responsive	Date Received	Date Reported
Procedures Performed			12/27/02	9:30

CHPPM Form 8-R-E, 1 May 85

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

HHIM User Guide
C-4

Analytical Environmental Servs, Inc.

Date 12/27/02

**TOTAL LEAD IN WIPE SAMPLES
N7082**

CLIENT:	Environmental Management Solutions	Lab Order:	0212638
Project:	St Croix Armory	Date Received:	12/23/02 9:30:00
Project No:	St Croix Armory	Matrix:	Wipe
PO No:		Analyst:	MM

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0212638-001A	STX-01	25.0	µg. Total	2.83	1	12/18/02	12/24/02
0212638-002A	STX-02	29.0	µg. Total	2.83	1	12/18/02	12/24/02
0212638-003A	STX-03	31.0	µg. Total	2.83	1	12/18/02	12/24/02
0212638-004A	STX-04	BRL	µg. Total	2.83	1	12/18/02	12/24/02
0212638-005A	STX-05	BRL	µg. Total	2.83	1	12/18/02	12/24/02
0212638-006A	STX-06	41.0	µg. Total	2.83	1	12/18/02	12/24/02
0212638-007A	STX-07	1370	µg. Total	2.83	1	12/18/02	12/24/02
0212638-008A	STX-08	408	µg. Total	2.83	1	12/18/02	12/24/02
0212638-009A	STX-09	181	µg. Total	2.83	1	12/18/02	12/24/02
0212638-010A	STX-10	122000	µg. Total	283	100	12/18/02	12/24/02
0212638-011A	STX-11	10500	µg. Total	27.7	9.79	12/18/02	12/24/02
0212638-012A	STX-12	42.0	µg. Total	2.83	1	12/18/02	12/24/02

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

DF - Dilution Factor



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

January 16, 2015

MEMORANDUM Adjutant General VI ARNG, ATTN: **Non-Responsive** Bldg 1 Estate
Bethlehem, Christiansted, VI 00820-4353

Thru **Non-Responsive** Deputy State Surgeon 4031 la Grande, Princesse Lot IB, Christiansted,
Virgin Islands 00820-4353

SUBJECT: Transmittal of Industrial Hygiene Survey Report of VIARNG Armory Building,
St. Croix, VI

1. References.
 - a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.
 - b. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
 - c. Title 29, Code of Federal Regulations (CFR), 2009 rev., part 1910, Occupational Safety and Health Standards.
 - d. Title 29 CFR, General Industry, revised 1996 rev. Part 1940
 - e. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007
 - f. AR 385-10, the Army Safety Program, 23 August 2007.
 - g. AR 11-34, 15 February 1990, the Army Respiratory Protection Program.
 - h. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 12 September 2008.
 - i. TB MED 503, the Army Industrial Hygiene Program, 30 October 2000.
 - j. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
 - k. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
 - l. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

2. General. At the request of **Non-Responsive** Deputy State Surgeon and the Safety & Occupational Health Office an Industrial Hygiene Service was put together to conduct an IH Survey of the VI ARNG Armory Building, St. Croix, USVI.

SUBJECT: Transmittal of Industrial Hygiene Survey Report of VIARNG Armory Building, St. Croix, VI

3. Findings. All sampling data and field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1). Operations of very short duration were not sampled due to the requirements of the sampling method. If the operation changes or if the length of the operation is increased, contact this office to schedule sampling if it is deemed needed then.

4. Recommendations.

- a. Follow all recommendations made in the report enclosed, requesting industrial hygiene (IH) services where needed to complete the recommendations
- b. The remarks 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 Action Plan (IHAP) for FY2015. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY2016 IHAP.
- c. Have all HHIM data entered into the HHIM computer module.
- d. Use the report to help in correcting all deficiencies noted.
- e. 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.
- f. Contact the State Occupational Health Office, for any medical Surveillance that may be needed.
- g. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

Non-Responsive

State Safety Manager, ATTN: **Non-Responsive** 4031 La Grande Princess, Lot 1B, Christiansted, St. Croix USVI 00820-4353.

ENCL.
as

LAE CONSULTING

1218 Scattered Pines Court, Severn, MD, 21144
Tel: (410) 551-2717

19 December 2014

MEMORANDUM FOR: Virgin Island National Guard, LTC Lionel Jackson Readiness Center,
ATTN: LTC Elvis Harvey, Bldg 1 Estate Bethlehem, Christiansted, VI 008020-4353

SUBJECT: Industrial Hygiene Survey of Readiness Center, St Croix, VI

I. References.

- a. Title 29, Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Administration (OSHA).
- b. AR 40-5, Preventive Medicine, 25 May 2007.
- c. AR 385-10, 14 June 2010, Army Safety Program.
- d. Department of the Army Pamphlet 40-503, 2 April 2013, The Army Industrial Hygiene Program.
- e. Title 29 CFR, Part 1910.1200, The Hazard Communication Standard.
- f. IES Lighting Handbook 9th Edition, Application Volume July 2000, Illumination Engineering Society of North America.
- g. Threshold Limit Values (TLV's) For Chemical Substances and Physical Agents, and Biological Exposure Indices (BEI's), 2007, ACGIH, Cincinnati Ohio
- h. Industrial Ventilation, 28th Edition, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio
- i. Department of the Army Pamphlet 40-501, 10 Dec 1998, Hearing Conservation Program
- j. Report, Industrial Hygiene Survey, 22-23 October 2012, George Hinchliffe, dba HINCHCO
- k. Report, Indoor Air Quality Follow-up Survey, 9 June 2011, Kal H. Kowar, CHH
- l. National Guard Pam 420-15, Guidelines, and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, Facilities Engineering, 3 November 2006

SUBJECT: Industrial Hygiene Survey of Readiness Center, St Croix, VI

2. Purpose. The purpose of this survey was to conduct a baseline Industrial Hygiene survey of the LTC Lionel Jackson Readiness Center. The baseline is to include ventilation and illumination surveys. The facility was visually examined and the various shop personnel were interviewed for historical information related to the building and the operations performed.

3. Background. At the request of **Non-Responsive** of the National Guard Bureau Region South Industrial Hygiene Office, **Non-Responsive** of LAE Consulting conducted an industrial hygiene survey at the LTC Lionel Jackson Readiness Center, St Croix, VI on 20-24 October 2014.

4. Facility Description. The facility was constructed in 1994. The facility has six supply rooms a deactivated indoor firing range, drill hall, administrative areas, and kitchen.

5. Instrumentation. The Contractor obtained all instrumentation from the Virgin Island State occupational health and industrial hygiene office.

6. Findings.

a. Microbiological air sampling was performed in an office that was previously occupied by the 104th Troop Command Orderly room. . The office space is currently unoccupied but an employee was concerned that mold may still be present. Visible mold was not seen during the survey. An air sample was obtained outdoors along with the sample taken in the office. Microbial analyses for non-viable fungi showed 5300 Spores/M³ for the outdoor sample and 100 spores/M³ for the office sample. The level of spores outside are compared to the level found indoor, if the levels indoors are above the level found outdoor, this would indicate that a source for microbial growth is present. Previous Industrial Hygiene reports stated that in 2007 this space and other areas within the Readiness Center had visible mold growth. Microbiological sampling performed at that time indicated elevated viable and non-viable fungal growth. Walls, carpeting, and ceiling tiles were damaged from a leaking roof. Employees were having health issues that are typical seen in people who have sensitivities to mold and poor indoor air quality. Employees were moved from the building and a major renovation/remediation was performed. The roof was repaired, carpets were removed, and new heating, ventilation, and air conditioning (HVAC) systems were installed. Walls, studs, and ceiling tiles were replaced. Employees were moved back into the Center May 2011. An indoor air quality survey was performed in June 2011. Viable and non-viable fungi air sampling indicated no microbial growth sources or contamination was present. An Industrial Hygiene survey performed in October 2012 also indicated no microbial growth sources.

b. Heating, ventilation, and air conditioning (HVAC) systems were not operational in many administrative areas and the drill hall during the survey. The air conditioning had not been operational for months. The compressors of some units had failed. Freon level was low and the drain was clogged in the units in the drill hall. Fans were set in some offices to provide some comfort. To reduce the possibility of Microbial growth it is imperative that all air-handling units are maintained and operational.

SUBJECT: Industrial Hygiene Survey of Readiness Center, St Croix, VI

c. The St Croix Facility Engineer office stated that funding for repairs are limited and/or unavailable for some projects. The Facility Management office encompasses one Facilities Maintenance/Management officer (FMO) and the Construction Facility Maintenance/Management officer (CFMO). The office does not have any employees to provide maintenance of facilities, building equipment/systems, and submitted work order request. Maintenance is performed by the FMO or by a contract that is fulfilled when funds are available. It was witness during this survey the FMO providing personal funding to repair locks on a door at Readiness Center. The absence of building maintenance employees for inspection, services, and or maintenance of buildings is causing buildings and their major components (i.e. air conditioning) to degrade. Building degradation is evident at many of the buildings on the installation. The lack of maintenance has lead to occupational health issues such as heat stress from inadequate air conditioning, indoor air quality issues such as mold growth, abundance of dust, and chemicals from inadequate ventilation systems. These issues have been ongoing at not only the Readiness Center but also, other St Croix Virgin Island National Guard buildings.

d. A deactivated indoor firing range is located in the Center. Twenty-three Lead wipe samples were taken in the range. Seven of the twenty-three samples ranged from 58- 1100 ug/ft², which is above the recommended level of 200 ug/ft² indicated by NG Pam 420-15 and above the EPA lead level of 40ug/ft². The range was partially decontaminated in 2010. Decontamination of the range stopped due to funding shortfalls. The backstop and pit was removed and that area was encapsulated with dry wall. Light fixtures are removed. The shooting stalls are still in the range. A tent and poles is stored in the range. A ventilation duct runs from AHU 6 into the range. AHU 6 is not installed and the terminal end of the duct is not open. The floor of the range has sunken. Large cracks are noticed from the floor drain. The FMO stated that hydrology report stated that a river runs under the Center and other buildings at the installation. French drains were installed this year to divert the water from under the building. The range was secure prior to the survey. The FMO secured the range after the Lead wipe sampling.

e. Illumination was surveyed throughout the Readiness Center. A list of areas surveyed, the illumination levels and the required levels are annotated on the list. The list is located at the enclosure of this report.

f. Lead wipe samples were obtained in five supply rooms in the readiness center, kitchen, and Drill hall. Sampling results are used as a tool to examine and measure housekeeping procedures. One sample in the 651st Maintenance and one sample in the 652nd Engineer Battalion supply rooms were above the EPA level of 40 ug/ft². Many of the units clean the weapons at the range. Weapons are periodically inspected by supply personnel per protocol. Inspection may involve opening the bolt and checking the chamber, which could release some Lead dust. Hand washing sinks are available in bathrooms. Sample locations and results are annotated on a Lead wipe log located at the enclosure of the report. All results are in ug/ft². Laboratory analyses are located at the enclosure of the report.

SUBJECT: Industrial Hygiene Survey of Readiness Center, St Croix, VI

Non-Responsive

- 2. Photos of Facility
- 3. Noise Dosimetry
- 4. Illumination List
- 5. HHIM
- 6. Laboratory Results

CF: Virgin Island National Guard, JFHQ-VING, Occupational Health Office, **Non-Responsive**
4031 LaGrande Princesse, Lot 1B, Christiansted, VI 00820-4353

Virgin Island National Guard, JFHQ-VING, Chief of Staff **Non-Responsive**
Bethlehem, Christiansted, VI 00802-4353

Virgin Island National Guard, JFHQ-VING, FMO, **Non-Responsive** Estate
Bethlehem, Christiansted, VI 00802-4353

LAP Consulting

SUBJECT: Industrial Hygiene Survey of Readiness Center, St Croix, VI

8. Recommendations.

- a. No further microbial sampling is needed. If visible mold growth is observed, immediately contact the Virgin Island Industrial Hygiene technician for assistance with remediation. **(RAC 4)**
- b. Acquire additional funding towards building systems maintenance. Hire a Maintenance crew or a contract maintenance company that can provide daily on-site maintenance needs. **(RAC 2)**
- c. Acquire additional funding towards building maintenance. Hire a Maintenance crew or a contract maintenance company that can provide daily on-site maintenance needs. **(RAC 3)**
- d. Ensure that the range remains secure. Do not attempt rehabilitation or renovation through unit funding or self-help project. Hire only a licensed and insured company that specializes in Lead remediation. Handle all items stored in the range as Lead contaminated material and dispose as such according to local environmental regulations. **(RAC 2)**
- e. Lighting should be upgraded to 50-foot candles in administrative areas. In administrative areas, consider purchasing supplemental lighting such as a desk lamp. **(RAC 4)**
- f. Clean areas in the Supply room with disposable towels and all-purpose cleaner. Mop the floors in the vault and supply room periodically. Do not sweep the floor in vault. Recommend the VI Industrial Hygiene technician conduct periodic Lead wipe sampling in the supply rooms. **(RAC 4)**

L.A. Consulting

Page 5

EMERGENCY FIRE AND EVACUATION PLAN

EMERGENCY

PHONE NUMBER

911

EVACUATION INSTRUCTIONS

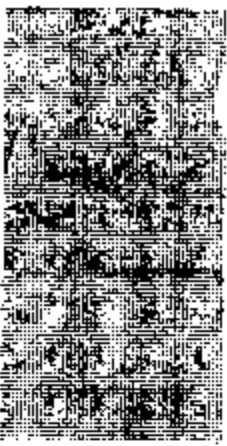


FIRE

BEST AVAILABLE COPY



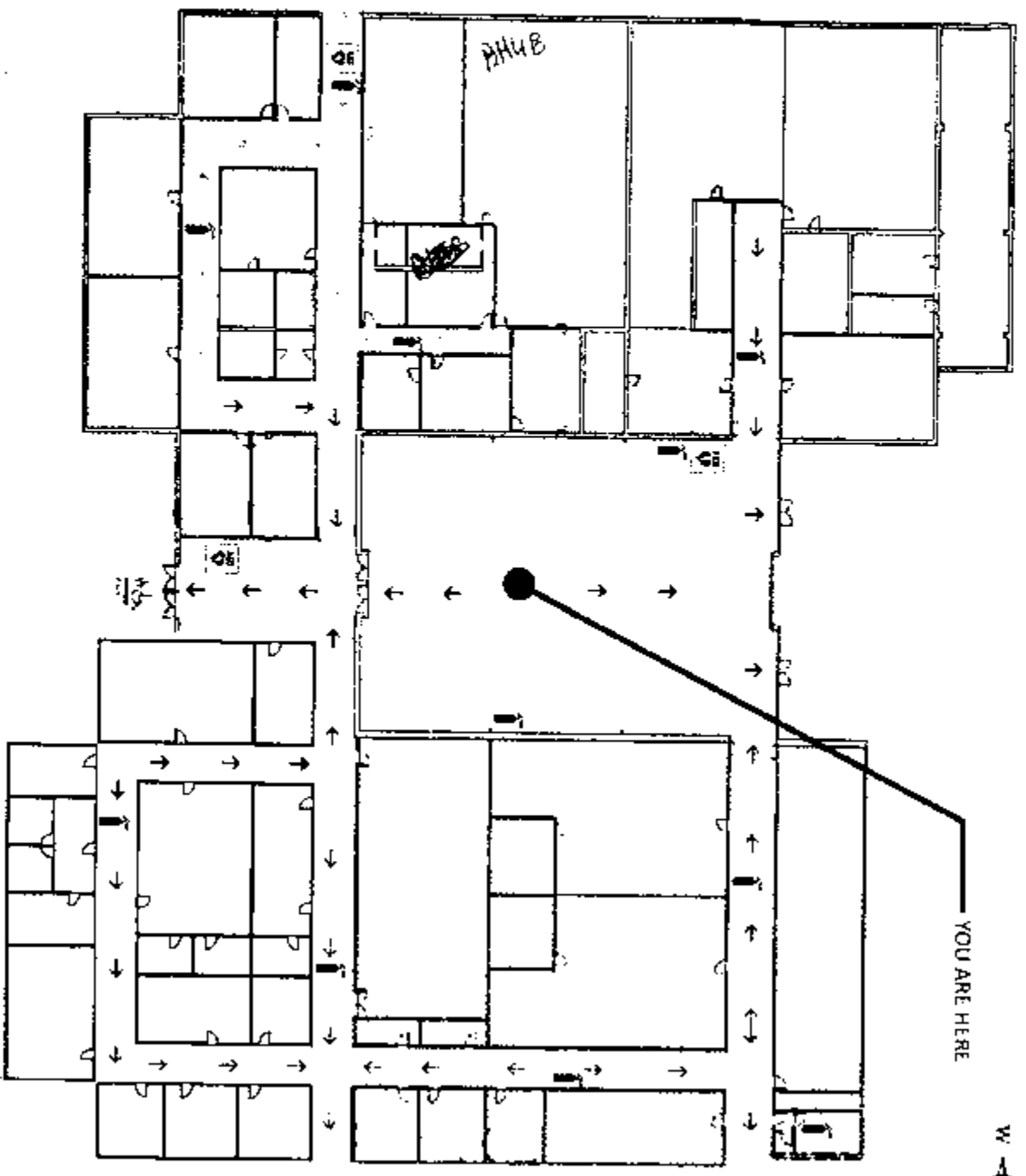
EVACUATION



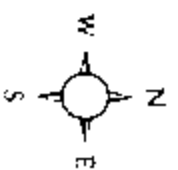
- You Are Here
- Exit Route
- Fire Alarm
- Handicapped Exit
- Fire Extinguisher

- A119
- EXIT

LEGEND



YOU ARE HERE



EMERGENCY ASSEMBLY AREA

LTC LIONEL A. JACKSON READINESS CENTER
BLDG 1 - ESTATE BETHELEHEM

Lighting Survey
LTC Lionel A. Jackson Readiness Center, St Croix USVI

Location	Actual Foot-candles	Required Foot-candles
630 th Orderly room	10-98	50-75
51 st Pad Orderly room	Closed	50-75
104 th (former) Orderly room	21-72	50-75
1/14 th Orderly room	39-84	50-75
HQ 104 th	20-92	20-30
104 th Ops	32-110	50-75
104 th S-4, (former)	25-72	50-75
104 th Command Area	14-86	50-75
Battalion Command office	23-101	50-75
CSM office	45-95	50-75
104 th Orderly room	14-107	50-75
104 th S-1	22-104	50-75
104 th S-4	18-115	50-75
104 th M-day S-4	34-80	50-75
104 th Classroom	75-112	50-75
Sidpers	50-111	50-75
ID card room	19-73	50-75
630 th Supply	18-38	20-75
Drill Hall	9-99	50-75
1/14 th former Orderly room	25-75	50-75
652 nd Orderly room	27-126	50-75
651 st Orderly room	46-108	50-75
Female locker room	12-74	10-15
Medical supply room	10-26	20-75
Medical supply vault	13-21	20-30
Male locker room	12-61	10-15
Break room	60-75	10-15

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 24 October 14

Location: 651st Maintenance Company Supply

Sample #	Sample Location	Results
LW-01-651	Blank	BRL
LW-01-651	Top of beige file cabinet in SSG Baker's office	BRL
LW-02-651	1 st Bookcase	BRL
LW-03-651	Top of weapons rack in entry	66 ug/lit ²
LW-04-651	Top of receiving counter	BRL
LW-05-651	Floor outside vault	22 ug/lit ²
LW-06-651	Top of cabinet in vault	BRL

Field indicators results above recommended level of 40 ug/lit²

BRL - Below reporting limits



ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive Atlanta GA 30340-3906

TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1410564

Date: 29 Oct 14 Page 1 of 1

COMPANY: LAE Consulting

ADDRESS: 1218 Scattered Pines Court Severn, MD 21144

PERSON: [Redacted] Non-Responsive

SAMPLE: [Redacted] Non-Responsive

ANALYSIS REQUESTED: ug/ft2

PRESERVATION (See codes)

REMARKS: No # of Containers

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED		Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS
		DATE	TIME					
1	LW-Blank-651	24 Oct 14		<input checked="" type="checkbox"/>				
2	LW-01-651			<input checked="" type="checkbox"/>				
3	LW-02-651			<input checked="" type="checkbox"/>				
4	LW-03-651			<input checked="" type="checkbox"/>				
5	LW-04-651			<input checked="" type="checkbox"/>				
6	LW-05-651			<input checked="" type="checkbox"/>				
7	LW-06-651			<input checked="" type="checkbox"/>				
8								
9								
10								
11								
12								
13								
14								

REMOVED BY: [Redacted] DATE/TIME: [Redacted] RECEIVED BY: [Redacted] DATE/TIME: [Redacted]

PROJECT NAME: Amory, ST Croix, VING PROJECT #:

RECEIPT: Total # of Containers: 7

SITE ADDRESS: 651st Maintenance Co. SEND REPORT TO: LAE Consulting & Invoice

SPECIAL INSTRUCTIONS/COMMENTS: Lead wipe: Ghost 12" x 12" template results in ug/ft2

SHIPMENT METHOD: OLT / / VIA: IN / / VIA: CLIENT / / VIA: GREYROUND / / OTHER

STATE PROGRAM (if any): [] DATA PACKAGE: []

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF NO TAG IS MARKED ON COC, AES WILL PROCEED WITH STANDARD TAT. SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

Analytical Environmental Services, Inc

Date: 5-Nov-14

Lab Order:	1410864	LEAD ON WIPES (N7082) N7082
Client:	LAE Consulting	
Project:	Armory, St Croix, VING	
Matrix:	Wipe	
Date Received:	10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410864-001A	LW-BLANK-651	BRL	ug/l2	20	1		10/24/2014	11/04/2014	TA
1410864-002A	LW-01-651	BRL	ug/l2	20	1		10/24/2014	11/04/2014	TA
1410864-003A	LW-02-651	BRL	ug/l2	20	1		10/24/2014	11/04/2014	TA
1410864-004A	LW-03-651	66	ug/l2	20	1		10/24/2014	11/04/2014	TA
1410864-005A	LW-04-651	BRL	ug/l2	20	1		10/24/2014	11/04/2014	TA
1410864-006A	LW-05-651	22	ug/l2	20	1		10/24/2014	11/04/2014	TA
1410864-007A	LW-06-651	BRL	ug/l2	20	1		10/24/2014	11/04/2014	TA

Qualities: BRL - Not Detected at the Reporting Limit
 B - Analyte detected in the associated Method Blank

DL - Detection Limit

Results are blank corrected where applicable

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 22 Oct 14

Location: 652ND ENGINEER BN Supply

Sample #	Sample Location	Results
LW-Blank-652	BLANK	BRL
LW-01-652	Top of black file cabinet	BRL
LW-02-652	Top of desk (Richards)	BRL
LW-03-652	Top of beige wall locker #5	42 ug/ft ²
LW-04-652	Floor, center of vault	29
LW-05-652	Floor back of cage	BRL
LW-06-652	Top of Flammable Cabinet 01	BRL

Bold indicates results above recommended level of 40 ug/ft²

BRL - below reporting limits



ANALYTICAL ENVIRONMENTAL SERVICES, INC
 3080 Presidential Drive Atlanta GA 30340-3906
 TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 14105665

Date: 29 Oct 14 Page 1 of 1

COMPANY: LAE Consulting
ADDRESS: 1218 Scattered Pines Court
 Severn, MD 21144

PHONE: [Redacted]
SAMPLE: [Redacted]

#	SAMPLE ID	DATE	TIME	Grp	Composit	Matrix (See codes)
1	LW-Blank-652	22 Oct 14				
2	LW-01-652					
3	LW-02-652					
4	LW-03-652					
5	LW-04-652					
6	LW-05-652					
7	LW-06-652					
8						
9						
10						
11						
12						
13						
14						

RELINQUISHED BY: Lisa Evans
DATE/TIME: [Redacted]

SPECIAL INSTRUCTIONS/COMMENTS:
 Lead wipe: Ghost
 12" x 12" template
 results in ug/ft2

SHIPMENT METHOD:
 OUT / / VIA:
 CLIENT FedEx UPS AIR COURIER
 GROUND OTHER

SAMPLES RECEIVED AFTER 5PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF NO TAG IS MARKED ON COC AFS WILL PROCEED WITH STANDARD TAG.
SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GV = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Bioslur) W/W = Wastewater DW = Drinking Water O = Other (specify)
PRESERVATIVE CODES: H-1 = Hydrochloric acid + Ice I = Ice only N = Nitric acid S-1 = Sulfuric acid + Ice SM-1 = Sodium Bisulfite/Metarsol + Ice O = Other (specify) NA = None

ANALYSIS REQUESTED

ug/ft2																		
--------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PRESERVATION (See codes)

REMARKS

Visit our website
www.aesatlanta.com
 to check on the status of your results, place bottle orders, etc.

No # of Containers

PROJECT INFORMATION

PROJECT NAME: Army, ST Croix, VING
PROJECT #: [Redacted]
SITE ADDRESS: 652nd Engineer Bn
SEND REPORT TO: LAE Consulting & Inc/usa

INVOICE TO: [Redacted]
OR DIFFERENT FROM ABOVE)

QUOTE #: [Redacted] **PO#:** [Redacted]

RECEIPT

Total # of Containers: 7

Turnaround Time Request:
 Standard 5 Business Days
 2 Business Day Rush
 Next Business Day Rush
 Same Day Rush (extra req)
 Other: _____

STATS PROGRAM (if any): _____
 Brand: Y/N: Fax: Y/N:
DATA PACKAGE:

Analytical Environmental Services, Inc

Date: 6-Nov-14

Lab Order: 1410S65	LEAD ON WIPES (N7082) N7082
Client: LAE Consulting	
Project: Armory, ST Croix, VINC	
Matrix: Wipe	
Date Received: 10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410S65-001A	LW-BLANK-652	BRL	ug/ft2	20	1		10/22/2014	11/05/2014	JG
1410S65-002A	LW-01-652	BRL	ug/ft2	20	1		10/22/2014	11/05/2014	JG
1410S65-003A	LW-02-652	BRL	ug/ft2	20	1		10/22/2014	11/05/2014	JG
1410S65-004A	LW-03-652	42	ug/ft2	20	1		10/22/2014	11/05/2014	JG
1410S65-005A	LW-04-652	29	ug/ft2	20	1		10/22/2014	11/05/2014	JG
1410S65-006A	LW-05-652	BRL	ug/ft2	20	1		10/22/2014	11/05/2014	JG
1410S65-007A	LW-06-652	BRL	ug/ft2	20	1		10/22/2014	11/05/2014	JG

Qualifiers: BRL - Not Detected at the Reporting Limit
 IS - Analyte detected in the associated Method Blank

DF - Dilution Factor

Results are blank corrected where applicable

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 21 Oct 14

Location: 104th Troop Cmd/51st PAD Supply

Sample #	Sample Location	Results
LW-Blank	Blank	BRL
LW-01-TC	Brown Table	29 ug/ft ²
LW-02-TC	Floor, Center in the vault	33 ug/ft ²
LW-03-1C	Floor in the Supply area near US flags	BRL
LW-04-1C	Top of Plastic on receiving counter	DRL
LW-05-TC	Top of black file cabinet the right	DRL

BRL = below reporting limits



ANALYTICAL ENVIRONMENTAL SERVICES, INC

CHAIN OF CUSTODY

Work Order: 1410S 66

3080 Presidential Drive Atlanta GA 30340-3906

TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Date: 29 Oct 14 Page 1 of 1

COMPANY: LAE Consulting

ADDRESS: 1218 Scattered Pines Court
Severn, MD 21144

ANALYSIS REQUESTED

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check on the status of
your results, place bottle
orders, etc.

Non-Responsive

#	DATE	TIME	Grab	Comp	Matrix (See codes)	ug/R2	PRESERVATION (See codes)	REMARKS	No # of Containers
1	LW-Blank-TC	21 Oct 14	✓						1
2	LW-01-TC		✓						1
3	LW-02-TC		✓						1
4	LW-03-TC		✓						1
5	LW-04-TC		✓						1
6	LW-05-TC		✓						1
7									
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY: Lisa Evans DATE/TIME: 2:00p RECEIVED BY: [Redacted] DATE/TIME: [Redacted]

SPECIAL INSTRUCTIONS/COMMENTS: Lead wipe: Ghost 12" x 12" template results in ug/R2

SHIPMENT METHOD: OUT / / VIA: [Redacted] IN / / VIA: [Redacted] CLIENT / / VIA: [Redacted] GREYHOUND / OTHER: [Redacted]

PROJECT NAME: Army, ST Croix, VING

PROJECT #: [Redacted]

SITE ADDRESS: 104th Troop Cmd

SEND REPORT TO: LAE Consulting & Invoice

INVOICE TO: [Redacted]

DE INTERPRET BY/AVAILABILITY: [Redacted]

QUOTE #: [Redacted] FOR: [Redacted]

STATE PROGRAM (if any): [Redacted]

DATA PACKAGES: [Redacted]

RECEIPT: Total # of Containers: 6

Thomson/Time Request: [Redacted]

Standard & Business Days: [Redacted]

2 Business Day Rush: [Redacted]

New Business Day Rush: [Redacted]

Same Day Rush (extra req.): [Redacted]

Other: [Redacted]

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED WITH STANDARD TAT.

SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MAINT CODES: A - Air GW - Groundwater SE - Sediment SO - Soil SW - Surface Water W - Water (General) WV - Wastewater DW - Drinking Water O - Other (specify)

PRESERVATIVE CODES: E+1 - Hydrochloric acid + Ice L - Ice only N - Nitric acid S+1 - Sulfuric acid + Ice SA+1 - Sodium Bisulfate/Acetone + Ice O - Other (specify) NA - None

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

Released by National Guard Bureau

Page 148 of 389

Posted to NGB FOIA Reading Room
May, 2018

Analytical Environmental Services, Inc

Date: 6-Nov-14

Lab Order: 1410S66	LEAD ON WIPES (N7082) N7082
Client: LAE Consulting	
Project: Amory, ST Croix, VING	
Matrix: Wipe	
Date Received: 10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410S66-001A	LW-BLANK-TC	BRL	ug/R2	20	1		10/21/2014	11/05/2014	JG
1410S66-002A	LW-01-TC	29	ug/R2	20	1		10/21/2014	11/06/2014	JG
1410S66-003A	LW-02-TC	33	ug/R2	20	1		10/21/2014	11/05/2014	JG
1410S66-004A	LW-03-TC	BRL	ug/R2	20	1		10/21/2014	11/05/2014	JG
1410S66-005A	LW-04-TC	BRL	ug/R2	20	1		10/21/2014	11/05/2014	JG
1410S66-006A	LW-05-TC	BRL	ug/R2	20	1		10/21/2014	11/05/2014	JG

Blank flers. BRL - Not Detected in the Reporting Limit
 B - Analyte detected in the associated Method Blank

DF - Dilution Factor

Results are blank corrected where applicable

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 21 Oct 14

Location: Medical Detachment Supply

Sample #	Sample Location	Results
LW-Blank	Blank	BRL
LW-01-MED	Top of beige shelving (middle)	BRL
LW-02-MED	Top of black shelving 2 nd from left	BRL
LW-03-MED	Top of hutch Supply NCO office	BRL
LW-04-MED	Floor, between cubicle and shelf	32 ug/n ²
LW-05-MED	Top of wood shelf (SD/AF/A)	30 ug/n ²
LW-06-MED	Floor in vault (center)	28 ug/n ²



ANALYTICAL ENVIRONMENTAL SERVICES, INC
 3080 Presidential Drive Atlanta GA 30340-3906
 TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: **1410567**

CONTACT:
 LAE Consulting

ADDRESS:
 1218 Scattered Pines Court
 Severn, MD 21144

Date: 29 Oct 14 Page 1 of 1

PHONE: [Redacted]
 SAMPLE: [Redacted]

Visit our website
www.aesatlanta.com to
 check on the status of
 your results, place bottle
 orders, etc.

#	DATE	TIME	Grab	Compos	Matrix (See codes)	ug/lit2	PRESERVATION (See codes)	REMARKS	No # of Containers
1	LW-Blank-MED	21 Oct 14							1
2	LW-01-MED								1
3	LW-02-MED								1
4	LW-03-MED								1
5	LW-04-MED								1
6	LW-05-MED								1
7	LW-06-MED								1
8									
9									
10									
11									
12									
13									
14									

RELEASING BY: Lisa Evans
 DATE/TIME: [Redacted]
 RECEIVED BY: [Redacted]
 DATE/TIME: [Redacted]

PROJECT NAME: Army, ST Croix, VING
PROJECT #: [Redacted]
SITE ADDRESS: Medical Detachment
SEND REPORT TO: LAE Consulting & Invoice
INVOICE TO: [Redacted]
QUOTE #: [Redacted]

SPECIAL INSTRUCTION/COMMENTS:
 Lead wipe: Ghost
 12" x 12" template
 results in ug/lit2

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED WITH STANDARD TAT.
 SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.
 MATRIX CODES: A = Air GN = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Liquid) WW = Wastewater DW = Drinking Water O = Other (specify)
 PRESERVATIVE CODES: Hcl = Hydrochloric acid + Ice I = Ice only N = Nitric acid S-1 = Sulfuric acid + Ice SAH = Sodium Bisulfate/Methanol + Ice O = Other (specify) NA = None

Analytical Environmental Services, Inc

Date: 6-Nov-14

Lab Order:	1410S67	LEAD ON WIPES (N7082) N7082
Client:	LAE Consulting	
Project:	Armory, ST Croix, VING	
Matrix:	Wipe	
Date Received:	10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410S67-001A	LW-BLANK-MED	BRL	ug/ft2	20	1		10/21/2014	11/05/2014	JG
1410S67-002A	LW-01-MED	BRL	ug/ft2	20	1		10/21/2014	11/05/2014	JG
1410S67-003A	LW-02-MED	BRL	ug/ft2	20	1		10/21/2014	11/05/2014	JG
1410S67-004A	LW-03-MED	BRL	ug/ft2	20	1		10/21/2014	11/05/2014	JG
1410S67-005A	LW-04-MED	32	ug/ft2	20	1		10/21/2014	11/05/2014	JG
1410S67-006A	LW-05-MED	30	ug/ft2	20	1		10/21/2014	11/05/2014	JG
1410S67-007A	LW-06-MED	28	ug/ft2	20	1		10/21/2014	11/05/2014	JG

Qualifiers: BRL - Not Detected at the Reporting Limit
 B - Analyte detected in the associated Method Blank

DF - Dilution Factor

Results are Blank corrected where applicable

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 22 October 14

Location: Deactivated Indoor Firing Range

Sample #	Sample Location	Results
LW-Blank	Blank	BRL
LW-01-IFR	Backstop 7 ft up	BRL
LW-02-IFR	Backstop 5 ft up	BRL
LW-03-IFR	Backstop 4 ft up	BRL
LW-04-IFR	Left wall 5 ft up	BRL
LW-05-IFR	Right wall 4 ft up	BRL
LW-06-IFR	Floor right side 2 ft from wall	1100
LW-07-IFR	Floor left side 6ft from wall 3 feet down wall	644
LW-08-IFR	Wall right 7 ft from fire alarm 4 feet up	BRL
LW-09-IFR	Floor center between backstop and firing line	317
LW-10-IFR	Wall left 5 ft from target hangar 7ft up	BRL
LW-11-IFR	Long acoustic wall behind firing line 1	BRL
LW-12-IFR	Acoustic wall firing line 3	28
LW-13-IFR	Acoustic wall firing line 5	35
LW-14-IFR	Cinder block wall behind firing line 3	BRL
LW-15-IFR	Floor 5 ft in front of firing line 4	539
LW-16-IFR	Firing line 5 weapon table (holder)	945
LW-17-IFR	Right wall Cinder block 1 ft down 1 ft left of fire alarm	BRL
LW-18-IFR	Back wall 6 ft from entrance door 5 ft up	BRL
LW-19-IFR	Right side back wall 6 ft up; 4 ft from corner	BRL
LW-20-IFR	Floor 6 feet from firing line 4	58

Bold indicates results above recommended level of 40 ug/ft²

BRL = below reporting limits

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 22 October 14

Location: Deactivated Indoor Firing Range

Sample #	Sample Location	Results
LW-21-IFR	Floor 6 ft from entrance door	69
LW-22-IFR	Floor 1 foot outside entrance door	103

Bold indicates results above recommended level of 40 µg/ft²

BRI = below reporting limits



ANALYTICAL ENVIRONMENTAL SERVICES, INC

CHAIN OF CUSTODY

Work Order: 1410S73

3080 Presidential Drive Atlanta GA 30340-3906
TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Date: 29 Oct 14 Page 1 of 2

COMPANY: LAE Consulting

ADDRESS: 1218 Scattered Pines Court
Severn, MD 21144

PHONE: [Redacted]
FAX: [Redacted]
SAMPLE: [Redacted]

ANALYSIS REQUESTED: [Redacted]
PRESERVATION (See codes): [Redacted]

ANALYSIS REQUESTED: [Redacted]
PRESERVATION (See codes): [Redacted]
REMARKS: [Redacted]
No # of Containers: [Redacted]

#	SAMPLE ID	DATE	TIME	Grab	Composite	Matrix (See codes)	ug/ft2	PRESERVATION (See codes)	REMARKS	No # of Containers
1	LW-Blank-IFR	22 Oct 14		✓						1
2	LW-01-IFR			✓						1
3	LW-02-IFR			✓						1
4	LW-03-IFR			✓						1
5	LW-04-IFR			✓						1
6	LW-05-IFR			✓						1
7	LW-06-IFR			✓						1
8	LW-07-IFR			✓						1
9	LW-08-IFR			✓						1
10	LW-09-IFR			✓						1
11	LW-10-IFR			✓						1
12	LW-11-IFR			✓						1
13	LW-12-IFR			✓						1
14	LW-13-IFR			✓						1

RELINQUISHED BY: Lisa Evans DATE/TIME: [Redacted] TIME: [Redacted]

PROJECT NAME: Armory, St Croix, VING PROJECT #: IFR SITE ADDRESS: IFR

SPECIAL INSTRUCTIONS/COMMENTS: Lead wipe: Ghost 12" x 12" template results in ug/ft2

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY; IF NO FAT IS MARKED ON COC ASES WILL PROCEED WITH STANDARD TAT.
SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.
MATRIX CODES: A = Air GY = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blank) W/W = Wastewater DW = Drinking Water O = Other (Specify)
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S-1 = Sulfuric acid + ice SMC+1 = Sodium Bisulfate/Medumol + ice O = Other (Specify) NA = None



ANALYTICAL ENVIRONMENTAL SERVICES, INC

CHAIN OF CUSTODY

Work Order: 14105 73

3080 Presidential Drive Atlanta GA 30340-3906
TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Date: 29 Oct 14 Page 2 of 2

COMPANY: **LAE Consulting**
ADDRESS: **1218 Scattered Pines Court
Severn, MD 21144**

PHONE: [REDACTED]
SAMPLE: [REDACTED] **Non-Responsive**

#	SAMPLE ID	DATE	TIME	Grb	Compos	Matrix (See codes)	ug/fl2	PRESERVATION (See codes)	REMARKS	No # of Containers
1	LW-14-IFR	22 Oct 14		✓						1
2	LW-15-IFR			✓						1
3	LW-16-IFR			✓						1
4	LW-17-IFR			✓						1
5	LW-18-IFR			✓						1
6	LW-19-IFR			✓						1
7	LW-20-IFR			✓						1
8	LW-21-IFR			✓						1
9	LW-22-IFR			✓						1
10										
11										
12										
13										
14										

REMOVED BY: [REDACTED] DATE/TIME: [REDACTED]
 PROJECT NAME: **ARMORY, ST CROIX, VING**
 PROJECT #:
 SITE ADDRESS: **IFR**
 SEND REPORT TO: **LAE Consulting & Invoice**
 INVOICE TO:
 QUOTE #:
 PO#:

SPECIAL INSTRUCTIONS/COMMENTS:
Lead wipe: Ghost
12" x 12" template
results in ug/fl2

SHIPMENT METHOD:
 OUT / / VIA:
 CLIENT / FedEx / UPS / MAIL / POLYMER
 GREYHOUND / OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED WITH STANDARD TAT.
 SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.
 MATRIX CODES: A - Air GV - Groundwater SE - Sediment SO - Soil SW - Surface Water W - Water (Banks) WY - Wastewater DW - Drinking Water O - Other (specify)
 PRESERVATIVE CODES: H+1 - Hydrochloric acid + ice I - Ice only N - Nitric acid S-1 - Sulfuric acid + ice SM+1 - Sodium Bisulfate/Methanol + ice O - Other (specify) NA - None

Analytical Environmental Services, Inc

Date: 7-Nov-14

Lab Order:	1410S73	LEAD ON WIPES (N7082) N7082
Client:	LAE Consulting	
Project:	Armory, ST Croix, VING	
Matrix:	Wipe	
Date Received:	10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410S73-001A	LW-BLANK-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-002A	LW-01-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-003A	LW-02-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-004A	LW-03-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-005A	LW-04-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-006A	LW-05-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-007A	LW-06-1FR	1100	ug/ft2	105	5.23		10/22/2014	11/06/2014	JG
1410S73-008A	LW-07-1FR	644	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-009A	LW-08-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-010A	LW-09-1FR	317	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-011A	LW-10-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-012A	LW-11-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-013A	LW-12-1FR	28	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-014A	LW-13-1FR	35	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-015A	LW-14-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-016A	LW-15-1FR	539	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-017A	LW-16-1FR	945	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-018A	LW-17-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-019A	LW-18-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-020A	LW-19-1FR	BRL	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-021A	LW-20-1FR	58	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-022A	LW-21-1FR	69	ug/ft2	20	1		10/22/2014	11/06/2014	JG
1410S73-023A	LW-22-1FR	103	ug/ft2	20	1		10/22/2014	11/06/2014	JG

Qualifiers: BRL - Not Detected at the Reporting Limit
 H - Analyte detected in the associated Method Blank

DF - Dilution Factor

Results are Blank corrected where applicable

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 22 Oct 14

Location: Drill Hall & Kitchen

Sample #	Sample Location	Results
LW-Blank	Blank	BRL
LW-01-DH	Kitchen, Top of stove	BRL
LW-02-DH	Floor, Center of Drill Hall	BRL
LW-03-DH	Top of coke machine	23 ug/ft ²
LW-04-DH	Floor, Right side of Drill Hall	BRL
LW-05-DH	Floor, near exit door right	BRL

BRL - below reporting limits



ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive Atlanta GA 30340-3906
TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1410568

Date: 29 Oct 14 Page 1 of 1

COMPANY: LAE Consulting
ADDRESS: 1218 Scattered Pines Court
Savannah, MD 21144

PHONE: [Redacted]
FAX: [Redacted]
E-MAIL: [Redacted]

#	SAMPLE ID	SAMPLED		Grab	Composite	Matrix (See codes)
		DATE	TIME			
1	LW-Blank-DH	22 Oct 14		✓		
2	LW-01-DH					
3	LW-02-DH					
4	LW-03-DH					
5	LW-04-DH					
6	LW-05-DH					
7						
8						
9						
10						
11						
12						
13						
14						

REINQUISHED BY: [Redacted] DATE/TIME: [Redacted]

RECEIVED BY: [Redacted] DATE/TIME: [Redacted]

SHIPMENT METHOD: OUT / IN VIA: [Redacted]

SPECIAL INSTRUCTIONS/COMMENTS:
Lead wipe: Ghost
12" x 12" template
results in ug/r2

PROJECT NAME	PROJECT INFORMATION	ANALYSIS REQUESTED		REMARKS	No # of Containers
		ug/r2	PRESERVATION (See codes)		
Armory, ST Croix, VING					6

PROJECT NAME: Armory, ST Croix, VING

SITE ADDRESS: Armory Drill Hall

SEND REPORT TO: LAE Consulting & Invoice

INVOICE TO: [Redacted]

STATE PROGRAM (if any): [Redacted]

REMARKS: [Redacted]

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY; IF NO TAGS MARKED ON COC AES WILL PROCEED WITH STANDARD TAT.

SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A - Air, GW - Groundwater, SE - Sediment, SO - Soil, SW - Surface Water, W - Water (Blank)

PRESERVATIVE CODES: S41 - Hydrochloric acid + ice, 1 - Ice only, N - Nitric acid, S41 - Sulfuric acid + ice, SM-1 - Sodium Bisulfate/Methanol + ice, O - Other (specify), NA - None

Analytical Environmental Services, Inc

Date: 6-Nov-14

Lab Order: 1410568	LEAD ON WIPES (N7082) N7082
Client: LAE Consulting	
Project: Armory, ST Croix, VING	
Matrix: Wipe	
Date Received: 10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410568-001A	LW-BLANK-DH	BRL	ug/R2	20	1		10/22/2014	11/06/2014	JG
1410568-002A	LW-01-DH	BRL	ug/R2	20	1		10/22/2014	11/06/2014	JG
1410568-003A	LW-02-DH	BRL	ug/R2	20	1		10/22/2014	11/06/2014	JG
1410568-004A	LW-03-DH	23	ug/R2	20	3		10/22/2014	11/06/2014	JG
1410568-005A	LW-04-DH	BRL	ug/R2	20	1		10/22/2014	11/06/2014	JG
1410568-006A	LW-05-DH	BRL	ug/R2	20	1		10/22/2014	11/06/2014	JG

Qualifiers: BRL - Not Detected at the Reporting Limit
 B - Analyte detected in the associated Method Blank

DF - Duplicate Factor

Results are blank corrected where applicable

Lead Wipe Log

Facility: LTC Lionel A. Jackson Readiness Center, St Croix, USVI

Date: 24 Oct 2014

Location: 630th Quartermaster Detachment Supply

Sample #	Sample Location	Results
LW-Blank	Blank	BRL
LW-01-630	Desk in office	BRT
LW-02-630	Receiving counter	BRT
LW-03-630	Floor center of room	BRL
LW-04-630	Seat of chair used to clean weapons	BRL
LW-05-630	Top of Flammable cabinet	BRL
LW-06-630	Floor center of vault	BRL
LW-07-630	Floor, 1.5 feet before exit door	BRL
LW-08-630	Floor center between 114 th and 630 th (hallway)	BRL

Bold indicates results above recommended level of 40 ng/g²

BRL = below reporting limits

Analytical Environmental Services, Inc

Date: 6-Nov-14

Lab Order: 1410S69	LEAD ON WIPES (N7082) N7082
Client: LAE Consulting	
Project: Armory, ST Croix, VINC	
Matrix: Wipe	
Date Received: 10/31/2014 2:00:00 PM	

Laboratory ID	Client Sample ID	Result	Units	Reporting Limit	DF	Qual	Date Collected	Date Analyzed	Analyst
1410S69-001A	LW-BLANK-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-002A	LW-01-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-003A	LW-02-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-004A	LW-03-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-005A	LW-04-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-006A	LW-05-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-007A	LW-06-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-008A	LW-07-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG
1410S69-009A	LW-08-630	BRL	ug/l2	20	1		10/24/2014	11/06/2014	JG

Qualifiers: RR3 - Not Detected in the Reporting Limit
 B - Analyte detected in the associated Method Blank
 Results are blank corrected where applicable



EMSL Analytical, Inc.

BEST AVAILABLE COPY

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-0262
<http://www.EMSL.com> / cinnmicrolab@emsl.com

Order ID: 371418119
Customer ID: NGBU78A
Customer PO:
Project ID:

Attn: **Non-Responsive**

Phone: (410) 551-2717
Fax: (410) 551-7215
Collected: 10/23/2014
Received: 10/31/2014
Analyzed: 11/05/2014

Proj: St. Croix Armory, VING

Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	371418119-0001			371418119-0002			371418119-0003		
Client Sample ID:	MOLD-BLANK-VING			MOLD-01-VING			MOLD-02-VING		
Volume (L):	0			150			150		
Sample Location:	Blank			Outdoor			Trold LMD S4 Office		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	27	570	10.8	1	20	20
Aspergillus/Penicillium	-	-	-	7	100	1.9	2	40	40
Basidiospores	-	-	-	103	2170	40.9	1	20	20
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	85	1800	34	-	-	-
Curvularia	-	-	-	4	80	1.5	3*	20*	20
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	1	20	0.4	-	-	-
Ganoderma	-	-	-	1	20	0.4	-	-	-
Myxomycetes++	-	-	-	6	100	1.9	-	-	-
Pithomyces	-	-	-	2	40	0.8	-	-	-
Rust	-	-	-	2*	10*	0.2	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	1	20	0.4	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora	-	-	-	17	360	6.8	-	-	-
Nigrospora	-	-	-	2*	10*	0.2	-	-	-
Total Fungi	-	No Trace	-	258	5300	100	7	100	100
Hyphal Fragment	-	-	-	3	60	1.1	-	-	-
Insect Fragment	-	-	-	-	-	-	1	20	20
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	0	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	0*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	-	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	-	-	-	1	-	-	1	-
Background (1-5)	-	-	-	-	1	-	-	1	-

Non-Responsive

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. *** Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-EMLAP Lab 100194

Initial report from: 11/07/2014 09:21:23

For Information on the fungi listed in this report please visit the Resources section at www.emsl.com



EMSL ANALYTICAL, INC.

Microbiology Chain of Custody

EMSL Order Number (Lab Use Only):

371418119

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-0262

Company: LAE CONSULTING
 Street: 1218 SCATTERED PINES CT
 City: SEV
 Report To: [Redacted]
 Email Address: [Redacted]
 Project Name/Number: ST CROIX ARMOY, VING
 U.S. State Samples Taken: _____

EMSL-Bill to: Same Different
 If Bill to is Different note instructions in Comments**
 Third Party Billing requires written authorization from third party
 Zip/Postal Code: 21144 Country: USA
 Telephone #: [Redacted]
 Fax #: _____ Purchase Order: _____
 Please Provide Results: Fax Email Fax
 Connecticut Samples: Commercial Residential

Non-Responsive

Turnaround Time (TAT) Options* - Please Check

3 Hour 8 Hour 24 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps) - Test Codes

- M001 Air-O-Cell
- M049 BioSIS
- M038 Micro 5
- M173 Allegro M2
- M003 Burkard
- M174 MoldSnap
- M004 Allergenco
- M043 Cyclax
- M176 Rette Smart
- M032 Allergenco-D
- M002 Cyclax-d
- M130 Via-Cell
- M172 Versa Trap

Other Microbiology Test Codes

- M041 Fungal Direct Examination
- M005 Viable Fungi ID and Count
- M006 Viable Fungi ID and Count (Speciation)
- M007 Culturable Fungi
- M008 Culturable Fungi (Speciation)
- M009 Gram Stain Culturable Bacteria
- M010 Bacterial Count and ID - 3 Most Prominent
- M011 Bacterial Count and ID - 5 Most Prominent
- M013 Sewage Contamination in Buildings
- M014 Endotoxin Analysis
- M015 Heterotrophic Plate Count
- M180 Real Time Q-PCR-ERMI 36 Panel
- M018 Total Coliform (Membrane Filtration)
- M020 Fecal Streptococcus (Membrane Filtration)
- M210-215 Legionella Detection
- M026 Recreational Water Screen
- M027 Mycotoxin Analysis
- M029 Enterococci
- M019 Fecal Coliform
- M133 MRSA Analysis
- M028 Cryptococcus neoformans Detection
- M120 Histoplasma capsulatum Detection
- M033-39 Allergen Testing
- M044 Group Allergen (Cat, Dog, Cockroach, Dustmites)
- Other See Analytical Price Guide

Preservation Method (Water):

Name of Sampler: _____

Signature of Sampler: _____

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
Example: A1	Kitchen	Air	M001	75L	1/1/12 4:00 PM
MOLD-Blank VING	Blank	Air	M001	150L	23 OCT
MOLD-01-VING	OUTDOOR	Air	M001	150L	"
MOLD-02-VING	Tree (and SY OFFICE)	Air	M001	150L	"

RECEIVED
EMSL
CINNAMINSON, N.J.
OCT 31 P 3:35

Client Sample # (s): [Redacted] Total # of Samples: 3
 Relinquished (Client): [Redacted] Date: 29 OCT 14 Time: 1100
 Received (Client): FF USPS Date: 10/31/14 Time: 145J

Comments: _____

(For use of this form, see the HM User's Guide)

ARLOC VQ000	INSTALLATION LTC LIONEL A JACKSON READINESS CENTER	BLDG/RM NO. BLDG 1 ESTATE BETHLEHEM CHRISTIANSTED, VI 00820
LOCATION/CODE MN	OPERATION/CODE ADMIN	
SURVEY DATE 20-24 OCT 14	EVALUATOR LAE CONSULTING/LISA A. EVANS	
MACOM/CODE NG	SUBMACOM/CODE	Non-Responsive
TELEPHONE/COMM Non-Responsive	UNIT/ORGANIZATION LTC LIONEL A JACKSON READINESS CENTER	RAC 4
NO. CIV(S)	NO. MIL	NO. CONTRACTORS
		NO. LOC(S)
		FREQUENCY (hrs/day) +8 hrs
		NO. OTHER

SECTION 2: FACILITY DATA

LAB HOODS 0	VAPOR DEGREASERS 0	SPRAY BOOTHS 0
MAINTENANCE BAYS 0	OPEN SURFACE TANKS 0	VENTILATION UNITS 0

SECTION 3: SURVEY DATA

CONTROLS PRESENT	EVALUATION	UNIT CODE	CONTROLS REQUIRED	STATUS
LIGHTING	40.7-143.8	FTC	50-100	UNACCOM

PERSONAL PROTECTIVE EQUIPMENT (R= REQUIRED; U = UTILIZED)

GLOVES	R/U	RESPIRATOR	NIOSH TC NO.	MANUFACTURER	R/U
ACID	/	AIR LINE			/
COLD SURFACES	/	ABRASIZE BLASTING HOOD			/
HOT SURFACES	/	DISPOSABLE			/
ABC AGENTS	/	FULL FACE AIR PURIFYING			/
DIL	/	1/2 FACE AIR PURIFYING			/
SOLVENTS	X/X	1/4 FACE AIR PURIFYING			/
SURGICAL GLOVES	/	SELF CONTAINED			/

EYES/FACE	R/U	HEARING	R/U	BODY	R/U	HEAD/FIT	R/U
CHEMICAL SPLASH	X/X	CANAL CAPS	/	APRONS	X/	COLD WEATHER BOOTS/HATS	/
LIQUID FACE SHEILD	X/X	EARPLUGS	X/	COLD WEATHER CLOTHING	/	HARD HATS	/
CHEMICAL/SAFETY	X/X	HELMETS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SAFETY/IMPACT	X/	MUFFS	X	FULL BODY SUIT	/	SAFETY/CONDUCTIVE SHOES	/
WELDING HELMET	X/X	MUFF/EARPLUG COMBO	/	HEAT REFLECTIVE VEST/SUIT	/	SAFETY/NCN-CONDUCTIVE SHOES	X/
		MUFF/EARPLUG W/TIME LIMIT	/	SAFETY BELT/HARNESS	/		/

ARLOC VQ000		INSTALLATION LTC LIONEL A JACKSON READINESS CENTER		BLDG/RM NO. BLDG 1 ESTATE BETHLEHEM CHRISTIANSTED, VI 00820	
LOCATION/CODE SC			OPERATION/CODE SAH STORAGE AND HANDLING RELAEASE OF STORED ITEMS		
SURVEY DATE 20-24 OCT 14		EVALUATOR LAE CONSULTING			
MACOM/CODE NG		SUBMACOM/CODE		Non-Responsive	
TELEPHONE/DCN NO. Non-Responsive		UNIT/ORGANIZATION LTC LIONEL A JACKSON READINESS CENTER		RAC 3	FREQUENCY (hrs/day) +8 hrs
NO. CIV(S)	NO. MIL	NO. CONTRACTORS		NO. LOC(S)	NO. OTHER

SECTION 2: FACILITY DATA

LAB HOODS 0		VAPOR DEGREASERS 0		SPRAY BOOTHS 0	
MAINTENANCE BAYS 0		OPEN SURFACE TANKS 0		VENTILATION UNITS 0	

SECTION 3: SURVEY DATA

CONTROLS PRESENT	EVALUATION	UNIT CODE	CONTROLS REQUIRED	STATUS

PERSONAL PROTECTIVE EQUIPMENT (R= REQUIRED; U = UTILIZED)

GLOVES	R/U	RESPIRATOR	NIOSH TC NO.	MANUFACTURER	R/U
ACID	/	AIR LINE			/
COLD SURFACES	/	ABRASIZE BLASTING HOOD			/
HOT SURFACES	/	DISPOSABLE			/
NBC AGENTS	/	FULL FACE AIR PURIFYING			/
OIL	/	1/2 FACE AIR PURIFYING			/
SOLVENTS	/	1/4 FACE AIR PURIFYING			/
SURGICAL GLOVES	/	SELF CONTAINED			/

EYES/FACE	R/U	HEARING	R/U	BODY	R/U	HEAD/FIT	R/U
CHEMICAL SPLASH	X/	CANAL CAPS	/	APRONS	X/	COLD WEATHER BOOTS/HATS	/
FULL FACE SHEILD	/	EARPLUGS	X/	COLD WEATHER CLOTHING	/	HARD HATS	/
CHEMICAL/SAFETY	X/	HELMETS	/	COVERALLS	/	IMPERMEABLE BOOTS	/
SAFETY/IMPACT	X/	MUFFS	X	FULL BODY SUIT	/	SAFETY/CONDUCTIVE SHOES	/
WELDING HELMET	/	MUFF/EARPLUG COMBO	/	HEAT REFELECTIVE VEST/SUIT	/	SAFETY/NCN-CONDUCTIVE SHOES	X/X
		MUFF/EARPLUG W/TIME LIMIT	/	SAFETY BELT/HARNESS	/		/

SECTION 4: HAZARD INVENTORY DATA

CAS CODE	HAZARD DESCRIPTION	PAC	EPC
POLIGHTIN	Inadequate Lighting		
7439-92-1	Lead, Inorganic Dusts & fumes, As PB		

SECTION 5: PERSONNEL DATA

LAST NAME	FIRST NAME	MI	SEX	SSN	CATEGORY

SECTION 6: COMMENTS

No comments

See attached sheet



View of the ST Croix USVI Armory



View of downspout from the gutter



View of cracked downspout



View of former locker room within the Armory



View of water stained wall located in the former locker room



View of AHU 8, located in the former locker room. The AHU is not in operation



View of the fan assembly located within the AHU that is missing a fan belt



View of rubbish and supplies stored in room housing 6. A odor of a dead rodent was noticed in room during survey



View inside closed duct from AHU 5 leading into Indoor Firing range. AHU is not in service.



View of duct leading into the indoor firing range



View of notice located on the entrance door to the range dated December 2003.



View of the Indoor Firing range (downrange view)



View of encapsulated wall (drywall), former area of backstop



View of the Indoor Firing range (uprange view). Shotgun staks are still in place.



View of concrete ceiling of the indoor firing range. Acoustic material and light buffers removed



View of the indoor Firing Range IFR (up range view)



View of the sinking and cracked floor in the IFR



View of the sinking and cracked floor in the IFR



View of 55 gal container of wood, rope and canvas preservative that is stored in the range



View of Tent and tent poles that is stored in the IFR



View of Lead wipe sample 1,2,3,6, and 7, located on the drywall of the former backstop area



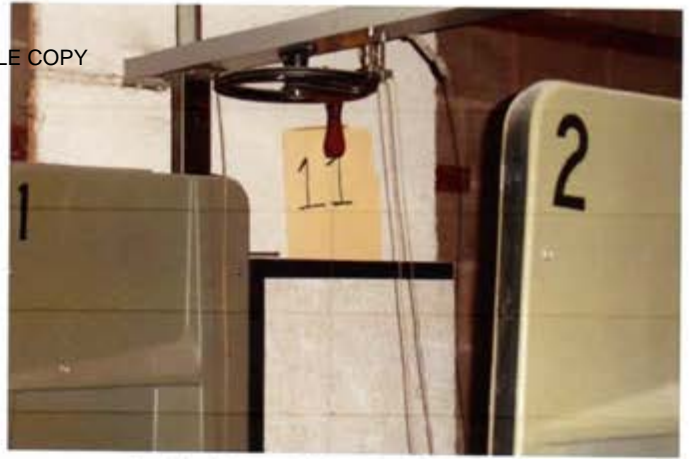
View of Lead wipe sample 8, located on the right side of the IFR



View of Lead wipe sample 9, located on the floor center in the IFR



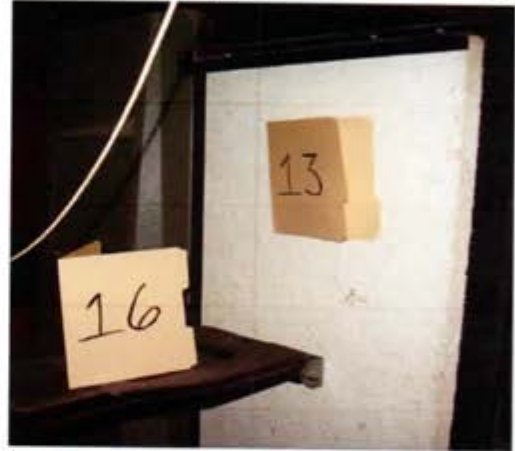
View of Lead wipe sample 10, located on the left wall in IFR



View of Lead wipe sample 11, located on the acoustic wall at firing line 1



View of Lead wipe sample 12, located on acoustic wall at firing line 3



View of Lead wipe sample 13 and 16 located on shooting stall 5



View of Lead wipe sample 14 located on right wall behind firing line 3



View of Lead wipe sample 15, located on the floor 5 feet in front of shooting stall 4



View of Lead wipe sample 17, located on right wall in the IFR
Posted to NGB FOIA Reading Room
May, 2018



View of Lead wipe sample 18 located on rear wall near exit door



View of Lead wipe sample 19, located on the rear wall right side in the IFR



View of Lead wipe sample 20, located on the floor 6 feet from shooting stall 4



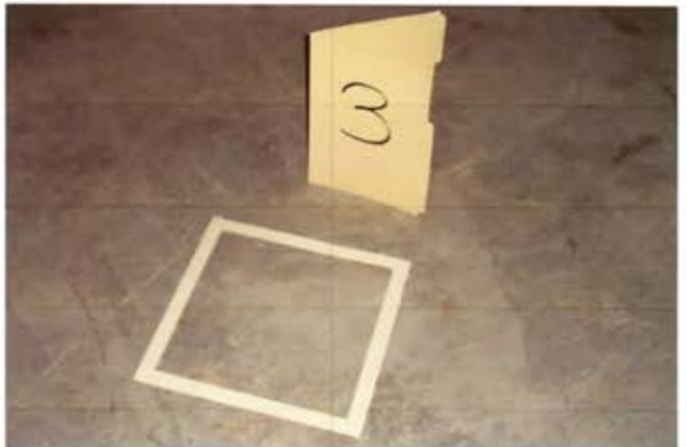
View of Lead wipe sample 21 and 22, located on the floor 6 feet from the exit door and outside the in hallway



View of Lead wipe sample 1, located on the table in Troop Command Supply room



View of Lead wipe sample 2, located on the floor of vault of Troop Command supply room



View of Lead wipe sample 3, located on the floor in Troop Command supply area



View of Lead wipe sample 4, located on top of the bench in the Troop Command supply room



View of Lead wipe sample 5, located on top of file cabinet in Troop command supply office



View of Lead wipe sample 1, located on shelf in the Medical Company supply room



View of Lead wipe sample 2, located on the shelf in the Medical company supply room



View of Lead wipe sample 3, located on top of hutch located in the Medical Det. supply room



View of Lead wipe sample 4, located on the floor in the Medical Det supply room



View of Lead wipe sample 5, located on wooden shelving in the Medical Det supply room



View of Lead wipe sample 6, located on the floor in the Medical Det between cubicle and shelf



View of Lead wipe sample 1, located on top of black file cabinet in the Medical Det supply room office



View of Lead wipe sample 2, located on top of desk in the 652nd Engineer supply room

BEST AVAILABLE COPY



View of Lead wipe sample 3, located on top of wall locker in 652nd Eng. Supply room



View of Lead wipe sample 4, located on floor of the vault in the 652nd Supply room



View of Lead wipe sample 5, located on the floor back cage area



View of Lead wipe sample 6, located on top of flammable cabinet 01 in the 652nd Supply room



View of Lead wipe sample 1, located on top of the stove in the kitchen



View of the Drill Hall and Lead wipe sample 2, located on the center of drill hall floor



View of Lead wipe sample 3, located on top of Coke machine in the Drill Hall



View of Lead wipe sample 4, located on the right side of the Drill hall



View of Lead wipe sample 5, located on the Drill Hall Floor



View of door to area that had previous mold issues



View of mold sampling within room that had previous mold issues



View of Lead wipe sample 1, located in the 651st Maint Co Supply room



View of Lead wipe sample 2, located on the bookcase in 651st Maint Supply room



View of Lead wipe sample 3, located on the empty weapons rack in the supply room



View of Lead wipe sample 4, located on the receiving bench in the 651st supply room

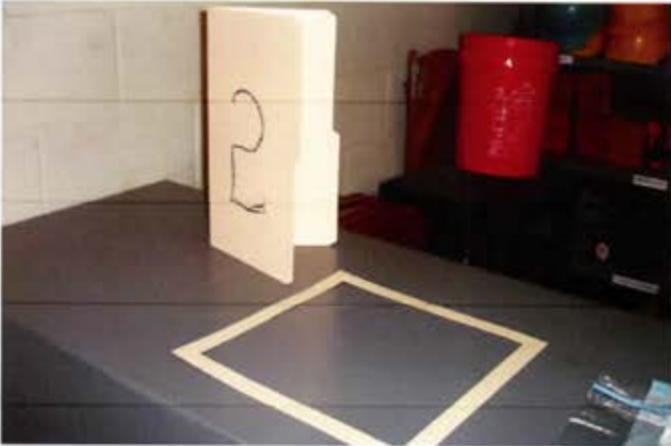




View of Lead wipe sample 6, located on top of file cabinet in the vault of 651st Maint



View of Lead wipe sample 1, located on top of the desk in 630th QM supply room



View of Lead wipe sample 2, located on top of the receiving counter in 630th QM supply room



View of Lead wipe sample 3, located on the floor in 630th QM supply room



View of Lead wipe sample 4, located on top of the chair in 630th QM supply room



View of Lead wipe sample 5, located on top of the flammable cabinet in 630th QM supply room



View of floor where water is leaking from ice machine in the kitchen
Posted to NGB FOIA Reading Room
May, 2018



View of possible moisture damaged floor tiles in the kitchen
FOIA Requested Record #J-15-0085 (VI)
Released by National Guard Bureau
Page 178 of 389

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

NBG-ARS-IHSE (40-5f)

December 7, 2004

MEMORANDUM FOR: ADJUTANT GENERAL UNITED STATES VIRGIN ISLANDS,
ATTN.: Commander, L. Francis Armory, Nazareth Military Compound, 6304 Estate
Nazareth, Charlotte Amalie, St. Thomas, VI 00802

THRU: ADJUTANT GENERAL UNITED STATES VIRGIN ISLANDS, ATTN: SAFETY
MANAGER, 4031 La Grande Princesse Lot 1B, Christiansted, Virgin Islands 00820-
4353

SUBJECT: Transmittal of the IH Baseline Survey Report and ~~IAQ Survey Report~~ of the
L. Francis Armory, Nazareth Military Compound, 6304 Estate Nazareth, Charlotte
Amalie, St. Thomas, VI.

1. References.

- a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.
- b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.
- c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.
- d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.
- e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.
- f. DA PAM 40-503, 30 October 2000, The Army Industrial Hygiene Program.
- g. DA PAM 40-501, 10 December 1998, Hearing Conservation.
- h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2003, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

NBG-ARS-IHSE (40-5f)

December 7, 2004

SUBJECT: Transmittal of the IH Baseline Survey Report and IAQ Survey Report of the L. Francis Armory, Nazareth Military Compound, 6304 Estate Nazareth, Charlotte Amalie, St. Thomas, VI.

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

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

l. Reports of October 19-20, 2004, Industrial Hygiene Survey, K. Kawar of Tammer Sc. Inc, Naperville, IL.

2. General.

a. At the request of the VI 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 as well as an IAQ survey of the St Thomas Armory.

a. The survey was conducted by **Non-Responsive** of Tammer Sc. Inc, Naperville, IL.

3. Findings. The health hazard information survey data, industrial hygiene sampling and survey findings of the reports are enclosed (See ENCL 1). Two air handlers are located above the suspended ceiling and the third in a mechanical room. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings. The cooling unit for the air handler serving the west side of the building was not operational and in need of a repair. The west side offices did not have any cooling or ventilation during the survey. Microbiological air sampling was conducted. Microbiological air sampling results for viable fungi indoors ranged from 883 to greater than 42,880 colony forming units per cubic meter of air (CFU/M³). The outdoor sample result was 883 CFU/M³. Refer to Enclosure 1 for a complete listing of sampling results. The build up (office type space) inside the IFR had not been removed. IFR sampling shows that this area requires decontamination before remodeling for use different than indoor range can take place, as stated in the prior two surveys.

4. Recommendations.

a. Recommend that the personnel be relocated and the armory and In-door range cited in a prior survey be decontaminated and rechecked. RAC 1

b. Repair the ventilation system on the west side of the building immediately.

NBG-ARS-IHSE (40-5f)

December 7, 2004

SUBJECT: Transmittal of the IH Baseline Survey Report and IAQ Survey Report of the L. Francis Armory, Nazareth Military Compound, 6304 Estate Nazareth, Charlotte Amalie, St. Thomas, VI.

- c. Repair all water leaks and replace all contaminated building material including ceiling tiles.
- d. Clean and disinfect all contaminated surfaces with a 10% Clorox solution.
- e. Maintain temperature and relative humidity in the building to the ASHRAE recommended range 68 to 78 °F and 30% to 60%, respectively.
- f. Implement a program where water leaks are immediately repaired, water damaged material are replaced, and affected areas are cleaned and disinfected.
- g. When establishing a contract to demolish the build up inside the firing range and decontaminate the area for further use establish a QA process to ensure that the most stringer standards are met.
- h. 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.
- i. 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:
C, IH

Encl
as

Industrial Hygiene Baseline Survey Report
For
U.S. Virgin Islands Army National Guard
(VIARNG)

At
St. Thomas Armory
St. Thomas, Virgin Islands

Prepared for:

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

By

Non-Responsive

November 23, 2004

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Appendices

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

Executive Summary

An initial baseline industrial hygiene survey was conducted at the St. Thomas Armory on 19 October 2004 as part of the Virgin Islands Army National Guard Occupational Health Program to identify potential health hazards in the workplace. The survey consisted of collecting lead wipe samples and air 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 800 microgram per square foot.	Do not use the firing range space until it is cleaned and decontaminated properly.
Armory Lead Wipe Samples	<10 microgram per square foot.	No action.
Converted IFR, Counter Drug Unit, Office Area Lead Air Samples	<0.001 milligram per cubic meter	Periodically monitor the occupied space until the IFR is cleaned and decontaminated properly
Asbestos Bulk Samples	No Suspect asbestos containing material identified.	No action.
Noise Survey	The Training NCO's office levels were 2 to 3 dBA higher than other areas.	Consider isolating or insulating the air handler unit above the office.
Illumination Survey	10 to 120 footcandles	Replace the burnt out bulbs
HVAC/IAQ	Refer to separate IAQ report.	No action. Refer to the IAQ report issued separately.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the SFC L. Francis Armory in St. Thomas, Virgin Islands on 19 October 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 SFC L. Francis Armory in St. Thomas, Virgin Islands. **Non-Responsive** contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 19 October 2004. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory, specifically lead contamination from the indoor firing range.

Site Description. The armory, which was built in 1991, houses a number of units including the 631st EN DET utilities, 640th QM TM Water, DET 1 661st MP CO Guard, 73rd AG Army Band, 786th QM HHD Water Supply BN, 610th QM CO Water Supply, DET 3 HQ TARC VI&AMEDD. houses the Co C 4-112 AR. The building is a one story structure and consists of administrative office areas, a kitchen, classrooms, drill hall, three supply rooms, and an indoor firing range. Twenty full time employees work at this armory. A copy of the floor layout and photos are included in Appendix A and D, respectively.

Scope of Work. The work included collecting wipe and air samples for lead, asbestos bulk samples where necessary, 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 DATACHEM 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. No asbestos bulk samples were collected based on the age of the building and visible inspection of suspect material. 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 Minolta light meter Model TL-1. 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 Sgt. Sonia Willock.

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

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
STTW01	Return air grill in 786 BN Non-Responsive Office.	<10.0
STTW02	Supply air diffuser in 786 BN Non-Responsive Office.	<10.0
STTW03	Drill hall floor by overhead door.	<10.0
STTW04	Return air grill in the BN Commander's Secretary Office	<10.0
STTW05	Supply air diffuser in the BN Commander's Secretary Office	<10.0
STTW06	Return air grill in the 631 st Engineers Commander's Office.	<10.0
STTW07	Supply air diffuser in the 631 st Engineers Commander's Office.	<10.0
STTW08	Drill hall floor by supply room.	<10.0
STTW09	Drill hall floor in center.	<10.0
STTW10	Drill hall floor diagonally opposite to Sample # STTW08	<10.0
STTW11	Top of the serving line in the kitchen	<10.0
STTW12	Top of water cooler in the Drill Hall	<10.0
STTW13	Top of filing cabinet in the counter drug offices (Converted IFR Area) by range entrance	<10.0
STTW14	Top of filing cabinet in the counter drug offices by range entrance	<10.0
STTW15	Top of refrigerator in kitchen	<10.0
STTW16	Top of refrigerator in break room	<10.0
STTW17	Top of coffee station in break room	<10.0
STTW18	Top of filing cabinet in distance learning/computer room	<10.0
STTW19	Right wall (facing trap) in converted office space	<10.0
STTW20	Left wall (facing trap) in converted office space	<10.0
STTW21	Floor by towards what used to be the firing line in the converted office area.	<10.0
STTW22	IFR floor center in converted office	<10.0
STTW23	Floor by door separating converted space with remainder of IFR	<10.0
STTW24	IFR Floor left area.	13.0
STTW25	IFR floor center in converted office	<10.0
STTW26	IFR floor center in converted office	<10.0
STTW27	IFR floor center in converted office	<10.0
STTW28	Top of shelving unit stored in IFR	<10.0
STTW29	Top of chest stored in the IFR.	<10.0
STTW30	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.

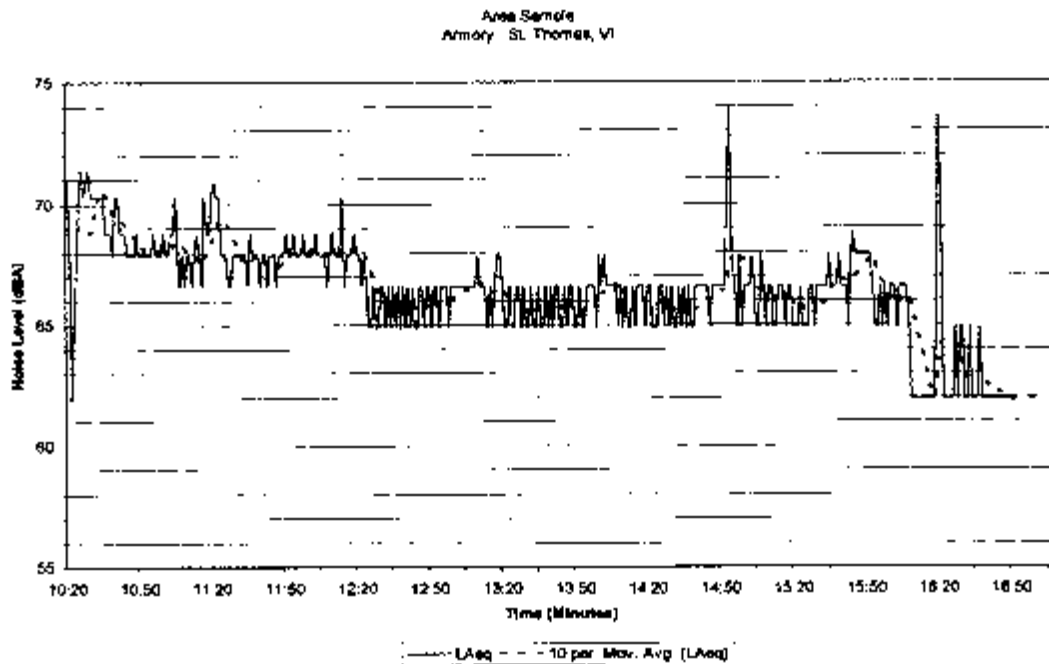
Lead Air Samples: Two area air samples were collected in the IFR converted space, which is currently being used as office space for the counter drug unit. Three full time employees work in this unit which occupies half of the IFR. The other half is used as a storage space and is separated from the occupied space with a wall and an access door. The bullet trap in the storage half is still intact and does not appear to have been cleaned or decontaminated.

Air sampling results indicated non-detectable airborne lead levels of less than 0.001 mg/m³ in the occupied space. These levels are well below the regulated Occupational Safety and Health (OSHA) Permissible Exposure Limit (PEL) and the recommended American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 0.05 mg/m³ when compared on an eight hour time weighted average (TWA). Although the sampling results were below the limit, it is recommended that periodic air monitoring is performed until the remainder of the IFR is properly cleaned and decontaminated.

Asbestos Suspect Building Material: Typical building materials identified in the Armory consisted of 12 by 12 inches floor tiles, 2x4 feet ceiling tiles, and Baseboard in the administrative office areas and classrooms. Cement floors, cinder block walls, and corrugated steel deck in the drill hall, supply, storage, and other areas. Bulk samples were not collected because the Armory was built in 1991 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. However, one employee, the 786 HHD NCO Training Officer expressed concern about the noise level in her office. The air handler serving that section of the building is above her desk and produces a loud noise. A noise dosimeter was placed in the office for several hours from 10:20 AM to 12:20 PM to log the noise level. The dosimeter was then moved to the hallway from 12:20 PM till 16:05 then it was placed in the Chaplain's office until 17:00. The graph below depicts the noise levels when compared to the hallway and the empty Chaplain's office.

Although the noise levels in the office are well below the regulated Occupational Safety and Health Administration (OSHA) limit of 90 dBA and the Army recommended limit of 85 dBA, the level is constantly 2 to 3 dBA above the hallway's levels. The increased level is more of a comfort issue rather than a health issue. It is recommended that the air handler unit is insulated in order to reduce the levels.



Illumination Survey Lighting levels throughout the Armory ranged between 10 foot-candles to 120 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
786 HHD S1, S2, S3 Office Area	90 - 100
786 HHD Training NCO	90 - 120
786 BN HQ Office Area	75 - 110
631 EN	80 - 100
73 Band	45 - 85
648 Water QM Office	70 - 90
610 QMC Office Area	40 - 110
610 Supply Room	30 - 50
631 Supply Room	40 - 60
640 Supply Room	35 - 45
786 Supply Room	25 - 45
Counter Drug Office	40 - 100
Learning Center	20 - 75
Drill Hall.	10 - 80
Hallway.	10 - 20
Kitchen.	80 - 90

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 building consisted of three air handler with cooling and heating capabilities. Two air handlers are located above the suspended ceiling and the third in a mechanical room. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings. The cooling unit for the air handler serving the west side of the building was not operational and in need of a repair. A repair order has been placed. The west side offices did not have any cooling or ventilation during the survey. In addition to the three units, window mounted air conditioners are available in the supply offices. These window units are installed on an internal wall and the hot air is discharged into the supply storage area. Some units do not have proper drainage for the condensate. Refer to photo #13

Water leak stains are evident throughout the Armory. Visible mold growth is also visible on walls, ceiling tiles and air supply diffusers. Employees expressed concern about dust and debris blown out of the air supply diffusers. Based on this, an indoor air quality evaluation was conducted in conjunction with this survey and a separate report was generated with the findings and recommendation.

Recommendations:

1. Clean and decontaminate the firing range in accordance to NG PAM 385-15 specifications.
2. Conduct periodic air monitoring for airborne lead in the converted space in the IFR until the remainder of the IFR is properly cleaned and decontaminated.
3. Consider isolating or insulating the air handling units located in the occupied offices above the suspended ceiling in order to reduce the noise level.

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

Non-Responsive

APPENDIX A

APPENDIX B



Submitted To: **Non-Responsive**
Lammer Sciences
3744 Lawrence Drive
Naperville, IL 60564

Reference Data:	Lead
Client Sample No.:	STTW01 through STTW30
P.O. No.:	Not Available
Sample Location:	OMS #2 Armory St. Thomas
Sample Type:	Ghost Wipe
Method Reference:	3050B/6010B
DCL Set ID No.:	04-S-5500
DCL Sample ID No.:	04-30746 through 04-30775
Sample Receipt Date:	10/27/2004
Preparation Date:	11/2/2004
Analysis Date:	11/4/2004

The samples were prepared in accordance with EPA method 3050B. Sample condition was acceptable upon receipt except where noted. The samples were then analyzed in accordance with EPA method 6010B using a Jarrell Ash Trace (ICP) purged spectrometer.

The results are provided in the enclosed data table. Results relate only to the items tested and are not blank corrected unless indicated in the data table.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Non-Responsive

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

WEST COAST OFFICE
11 SANTA YORMA COURT
NOVATO, CALIFORNIA 94945
800 260-8071, FAX 415 893-9463

Client #	DCL #	µg/Wipe
STTW01	04-30746	ND
STTW02	04-30747	ND
STTW03	04-30748	ND
STTW04	04-30749	ND
STTW05	04-30750	ND
STTW06	04-30751	ND
STTW07	04-30752	ND
STTW08	04-30753	ND
STTW09	04-30754	ND
STTW10	04-30755	ND
STTW11	04-30756	ND
STTW12	04-30757	ND
STTW13	04-30758	ND
STTW14	04-30759	ND
STTW15	04-30760	ND
STTW16	04-30761	ND
STTW17	04-30762	ND
STTW18	04-30763	ND
STTW19	04-30764	ND
STTW20	04-30765	ND
	Prep Blank 1	ND
% Recovery	LCS 1	89.
% Recovery	LCS 2	89.
RPL		10.

ND = not detected at or above the reporting limit (RPL).
 LCS = laboratory control sample.

Non-Responsive

Client #	DCL #	µg/Wipe
STTW21	04-30766	ND
STTW22	04-30767	ND
STTW23	04-30768	ND
STTW24	04-30769	13.
STTW25	04-30770	210.
STTW26	04-30771	800.
STTW27	04-30772	560.
STTW28	04-30773	ND
STTW29	04-30774	ND
STTW30	04-30775	ND
	Prep Blank 2	
% Recovery	LCS 3	96.
% Recovery	LCS 4	94.
RPL		10.

ND = not detected at or above the reporting limit (RPL).
LCS = laboratory control sample.

Non-Responsive



Submitted To: **Non-Responsive**
3744 Lawrence Drive
Naperville, IL 60564

Reference Data:	Lead
Client Sample No.:	STT01 through STT02
P.O. No.:	Not Available
Sample Location:	OMS #2 Armory St. Thomas
Sample Type:	Filter
Method Reference:	NIOSH 7300
DCL Set ID No.:	04-S-5500
DCL Sample ID No.:	04-30735 through 04-30736
Sample Receipt Date:	10/27/2004
Preparation Date:	11/03/04
Analysis Date:	11/10/04

The samples were prepared and analyzed in accordance with NIOSH method 7300 using a Perkin Elmer 3000XL ICP.

The sample condition upon receipt was acceptable except where noted.

The results are in the enclosed data table. Results relate only to the items tested and are not blank corrected unless indicated in the data table.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Non-Responsive

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3708
513 733-5336, FAX 513 733-5347

WEST COAST OFFICE
11 SANTA YORBA COURT
NOVATO, CALIFORNIA 94945
800 280-8071, FAX 415 883-9469

Client #	DCL #	Sample Volume (L)	µg/sample	mg/m ³
STT01	04-30735	851	ND	<0.001
STT02	04-30736	864	ND	<0.001
	Prep Blank		ND	
% Recovery	LCS 1		103.	
% Recovery	LCS 2		99.	
RPL			1.	

ND = not detected at or above the reporting limit (RPL).
LCS = laboratory control sample.

Non-Responsive

APPENDIX C



ANALYTICAL REQUEST FORM

REGULAR Status (5 working days from receipt)

RUSH Status Required - ADDITIONAL CHARGE

RESULTS REQUIRED BY _____ DATE _____

CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES

Date 10/25/04 Purchase Order No. _____

Company Name Tanner Sciences, Inc.

Address 3744 Lawrence Dr

Norpeville IL 60564

City _____ Zip _____

Person **Non-Responsive**

Telephone _____

Fax Telephone _____

Billing Address (if different from above)

NGB South Call # 16

College Park, GA

Quote No. _____

Sample Collection

Sampling Site OMS#2 Army St. Thomas

Industrial Process _____

Date of Collection 10/19 - 10/22

Time Collected _____

Date of Shipment 10/25/04

QC Requirements Standard Other _____

Collector's Name _____

Signature _____

ON-CLS3W-5500

REQUEST FOR ANALYSES

Laboratory Use Only	Client Sample Number	Media Type*	Sample Volume (Liters)	ANALYSES REQUESTED - Use Method Number if Known	
30735	STT01	MW	851	Weight Gain + Pb	
30736	STT02	MW	864	"	
30737	STT03	Silica	121	H ₂ SO ₄	
30738	STT04	MW	107	Weight Gain/Welding fumes	
30739	STT05	MW	N/A	Field Blank	
30740	STT06	Silica	}	" H ₂ SO ₄	
30741	PM01	Passive		Total Hydrocarbons as Hexane	
30742	PM02	}		}	Field Blank
30743	PM03				
30744	PM04				
30745	PM05				
30746	STTW01	Wipe		Lead Wipes (Thirty surface Wipes Ø 11in 30)	
30747	STTW30	Wipe			

CHAIN OF CUSTODY

Relinquished by (Signature): Non-Responsive	Date / Time: <u>10/27/04</u>
Relinquished by (Signature): _____	Date / Time: _____

4388 Glendale Milford Road / Cincinnati, OH 45242 • 800-458-1493 or 513-733-5336 / Fax: 513-733-5347

DISTRIBUTION: WHITE - LABORATORY COPY CANARY - CUSTOMER COPY

APPENDIX D

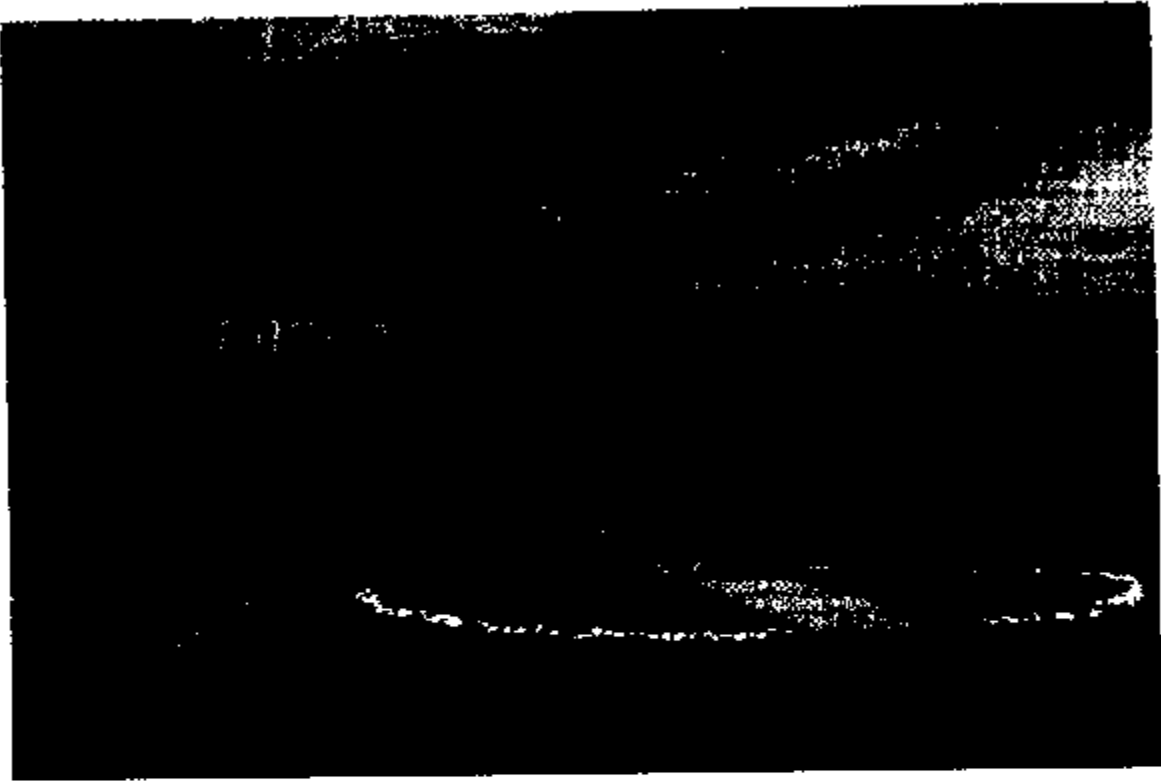


Photo #1: Armory front entrance.

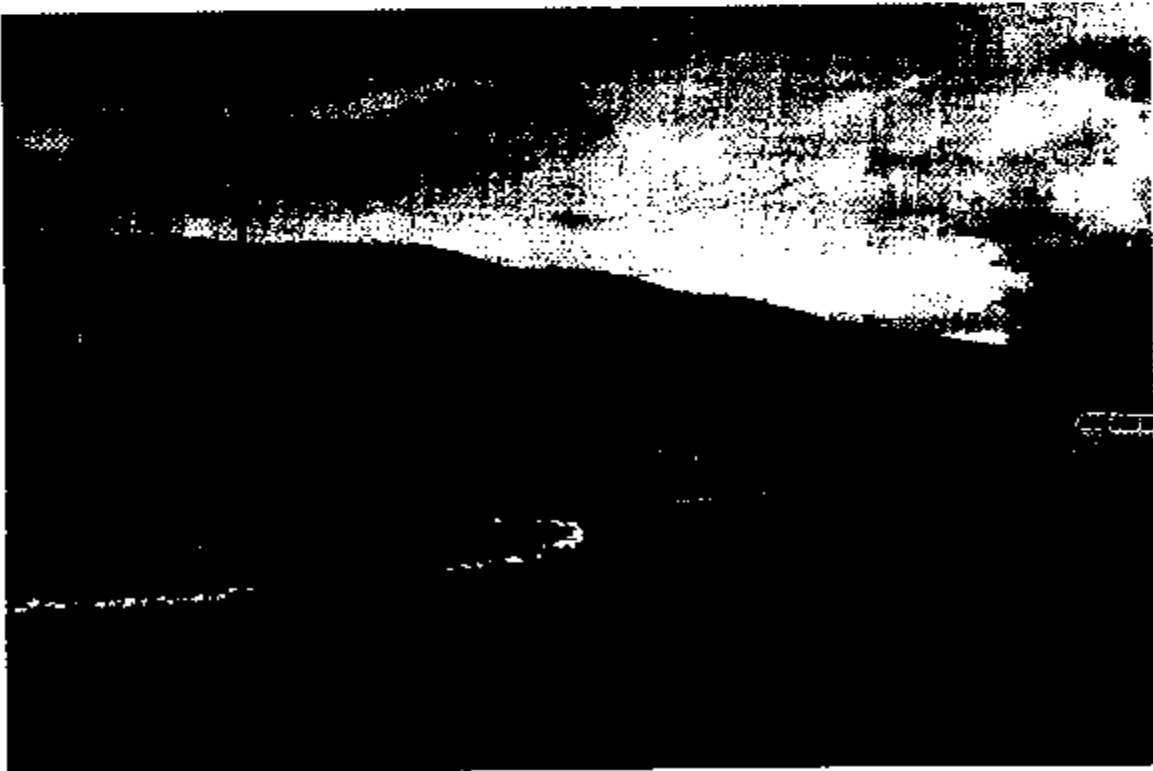


Photo #2: East side of the armory.

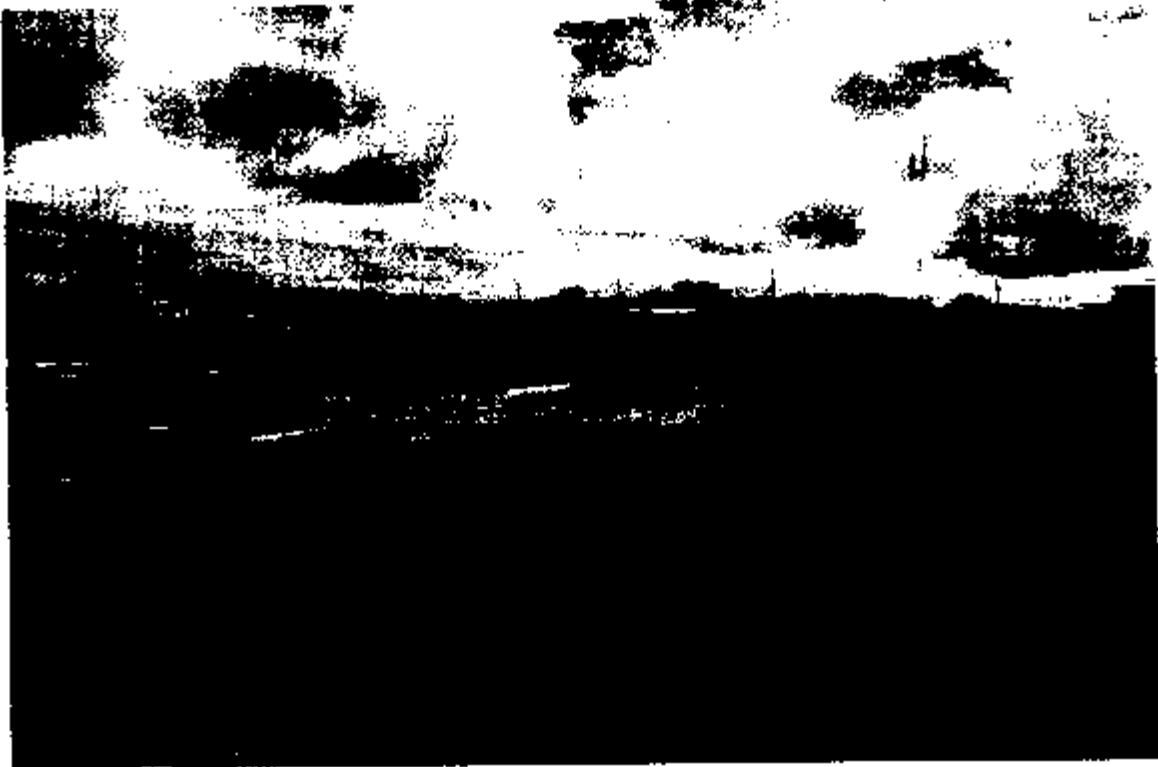


Photo #3: North or rear side of the armory.



Photo #4: West side of the armory.



Photo #5: Southeast corner of armory.



Photo #6: Drill hall facing north.

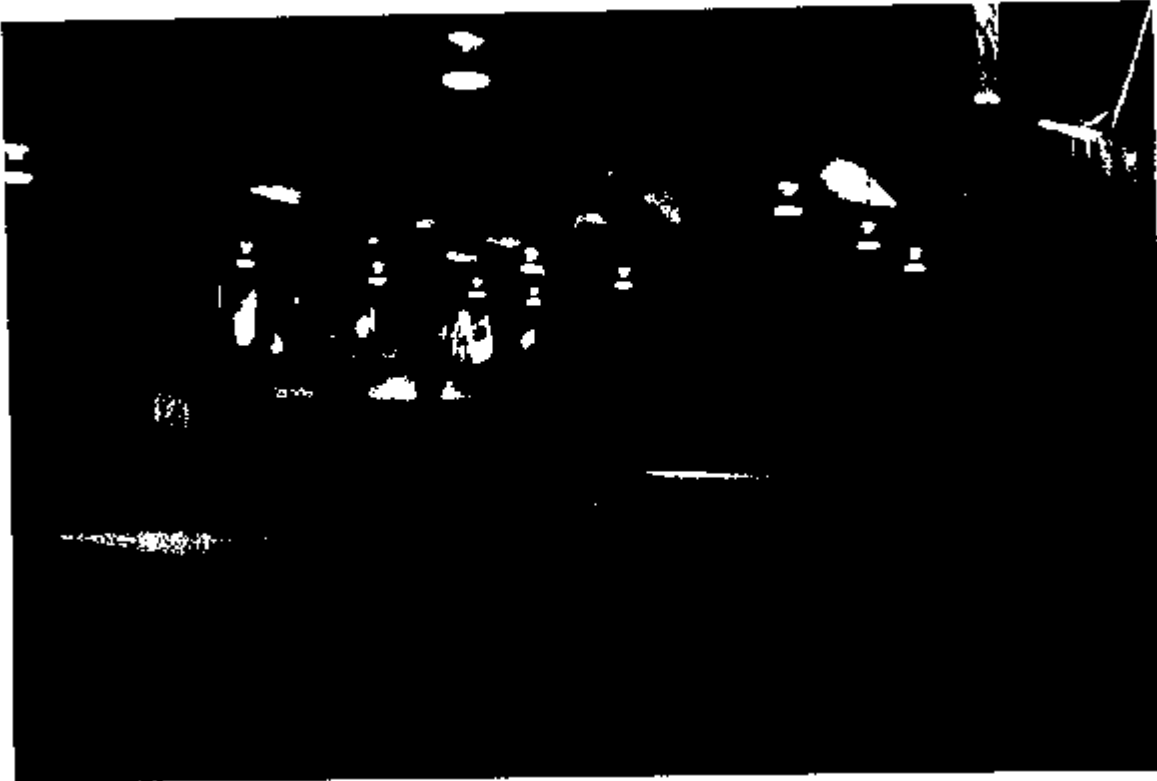


Photo #7: Drill hall facing north.



Photo #8: Indoor firing range facing bullet trap.

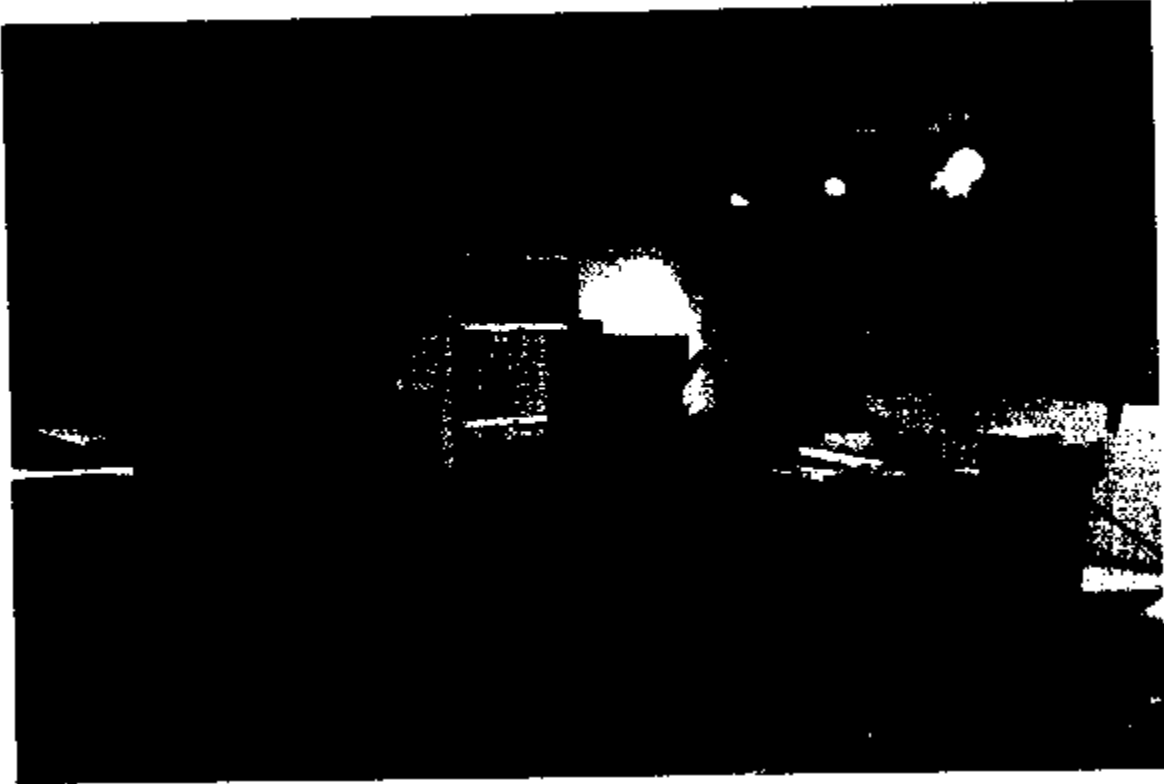


Photo #9: Indoor firing range facing the firing line.

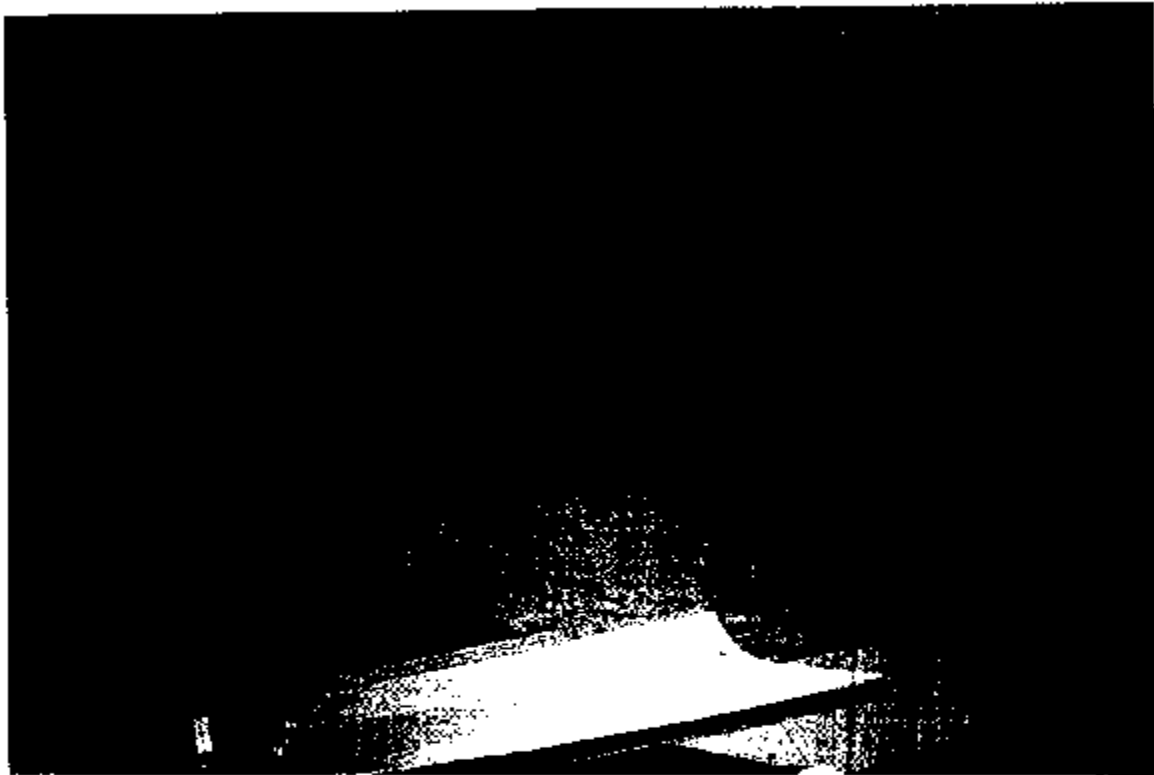


Photo #10: IFR Bullet Trap.

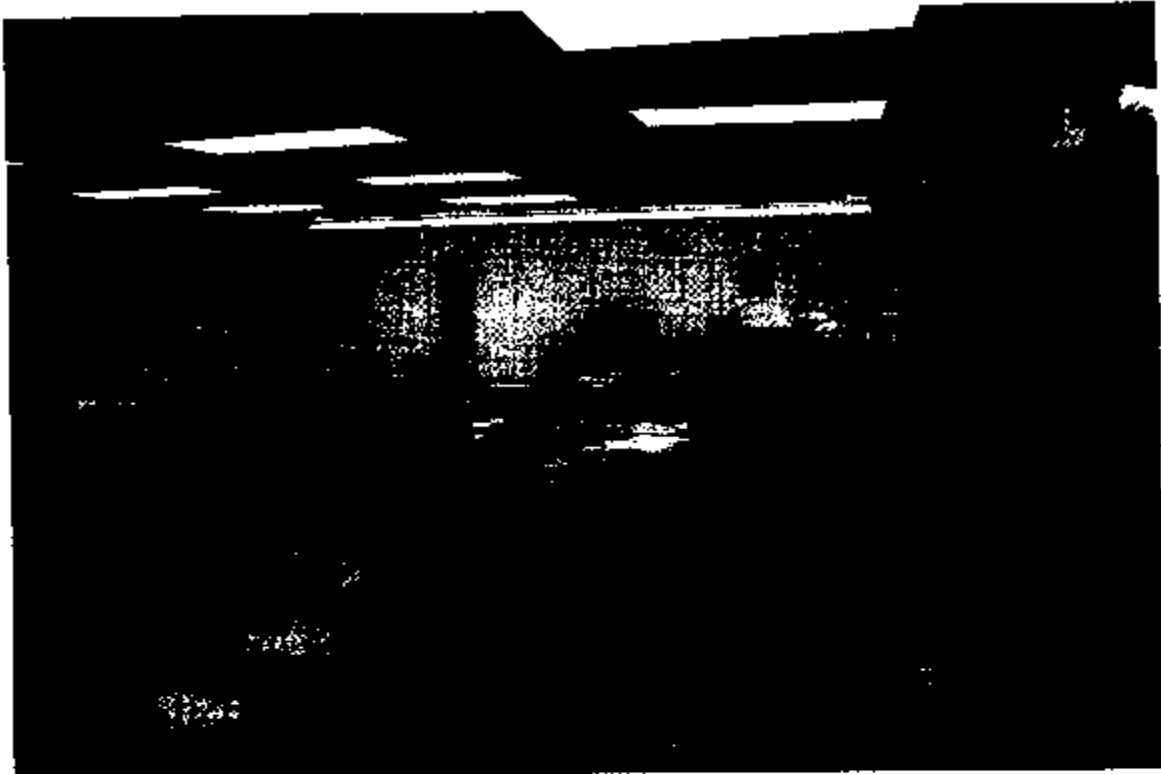


Photo #11: Converted IFR to office space, Counter Drug Office

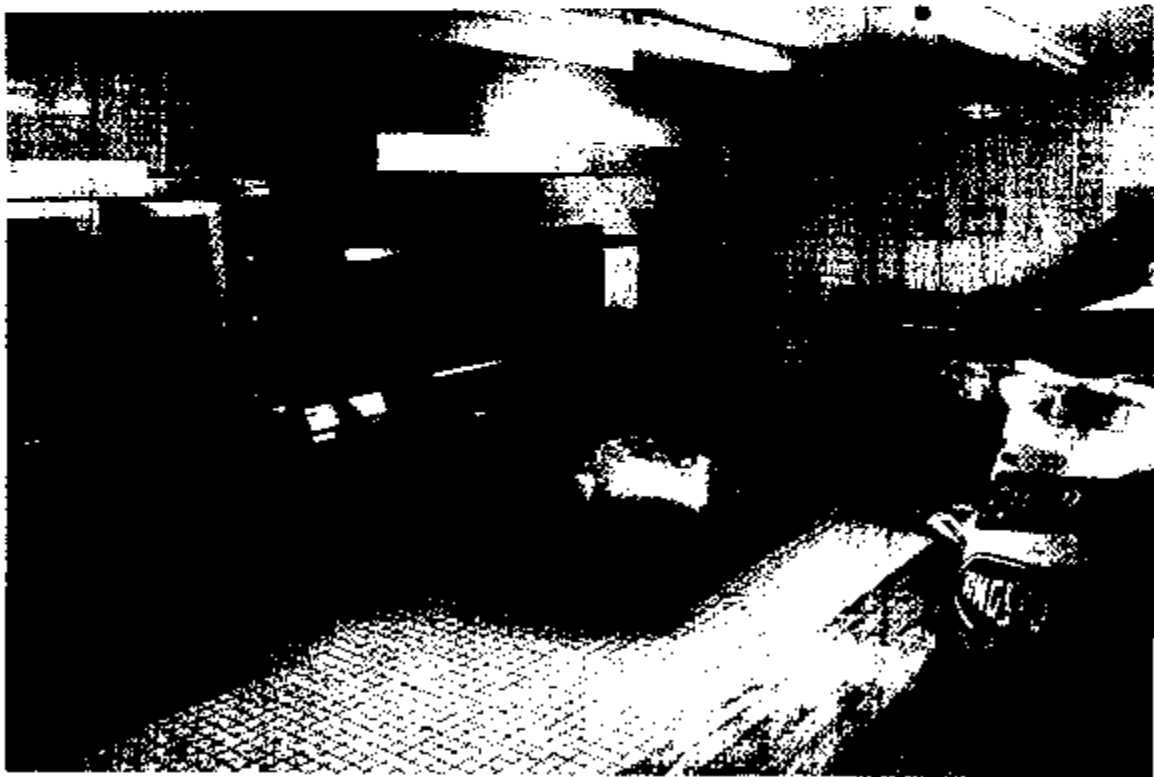


Photo #12: Armory's kitchen.

D-6



Photo #13: Window air conditioner in one of the supply room's offices.

**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

January 21, 2003

**MEMORANDUM FOR: ADJUTANT GENERAL VI ARNG, ATTN.: Commander St Thomas
Army National Guard Armory, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353**

SUBJECT: Transmittal of the St Thomas Armory Survey Report.

1. References.

- a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 26 October 1984.
- b. Army Regulation (AR) 40-5, 30 August 1986, Medical Service, Preventive Medicine.
- c. National Guard Regulation (NGR) 385-10, 1988, Army National Guard Safety and Occupational Health Program.
- d. AR 11-34, The Army Respiratory Protection Program, 15 February 1990.
- e. TB MED 502, Occupational and Environmental Health Respiratory Protection Program, February 1982.
- f. DA PAM 40-501, 30 October 2000, The Army Industrial Hygiene Program. (Updates TB MED 503, 1 February 1985, The Army Industrial Hygiene Program).
- g. DA PAM 40-501, 27 August 1991, Hearing Conservation (Updates TB MED 501, 15 March 1980, Hearing Conservation).
- h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2001, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- i. Industrial Ventilation, 23rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- j. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.
- k. Title 29, Code of Federal Regulations (CFR), 2000 rev., part 1910, Occupational Safety and Health Standards.
- l. Report dated 18 December 2002, Industrial Hygiene Survey, Environmental Mgmt. Solutions, Atlanta, GA.

2. General.

- a. At the request of VI ARNG 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 St Thomas Armory, St Thomas, VI.
- b. Environmental Mgmt. Solutions, 247 Mary Lane, Dallas, GA. 30132 conducted the survey.

3. Findings. All HHIM field survey forms and survey findings of the report. (See ENCL. 1)

4. Recommendations.

- a. Follow all recommendations made in reference 1.1., requesting industrial hygiene (IH) services where needed to complete the recommendations.
- b. The recommendations given in the comments section of the HHIM data sheets and data collected will serve as a baseline for the Industrial Hygiene Implementation Plan (IHIP) for FY03. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY04 IHIP.
- c. 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.
- 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.
- e. Give special consideration to cleaning light fixtures, increasing the wattage and painting walls a lighter color when upgrading the lighting in the facility.

Non-Responsive

CF: NGB-AVN-SH

State Occupational Health Office, 4031 La Grande Princesse, Lot 1B Christiansted, VI
00820-4353

State Safety Manager, 4031 La Grande Princesse, Lot 1B Christiansted, VI 00820-4353

Industrial Hygiene Technician, 4031 La Grande Princesse, Lot 1B Christiansted, VI
00820-4353

ENCL.

As

ENVIRONMENTAL MANAGEMENT SOLUTIONS
INDUSTRIAL HYGIENE CONSULTING

**VIRGIN ISLANDS ARMY NATIONAL GUARD
ST. THOMAS ARMORY
ST. THOMAS, VIRGIN ISLANDS**

247 MARY LANE, DALLAS, GEORGIA 30157
PHONE: 678 429 4084 • FAX: 770.234.6297

St. Thomas Armory
Survey Date: 19 December 2002

SUBJECT: Industrial Hygiene Survey of the St. Thomas Armory performed 19 December 2002 at the St. Thomas Armory in St. Thomas, Virgin Islands.

BACKGROUND:

Introduction. At the request of **Non-Responsive** of the National Guard Bureau Region South Industrial Hygiene Office, an industrial hygiene survey was performed at the St. Thomas Armory in St. Thomas, Virgin Islands. **Non-Responsive** contract industrial hygienist, Environmental Management Solutions, and **Non-Responsive** industrial hygiene technician, Virgin Islands, conducted the survey on 19 December 2002. The purpose of the survey was to perform a comprehensive industrial hygiene survey to evaluate potential health hazards present at the armory.

Site Description. The facility houses five units, which includes both supply and other administrative personnel. Duties of personnel include administrative and supply operations. The armory was constructed in approximately 1990. The facility houses several administrative areas, one kitchen/mess hall, two classrooms, a Drill hall, five supply/storage areas, and an indoor firing range.

Scope of Work. The Armory was visually examined and personnel were consulted to accurately assess potential hazards present. A noise survey, ventilation survey, and illumination survey were all performed for the facility, and Health Hazard Information Modules (HHIM) were completed for all operations. Reference information, Instrumentation, Methodology, and Assessment Criteria can be found in Appendix A.

St. Thomas Armory
 Survey Date: 19 December 2002

FINDINGS and DISCUSSION:

- a. **Building Condition.** The building is in good condition although considerable water damage could be observed in ceiling tiles in various areas. Ceiling tiles were seen bulging from where the weight of the water had been.
- b. **Indoor Firing Range.** The indoor firing range has reportedly never been used and is currently being converted into administrative space. Personnel were used to do maintenance in the area. Several items were found in the unrenovated section to include all parts from the range itself and parts of a computerized marksmanship training system, FATS. Computer equipment, tables, and other equipment and material are also being stored in the range. Several wipe samples were taken in the range to confirm the presence of lead in the range.

Sample Number	Sample Site	Results ($\mu\text{g}/\text{ft}^2$)
STT-01	Entrance Door	BRL
STT-02	Lane Dividers	38.0
STT-03	Wall Panel	BRL
STT-04	Floor in front of backstop	134
STT-05	Locker, mid-range	BRL
STT-06	New wall, right side	BRL
STT-07	Backstop, right side	720

Lead wipe levels greater than $200 \mu\text{g}/\text{ft}^2$ are considered contaminated. Two of the seven samples taken in and on equipment in the range show signs of contamination. This may indicate that firing has taken place in this range.

Lighting levels in the area ranged from 10.3 to 33 in the unrenovated section and 116 to 125 in the renovated areas. Light levels in administrative areas are required to be 50 to 100 FC. Light levels in the renovated section are appropriate.

- c. **Drill Hall Floor.** Personnel officially use the Drill Hall two days per month. It may be rented out approximately once every other month for other special occasions. Some weapons cleaning during February and March are performed here. Wipe samples for lead were also taken in the area and the results are as follows.

Sample Number	Sample Site	Results ($\mu\text{g}/\text{ft}^2$)
STT-08	Tile by roll-up door	BRL
STT-09	Wall at entrance to kitchen area	BRL
STT-10	Tile near hallway	BRL

* BRL = Below Recording Limits

St. Thomas Armory

Survey Date: 19 December 2002

Lead results were well within required limits and indicate good housekeeping practices. Light levels in the area ranged from 15.2 to 68.5 FC averaging 50 FC. Light levels required are 50 to 100 FC. Light levels meet below required limits.

- d. **Supply Room.** There are five supply rooms for each of the five units. Each supply officer uses the computer between three and four hours per day. Heavy lifting is performed with the aid of hand jacks and lifts. Chemical use is limited to lubricating oil for weapons cleaning and detergent. MSDSs were found in some supply areas, though not all. Administrative office areas with air conditioning are provided for administrative tasks although the warehouse itself is not air-conditioned. Personnel during inventory tasks, issuing, or weapons cleaning may need to be in the administrative area for prolonged periods of time. Personnel complain of uncomfortable chairs, and pain in neck and wrists, while working on the computer. Lighting levels are as follows.

Location	Readings in Footcandles (FC)	IES requirements	Meets Requirement?
610th Supply Room	11.3 to 15.4	20 to 50 FC	No
610th Admin. Office	19.26 to 19.9	50 to 100 FC	No
631st Supply Room	10.7 to 17.7	20 to 50 FC	No
631st Admin. Office	19.6 to 27.5	50 to 100 FC	No
Det. 1 661 MP Supply Room	15.7 to 18.8	20 to 50 FC	No
Det. 1 661 MP Admin Office	49.0 to 66.6	50 to 100 FC	Yes
786th HHD Supply Room	14.9 to 29.9	20 to 50 FC	Yes
786th HHD Admin Office	4.8 to 55	50 to 100 FC	No

- e. **Administrative Offices.** 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. Light levels found in administrative areas are as follows:

St. Thomas Armory
Survey Date: 19 December 2002

<i>Location</i>	<i>Readings in Footcandles (FC)</i>	<i>IES requirements</i>	<i>Meets Requirement?</i>
<i>786th Battalion</i>	53 to 54	50 to 100 FC	<i>Yes</i>
<i>786th S & S Room</i>	38.3 to 122	50 to 100 FC	<i>Yes, No VDT station</i>
<i>Non-Responsive</i>	96.4	50 to 100 FC	<i>Yes</i>
	97.6	50 to 100 FC	<i>Yes</i>
<i>Battalion SI</i>	83.8 to 84.4	50 to 100 FC	<i>Yes</i>
<i>Non-Responsive</i>	154.7	50 to 100 FC	<i>Yes</i>
<i>Sgt. Hewitt</i>	107	50 to 100 FC	<i>Yes</i>
<i>Mail Room</i>	48.4	50 to 100 FC	<i>No</i>
<i>631st Engineers</i>	66.7	50 to 100 FC	<i>Yes</i>
<i>Engineer Commander</i>	58	50 to 100 FC	<i>Yes</i>
<i>73rd Army Band</i>	74.8 to 82.3	50 to 100 FC	<i>Yes</i>
<i>Non-Responsive</i>	24.1 to 45.9	50 to 100 FC	<i>No</i>
<i>Classrooms</i>	5.2 to 67.5	50 to 100 FC	<i>No*</i>

* Based on average reading

A lead wipe sample was taken on a supply grille in an administrative area. Results are below recording limits of the lab and no lead was detected.

- f. **Material Safety Data Sheets (MSDS).** Material Safety Data Sheets were found in some areas and not found in others. Personnel reportedly receive training.
- g. **Hearing Conservation Program** Due to low noise levels in the area, there is no requirement for a Hearing Conservation Program.
- h. **Respiratory Protection Program.** Presently at this facility, no operations are being performed that warrant the need for implementation of a respiratory protection program.

St. Thomas Armory
Survey Date: 19 December 2002

Recommendations:

- a. Develop 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 further indoor air quality issues. Clean and disinfect all contaminated surfaces such as the supply diffusers throughout the facility with a 10 percent Clorox™ solution during off-hours. Any carpet that has been contaminated over a large area with sewage backup should be discarded under controlled conditions and the entire area disinfected with bleach and water.
- b. Sample results indicate some presence of lead even though the range has reportedly never been used. An indoor firing range can only be used for other purposes once it is free of lead dust contamination. Equipment should not be stored in the area, since stored items can also become contaminated with lead dust. All stored items should be removed as soon as possible and thoroughly decontaminated before their removal. Personnel should be restricted from using the range for purposes other than intended until the range has been properly converted. See NGB 385-16, which addresses guidelines for converting indoor firing ranges to other uses.
- c. 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.
- d. An ergonomics survey should be completed for all supply and administrative personnel as a preventative measure to document and address any and all ergonomic concerns or problems.
- e. 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.
- f. Consider heat stress monitoring for personnel working in hot environments for extended periods of time to measure employee exposure and develop appropriate work/rest schedules as needed. A thermometer or other temperature reader should be placed in the area so that personnel are mindful of temperatures during the day. Personnel are allowed rest breaks as needed and should be trained in the recognition of danger signs and symptoms. Heavy workloads during hot days should be done during cooler parts of the day as much as possible.

Technical Assistance For...

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 Guard Pamphlet (NG PAM), 385-15, Evaluation and Maintenance of Indoor Firing Ranges, 25 April 1998.

National Guard Pamphlet (NG PAM), 385-16, Guidelines for Converting Indoor Firing Ranges to Other Uses, 31 January 1994.

NGR 385-10, Army National Guard Safety and Occupational Health Program, 29 December 1989.

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

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

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

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

APPENDIX B

HHIMS Industrial Hygiene Survey Form

NUMBER 17447477
 FROM PAGE

ARLOC	Installation	Building	Floor Number
Local Unit	Survey Date	Evaluator	Unit / Organization (45)
Supervisor	Month	Macom	No. MIL
Supervisor, or Point of Contact	Day	Subscom	Contractors
Telephone Number	Year	RAC	No. LDCs
DBN	Rank	Frequency (weekly)	
Vapor Degreaser	Commercial	No. CIVs	
Open Surface Tanks	Ventilation Units		
Spray Booths			

Controls Present (if > 9, continue in comment)(25)

Unit code

Controls Required (25 characters max)

Unit code

Manufacturer's Description (10 characters max)

Controls Required (25 characters max)

NIOSH TC # or Foreign equivalent (10 characters max)

Gloves	Respirator	Hearing	Body	Head and Feet
acid	airline	earplugs	aprons	cold weather boots/hats
cold surfaces	abrasive blasting hood	(> 88-108 dBA steady) earplugs	cold weather clothing	hard hats
hot surfaces	disposable	helmets w/ muffs	coveralls	impermeable boots
NBC agents	full face air purifying	(108-118) muffs/earplugs comb	full body suit	safety shoes (conductive)
solvents	1/2 face air purifying	(118 or >) with (long limb)	heat reflective	safety nonconductive
surgical gloves	powered air purifying	other	vest/aut	other
leather / cotton	1/4 face air purifying		safety belt/harness	other
other	self-contained		specie) purp. clothing	other
	other		other	

e = evaluator's recommendation
 of agreement

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

ACO AQM OSA DSN LAB LCK
 RAD FRR EOI DIO EOC DIO

BEST AVAILABLE COPY

BEST AVAILABLE COPY

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	CAS code				EPC				PAC				Hazard Description								
POHNSCO	7	4	3	9	-	9	2	-	1	C	A					head dust					
POFOOHAZ	2	0	N	0	1	S	E	C	O							noise					
POFLYPROJ																					
POEYEHHAZ																					
POFLAMHAZ																					
POLIFTING																					
POSHARPOB																					
PDMOTOBJE																					
POELSHOCK																					
COLUBEOL																					

Social Security Number or Unique Identifier	Last Name (20 characters max)	First Name (20 characters max)	MI	Sex	Category
					BEST AVAILABLE COPY

Personnel data provided by the facility is attached to this form. Insert Privacy Act Statement

Operation described is indoor pump range, partially converted to office space

This operation was explained to the evaluators, but was not actually observed. There is a noise data sheet attached to this form. There is a ventilation data sheet attached to this form. (comments continued on attached

HHIMS Industrial Hygiene Survey Form

Weapons Training
 Form Page

ARLOC: _____ Installation: _____ Building: _____
 Location: _____ Operation: _____ Survey Date: _____
 Supervisor: _____ Mr. _____ Ms. _____
 Supervisor, or Point of Contact: _____ Telephone Number: _____
 Lab Hoods: _____ Vapor Degreasers: _____ Spray Booths: _____
 Controls Present (If > 6, continue in comments) [26]

Unit code: _____
 Evaluation [25 characters max]: _____
 Controls Required [25 characters max]: _____

Gloves		Respirator		Hearing		Body		Head and Feet	
B	R	B	R	B	R	B	R	B	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
acid	alkaline	abrasive blasting hood	airline	canal caps	cold weather boots/hat	canal caps	aprons	cold weather boots/hat	hard hats
cold surfaces	disposable	full face air purifying	disposable	(> 95-108 dBA, steady earplugs)	impermeable boots	coveralls	coveralls	safety shoes (conductive)	other
hot surfaces	1/2 face air purifying	powered air purifying	1/2 face air purifying	helmets w/ muffs	safety (nonconductive)	full body suit	vest/suit	other	other
NBC agents	1/4 face air purifying	self-contained	1/4 face air purifying	(108-118 muffs/earplug comb)	special pump, clothing	heat reflective	other	other	other
oil	other		other	muffs and earplugs	other				
solvents				(118 or > with lens limit)					
surgical gloves				other					
leather / cotton				other					
other									
chemical splash									
full face shield									
chem/safety impact									
safety impact									
welding helmet									
sun/glasses									
welding goggles/goggles									
laser eye protection									
other									

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* = evaluator's recommendation
 or agreement

Reminders: ergonomics • dermatitis • physical agents • flammable storage
 EYE (equipment) • EYE (portable) • SHW • GMV • LEV

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	Social Security Number or Unique Identifier				PAC	EPC	Hazard Description					
PONDISECO	7	4	3	9	-	9	2	-	1	3	A	Lead dust
POFOOTHAZ	C	0	L	V	P	E	0	1	L	3	A	lubricant grease
POFLYPROJ	6	4	7	4	2	-	5	3	-	3	A	Petroleum distillate
POEYERHAZ	6	4	7	4	2	-	8	8	-	3	A	Naphthalene
POFLAMHAZ	7	6	-	1	3	-	1			3	A	Facon 113
POFLIFING	C	0	M	I	N	O	1	L	M	3	A	Oil Mist, Rifle Base Cleaner
POSHARPO8												Corrosion Preventative Compound
POHOTOBJE												
POELSHOCK												
COLUBEOIL												

First Name (20 characters max)	MI	Sex	Category
			BEST AVAILABLE COPY

Insert Privacy Act Statement

Personal data provided by the facility is attached to this form

Comments

Operation described is cleaning of weapons
Most weapons cleaning occurs during training months of February and March.

There is a verification date sheet attached to this form

There is a noise data sheet attached to this form

Comments continued on attached

HHIMS Industrial Hygiene Survey Form

Admin Page

AILOC	Installation		Building	Room Number	
Location	Survey Date	month	day	Unit / Organization (45)	
Supervisor	Mr.	02	12	Subscom	
Supervisor, or Point of Contact	Telephone Number	Rent		FAC	
Leak Hoods	Vapor Degreasers	Open Surface Tanks		No. MIL	
Spray Booths	Commercial	Ventilation Units		Contractors	
DBM	Frequency (monthly)		No. CMV's		No. LOCs
Controls Present (if > 8, continue in comments)	Evaluation (25 characters max)		Unit code		Controls Required (25 characters max)

	e* R U					e* R U					e* R U									
Gloves	acid					abrasive blasting hood					aprons					cold weather boots/hat				
	cold surfaces					disposable					cold weather clothing					hard hats				
	hot surfaces					full face air purifying					coveralls					impermeable boots				
	NBC agents					1/2 face air purifying					full body suit					safety shoes (conductive)				
	oil					powered air purifying					heat reflective					safety (nonconductive)				
	solvent					1/4 face air purifying					vests/boots					other				
	surge/gloves					self-contained					safety belt/harness					other				
	leather / cotton										special pump, clothing					other				
	other										other									
Eyes and Face	chemical splash																			
	full face shield																			
	chem/safety impact																			
	safety impact																			
	welding helmet																			
	suroggles																			
	welding goggles/passes																			
	laser eye protection																			
	other																			

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50-100 FIC

4.9-106.6

F I C

Manufacturer's Description (10 characters max)

NIOSH TC # or Foreign equivalent (10 characters max)

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	P	O	V	D	I	X	X	X	X
POKSECO	P	O	V	D	I	X	X	X	X
POFOOHAZ	P	O	L	I	G	H	I	L	N
POFLYPROJ									
POEYEHHAZ									
POFLAMHAZ									
POLIFTING									
POSHANPOB									
POHOTOBJE									
POELSHOCK									
COLUBEOIL									

Hazard Description
*VDT Computers use
 inadequate lighting*

PAC	EPC
2	F
2	D

Social Security Number or Unique Identifier	Last Name (20 characters max)	First Name (20 characters max)	MI	Sex	Category

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Insert Privacy Act Statement

Personnel data provided by the facility is attached to this form

Operation described is *Administrative operations to include writing typing, filing, and computer use*
Engineering survey recommended
Replace main lighting and provide task lighting where necessary.

Comments continued on attached

There is a verification data sheet attached to this form

This operation was explained to the evaluators, but was not actually observed.

There is a noise data sheet attached to this form

HHIMS Industrial Hygiene Survey Form

Back page

CAS code	P	O	V	D	I	X	X	X	X	X	X	EPC	PAC	Hazard Description
POISECO	P	O	V	D	I	X	X	X	X	X	X	F	2	VDI, Computer use
POFOOTAZ	P	O	L	I	G	H	T	I	N			D	2	Inadequate lighting
POFLYPROJ	P	O	L	I	F	I	N	G				A	2	Heavy lifting
POEYEMAZA	P	O	H	E	A	T	S	T	R			F	2	Head stress
POFLAMHAZ														
POLFTING														
POSHARPOB														
POHOTOBJE														
POELSHOCK														
COLUBEOIL														

Social Security Number or Unique Identifier	Last Name (20 characters max)	First Name (20 characters max)	MI	Sex	Category
					BEST AVAILABLE COPY

Personnel data provided by the facility is attached to this form

Insert Privacy Act Statement

Comments

Operation described is *storage warehouse and issue of unit items and equipment*
Employee complaints of pain in neck and wrist during computer use.

This operation was explained to the evaluator, but was not actually observed.

There is a noise data sheet attached to this form

There is a ventilation data sheet attached to this form

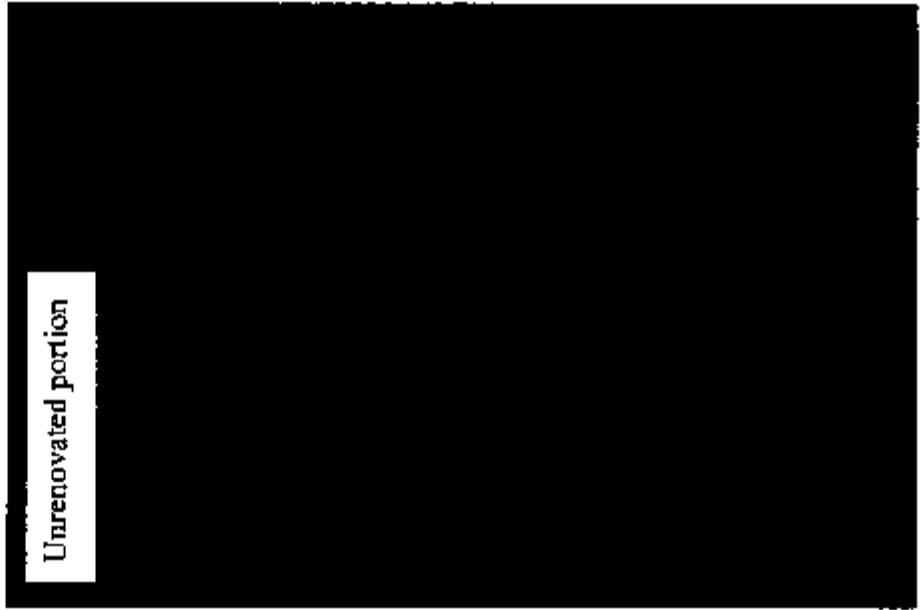
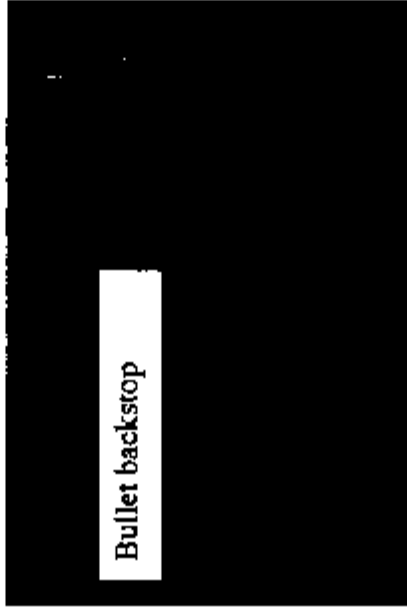
Comments continued on attached

APPENDIX C

Virgin Islands Army National Guard
St. Thomas Armory



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Virgin Islands Army National Guard
St. Thomas Armory



Water damage, administrative area



Water damaged ceiling



Drill Hall/Kitchen



Drill Hall

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APPENDIX D

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0212639

RUSH

BULK SAMPLE DATA				
For use of this form see USAEHA TG 141: the proponent is MCHB-DC-LLC				
Return Address (complete address including zip code)			Non-Responsive	
247 Nanky Lane Dallas, GA 30157				
Sampled Installation		Project Number		
St. Thomas Anthony				
Non-Responsive		Date Collected	Date Shipped	
		19 Dec 02	23 Dec 02	
		Location (BLOG/AREA)		
Associated Complaints (be specific)				
None				
Associated Air Samples If yes, list sample numbers				
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
Label Information				
Trade Name		MSN	Manufacturer	
N/A		N/A	N/A	
Address			MSDS Attached	
N/A			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Analyte Desired				
Lead				
Lab Use Only	Sample No.	Constituents	Results	Remarks
	001A STI-01	Entrance Door		
	002A STI-02	lane Dividers		
	003A STI-03	Wall Panel		
	004A STI-04	Floor in front of Backstop		
	005A STI-05	locker, mid-floor		
	006A STI-06	New wall right side		
	007A STI-07	Backstop right side		
Comments to Lab:				
Lab Use Only				
Analyst (initials)		Rev	Date Received	Date Reported
		Non-Responsive	12/23/02 9:30	
Procedures Performed		Conditions:		

CHPPL Form B-R-E, 1 May 96

Replaces AEHA Form B-R 1 Oct 84 which is obsolete.

HHM User Guide
C-4

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0212639

BULK SAMPLE DATA				
For use of this form see USAEHA YG 141; the proponent is MCHB-DC-LLC				
Return Address (complete address including zip code)			Point of Contact (name/AUTOVON)	
Sampled Installation	Project Number		ARLOC <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Samples Collected By	Date Collected	Date Shipped		
Description of Operation			Location (BLOG/A T5A)	
Associated Complaints (be specific)				
Associated Air Samples If yes, list sample numbers				
<input type="checkbox"/> YES <input type="checkbox"/> NO				
Label Information				
Trade Name	NSN	Manufacturer		
Address		MSDS Attached <input type="checkbox"/> YES <input type="checkbox"/> NO		
Analysis Desired				
Lab Use Only	Sample No.	Constituents	Results	Remarks
008A	ST-08	Tile by roll up door		
009A	ST-09	wall at entrance of mess		
010A	ST-10	Tile near hallway		
011A	ST-11	vent over desk st. bath.		
Comments to Lab:				
Lab Use Only				
Analyst (initials)	Re Non-Responsive		Date Received 12/27/02	Date Reported 9:30
Procedures Performed	Comments:			

CHPPM Form 8-R-E, 1 May 95

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

HHIM User Guide
C-4

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Analytical Environmental Servs, Inc.

Date: 12/27/02

**TOTAL LEAD IN WIPE SAMPLES
N7082**

CLIENT: Environmental Management Solutions	Lab Order: 0212639
Project: St Thomas Armory	Date Received: 12/23/02 9:30:00
Project No: St Thomas Armo	Matrix: Wipe
PO No:	Analyst: MM

Laboratory ID	Client Sample ID	Results	Units	MDL	DF	Date Collected	Date Analyzed
0212639-001A	STT-01	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-002A	STT-02	38.0	µg. Total	2.83	1	12/19/02	12/24/02
0212639-003A	STT-03	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-004A	STT-04	134	µg. Total	2.83	1	12/19/02	12/24/02
0212639-005A	STT-05	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-006A	STT-06	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-007A	STT-07	720	µg. Total	2.83	1	12/19/02	12/24/02
0212639-008A	STT-08	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-009A	STT-09	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-010A	STT-10	BRL	µg. Total	2.83	1	12/19/02	12/24/02
0212639-011A	STT-11	BRL	µg. Total	2.83	1	12/19/02	12/24/02

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

DF - Dilution Factor

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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

20 January 2013

MEMORANDUM Adjutant General VI ARNG, ATTN: **Non-Responsive** Deputy State Surgeon 4031 la Grande, Princesse Lot IB, Christiansted, Virgin Islands 00820-4353

SUBJECT: Transmittal of Industrial Hygiene Survey of U.S. Virgin Islands Army National Guard SFC L. Francis Armory, St. Thomas, VI.

1. References.
 - a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.
 - b. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
 - c. Title 29, Code of Federal Regulations (CFR), 2009 rev., part 1910, Occupational Safety and Health Standards.
 - d. Title 29 CFR, General Industry, revised 1996 rev. Part 1940
 - e. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007
 - f. AR 385-10, the Army Safety Program, 23 August 2007.
 - g. AR 11-34, 15 February 1990, the Army Respiratory Protection Program.
 - h. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 12 September 2008.
 - i. TB MED 503, the Army Industrial Hygiene Program, 30 October 2000.
 - j. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
 - k. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
 - l. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

2. General. At the request of **Non-Responsive** Deputy State Surgeon and the Safety & Occupational Health Office an Industrial Hygiene Survey of U.S. Virgin Islands Army National Guard SFC L. Francis Armory, St. Thomas, VI was conducted.

3. Findings. All sampling data and field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1). Operations of very short duration were not sampled due to the requirements of the sampling method. If the operation changes or if the

SUBJECT: Transmittal of Industrial Hygiene Survey of U.S. Virgin Islands Army National Guard SFC L. Francis Armory, St. Thomas, VI.

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. The remarks 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 FY2013. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY2014 IHIP.
- c. Have all HHIM data entered into the HHIM computer module.
- d. Use the report to help in correcting all deficiencies noted.
- e. 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.
- f. Contact the State Occupational Health Office, for any medical Surveillance that may be needed.
- g. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

Non-Responsive

CF: NGB-ARS-IHSE

State Safety Manager, ATTN: **Non-Responsive**, 4031 La Grande Princess, Lot 1B, Christiansted, St. Croix USVI 00820-4353.

ENCL.

as

Industrial Hygiene Follow-up Survey Report

For

U.S. Virgin Islands Army National Guard

At

SFC L. Francis Armory
St. Thomas, VI.

Prepared for:

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

By

Non-Responsive

3744 Lawrence Drive
Naperville, IL 60564

October 3, 2012

Table of Contents

- I. Executive Summary
- II. Introduction
- III. Background
- IV. Scope of Work
- V. Sampling Methods
- VI. Discussion
- VII. Recommendations

Appendices

- A. Summary of Results.
- B. Floor Layout
- C. Photos.
- D. Laboratory Report and Chain of Custody Form.
- E. Certificates of Calibration

I. EXECUTIVE SUMMARY

At the request of the National Guard Bureau Region South Industrial Hygiene Office, field personnel conducted a follow up industrial hygiene survey in the U.S. Virgin Islands Army National Guard (VIARNG) SFC L. Francis Armory located in Saint Thomas, Virgin Islands on October 3 2012. This survey was requested by VIARNG as a follow to an earlier survey conducted in 2010 and as part of the VIARNG Safety and Occupational Health program to ensure safe and healthful workplaces.

Carbon dioxide (CO₂) readings, which are commonly used as an indicator of makeup air volume being introduced to the occupied spaces, were within an acceptable range. Readings ranged from 392 to 775 part per million (ppm). The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) recommends providing a minimum of 20 cubic feet per minute (CFM) outside makeup air per person to maintain the indoor CO₂ level below 1000 ppm. Carbon monoxide levels were all less than 1 ppm.

Temperature and relative humidity readings in the occupied office areas during the survey period ranged from 66 to 92 degree Fahrenheit (°F) and from 32% to 60%, respectively. The relative humidity readings are within the ASHRAE recommended guideline range of 30% to 60%. It is important to maintain the relative humidity within the recommended 30% to 60% range so as to minimize the growth of allergenic and pathogenic organisms.

Stained ceiling tiles which denote water leaks, were observed in various parts of the Armory to include the hallway ceiling, the office of the 610 QM, and the distance learning center. Stained ceiling tiles were also observed in the band studio room and rehearsal room. These water leaks should be isolated and repaired as soon as feasible. Supply air diffusers were also observed to be stained in a number of offices. These observations and discussions with the occupants indicate that the ventilation system is not being maintained properly.

Surface wipe samples for lead ranged from less than 4 micrograms per square feet (ug/ft²) to 6.1 ug/ft². These levels are below the NGB recommended limit of 200 ug/ft². Average illumination levels as measured throughout the facility ranged from 1 to 158 foot candles throughout the facility. These lighting levels within the recommended ranges for the areas measured. No sources of excessive noise were identified throughout the Armory.

A number of chemical containers were found improperly stored in the storage room located northeast

of the drill hall. Some containers had evidence of leaks. These containers should be removed and stored properly and the area cleaned properly.

Water stained ceiling tiles, as evidence of water leaks, were observed through various areas highlighted in the report during the walkthrough. Rusted rain gutter on the south wall of the building was also noted. Evidence of poor HVAC maintenance was documented with photos of deteriorated air filters in need of replacement.

Based on the walkthrough and the above observations, microbiological air and wipe sampling was deemed unnecessary at this time. However, all water leaks should be addressed, the rain gutter repaired, HVAC filters replaced, and a proper maintenance program for the HVAC system should be in place in order to maintain good air quality in the Armory. Also, clean and disinfect all stained supply air diffusers.

II. INTRODUCTION

Non-Responsive

CIH representing the National Guard Bureau, South Regional Industrial Hygiene Office, conducted a follow-up industrial hygiene survey at the SFC L. Francis Armory located in St. Thomas, Virgin Islands on October 3, 2012. The purpose of the survey was to identify potential health hazards present at the armory as part of the Virgin Islands Army National Guard Occupational Health Program.

This survey was conducted in the interest of assisting in preventing employee illness and in meeting legal obligation where applicable. Based on information provided, reasonable effort was made to conduct a comprehensive survey covering the parameters considered. Results and recommendations are based on samples taken and conditions observed during the survey. Changes in operating conditions, materials used and work practices can alter the quality of air and the outcome of this type of survey.

III. BACKGROUND

The armory building, which was built in 1991, is a one story building with approximately 43,500 square feet of space. The building consists of a large assembly/drill hall surrounded by offices, and supply rooms on three sides. A copy of the floor layout is included in Appendix B. The armory houses a number of units including the 610th Quarter Master Company, DET 1 1011th Engineer Company, 73rd Army Band, and the HHC 786th Combat Sustainment Support Battalion (CSSB). Other units that use the Armory include the 512th TC DET (MCT).

The Heating Ventilating and Air Conditioning (HVAC) system for the building consisted of three air-handlers with cooling and heating capabilities. Two air handlers are located above the suspended ceiling and the third in a mechanical room. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings.

The initial survey was conducted in October of 2004 found elevated levels (42,880 CFU/M³) of airborne viable fungi in five office areas sampled. Elevated levels of non-viable fungi (9,869 Spores/M³) were also found in the west section of the armory. The 2004 survey also showed

elevated levels of contamination on air supply diffusers, stained ceiling tiles, and stained walls. *Stachybotrys chartarum* or toxic mold was identified in four out of the 8 surface wipe samples collected. Finally, the cooling unit for the air handler serving the west side of the building was not operational at the time of the survey.

A follow-up survey to the initial survey was conducted on October of 2006 to address the quality of the indoor air as a result of the renovation work that have been performed in the armory to abate the microbiological contamination and repair water leaks. Renovation work included the installation of new wallboard, ceiling and floor tiles. Walls were painted and vents were cleaned and decontaminated. A/C units were repaired and serviced. At the time of this survey, the west part of the armory was complete while parts of the east side were still undergoing renovation. Water damage in the newly renovated section, Water Detachment Unit 610 was observed during sampling. The one elevated sample from this survey was collected from the Water Detachment Unit office. Airborne viable levels ranged from 36 colony forming units per cubic meter of air (CFU/M³) to 293 CFU/M³. The outdoor sample result was 400 CFU/M³. Only one sample collected in the Water Detachment Unit office had viable levels at 636 CFU/M³. Non-viable spores indoors ranged from 107 spores per cubic meter (Spores/M³) to 574 Spores/M³. This follow up study concluded that the renovation and abatement work did decontaminate the armory and lower the fungal airborne levels. However, renovation work needed to be completed and other repairs are still pending especially in the water detachment unit.

Since the last follow up survey, fine particulate matter or dust have been blowing through the air diffusers in various parts of the armory. The water detachment unit which is located in the west side had the worst case of dust deposits on surfaces. The source of the particulate dust was traced back to the insulation found inside the air handling units. A bulk sample of insulation similar in color and texture to the dust found earlier on desks and surfaces was found inside a duct connection to the supply air diffuser in the Water Detachment Unit. The bulk sample and three tape lift samples were analyzed for microbiological activities and found the bulk sample containing 140,000 colony forming units per gram. The tape lifts had minimal activities indicating clean surfaces.

Another survey was conducted in 2008 to follow up on the quality of the indoor air and found elevated levels of surface contamination on the supply diffusers. Air sampling results for viable and non viable fungi indoors were all in an acceptable range and similar to the earlier survey which was conducted right after Armory renovation and clean-up. Surface wipe samples were elevated when compared to the earlier survey. Several ceiling tiles in the distance learning center had water stains.

A follow-up survey conducted in 2009 showed that the airborne sample results, 70 to 370 CFU/M³, are in line with the air sampling results obtained in 2006 and 2008, which ranged from 36 to 778 CFU/M³ for the viable fungi. Similarly, the surface wipe sample results were also in line when compared to the 2008 survey.

Finally, an indoor air quality survey was conducted in 2010 and found IAQ parameters – carbon dioxide, carbon monoxide, temperature, and relative humidity – in the Armory within acceptable ranges. However, several stained ceiling tiles or paint as a result of water leaks were observed in various areas of the Armory including the hallway wall leading from the drill hall to the distance learning center, the office of the 610 QM and the distance learning center.

IV. SCOPE OF WORK

The survey included the following work:

- Conduct a safety walkthrough of the Armory;
- Identify sources of noise within the facility;
- Collect lead surface wipe samples;
- Evaluate and follow-up on any Indoor Air Quality (IAQ) issues;
- Perform air monitoring, if necessary;
- Measure the volumetric flow of local exhaust ventilation systems;
- Measure illumination levels in all accessible areas of the facility;
- Review hazardous material storage and use procedures.

Air monitoring consisted of collecting carbon dioxide and monoxide readings, and temperature and relative humidity readings as indoor air quality parameters. Observations for water leaks or water damaged building material were also noted.

V. SAMPLING METHODS

Carbon dioxide, carbon monoxide, temperature and relative humidity readings were measured using a TSI VelociCalc Model 9565-P handheld meter with TSI 982 Probe for Temperature/Humidity/CO/CO₂, calibration dates: August 2012 for the meter and April 2012 for the probe.

Lead wipe samples were collected from various surfaces 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 ALS laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory.

Illumination measurements were collected using an EXTECH Model 407026 light meter. Measurements were taken on desk surfaces and in office areas approximately four feet from the floor.

VI. DISCUSSION

Carbon dioxide (CO₂) readings, which are commonly used as an indicator of makeup air volume being introduced to the occupied space ranged from 392 to 775 ppm in the occupied office areas. Refer to Table A-1 in Appendix A. These levels are well below the Occupational Safety and Health Administration (OSHA) regulated Permissible Exposure Level (PEL) of 5,000 ppm and the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) guideline level of 1000 ppm. ASHRAE document Standard 62 Ventilation for Acceptable Indoor Air Quality, recommends a minimum of 20 cubic feet per minute (CFM) outside makeup air per person to be delivered to the occupied space during normal occupancy. Based on this minimum amount of outside makeup air and a typical office population density of 7 employees per 1000 square feet of space, indoor CO₂ levels should not exceed 1000 ppm. Carbon monoxide readings, which are an indicator of a combustion source, were all below 0.1 ppm.

Temperature and relative humidity readings in the occupied office areas during the survey period ranged from 66 to 92 degree Fahrenheit (°F) and from 32% to 60%, respectively. These readings are within the ASHRAE recommended guideline range of 30% to 60%. This range is recommended to minimize growth of allergenic and pathogenic organisms. Refer to Table A-1 in Appendix A.

The drill hall and supply area readings were excluded from the range above because of lack of air conditioning in these areas. Outdoor temperature and relative humidity readings were 87 °F and 69%, respectively.

Surface wipe samples for lead ranged from less than 4 micrograms per square feet ($\mu\text{g}/\text{ft}^2$) to 6.1 $\mu\text{g}/\text{ft}^2$. 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. All sample results were below the NGB recommended limit of 200 $\mu\text{g}/\text{ft}^2$. The laboratory report and chain of custody forms are attached in Appendices D.

Illumination levels were measured throughout the facility at task surface level, such as on desks or work benches. Table A.3 in Appendix A lists the measurements in each area within the facility. Measurements not taken on a desk or workbench were taken at waist level or approximately 4 feet from the floor. Average levels ranged from 1 to 158 foot candles throughout the facility. The illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 and 41 CFR 101-20-107, Energy Conservation Rule, Federal Property Management Regulations. In general, 50 FC is the minimum lighting requirements for the performance of tasks where reading is required, 30 FC is required for work areas where reading is not required, 10 FC is required for non-work areas, such as aisles and corridors, and 5 FC is required for walking surfaces, such as mechanical spaces. 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. Supplemental lighting is used for specific work in darker areas, such as at desktop level. Lighting levels in the Armory were within the recommended ranges for the applicable area. Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified. No area noise readings were collected.

Hazardous materials used in the Armory consisted of industrial type cleaning supplies stored in the janitor's closet and other chemicals stored in flammable cabinets in the various supply rooms within the facility. All flammable storage cabinets had Material Safety Data Sheets available for the chemicals stored in them. A number of chemical containers were found improperly stored in the storage room located northeast of the drill hall. See photo #19 and #20. Leakages from these containers were also observed. These containers should be removed and stored properly and the area cleaned properly.

Finally, a number of stained ceiling tiles, as evidence of water leaks, were observed during the walkthrough in the 773rd Army Band Studio, Rehearsal, and Supply Room. Other water leak staining was observed in the distance learning room and hallways. Refer to photos #9 through #15 in appendix C. These water leaks should be isolated and repaired as soon as feasible. It is very important to repair all water leaks and replace or clean and disinfect the contaminated building materials. Supply air diffusers were also observed to be stained in a number of offices. Refer to photos #14 and #15 in Appendix C. This could be an indication of HVAC system lack of maintenance. The filters on one system appeared to be in desperate need for replacement, see photo#23. It appears that the HVAC system is not being properly maintained, evidence of rust and water leaks is indicative of poor condensate drainage, see photo#24. A scheduled maintenance program is necessary to keep all systems working properly; filter changes, ensuring proper drainage of condensate pans, and adequate supply of outside makeup air are examples of a proper maintenance program elements. On the exterior of the building, the roof gutter on the south wall had rust holes in it, see photo#6. These gutters should be repaired and drained properly similar to the gutters found on the east wall of the building.

Based on the walkthrough and the above observations, microbiological air and surface wipe

sampling was deemed unnecessary at this time. However, all water leaks should be addressed and the proper maintenance program for the HVAC system should be in place in order to maintain good air quality in the Armory. Also, clean and disinfect all stained supply air diffusers.

VII. RECOMMENDATIONS

1. Repair all water leaks as soon as feasible.
2. Replace all HVAC filters on all units serving the Armory.
3. Implement a maintenance program for the Armory HVAC system that will ensure regular filter changes and proper condensate pan drainage.
4. Clean and disinfect the supply diffusers within the Armory.
5. Replace the water stained/damaged ceiling tiles in the band practice and storage room
6. Repair the roof gutters on the south end of the building.
7. Store all chemical containers in the storage area properly and clean all leaks.

Appendix A

Table A-1.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
October 3, 2012

Layout #	Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
1003	Drill Hall	453	<0.1	81.2	75
1015	Break Room	470	<0.1	78.8	45.3
1012	786 th Supply Room	436	<0.1	82.3	59
1013	786 th Supply Office	605	<0.1	79.5	47
1020	786 th QM Exec. Office	551	<0.1	75	47.7
1021	786 th MSG Luciana Office	549	<0.1	74.4	51.8
1022	786 th DN S4 Office	597	<0.1	75.4	48.7
1023	786 th Common Area	615	<0.1	75.7	45.2
1024	786 th S4 NCOIC Office	775	<0.1	75.9	50.9
1033	786 th Orderly Office	598	<0.1	73.3	50.6
	786 th Orderly Office – <i>PM Reading</i>	725	<0.1	69.5	49
1031	786 th Readiness NCO	635	<0.1	73.4	51.4
1032	786 th Commander's Office	561	<0.1	72.9	50.7
	786 th Commander's Office – <i>PM Reading</i>	643	<0.1	70.8	49.7
1034	786 th Office	558	<0.1	72.4	50.5
1035	786 th BN S1 Office	556	<0.1	73	52.8
1036	786 th PS NCO Office	568	<0.1	73.6	52.4
1038	786 th S1 Office	599	<0.1	74	50.9
	786 th S1 Office – <i>PM Reading</i>	644	<0.1	70.3	52
1037	786 th Copy/Mail Room	579	<0.1	72.4	51.6
1040	786 th Office	571	<0.1	72.3	52.2
1041	BN Commander's Conference Room	565	<0.1	71.1	52.9
1039	786 th Reception's Office	568	<0.1	71.5	54.6
	786 th Reception's Office – <i>PM Reading</i>	629	<0.1	70.6	52.4
1042	1011 th Det.1 Eng. Co. Orderly Room	631	<0.1	74.2	48.6
	1011 th Det.1 Eng. Co. Ordly <i>PM Reading</i>	625	<0.1	72	46.9
1043	1011 th Det.1 Eng. Co. Office	609	<0.1	73.5	48.7

A-1

Table A-1.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
October 3, 2012

Layout #	Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
1044	1011 th Det. 1 Eng. Co. Commander's Office	594	<0.1	71.8	49.5
1029	786 th QM CSM Office	581	<0.1	70.5	52
1028	73 rd Army Band Orderly Office	668	<0.1	71.1	53.4
	73 rd Army Band Orderly Off. <i>PM Reading</i>	734	<0.1	72.5	52.3
1045	73 rd Army Band Commander's Office	606	<0.1	71.5	52.3
1046	73 rd Army Band Training NCO's Office	617	<0.1	71.7	52.4
1025	73 rd Army Band Studio	539	<0.1	67.2	54.5
1027	73 rd Army Band Rehearsal Area	532	<0.1	66	54.7
1016	73 rd Army Band Supply Room	588	<0.1	68.7	57.5
1017	786 th QM USPFO Representative Office	646	<0.1	73.8	50.2
	786 th QM USPFO Rep Off. <i>PM Reading</i>	742	<0.1	73.4	52.3
1014	786 th QM Area Empty Office	650	<0.1	75.7	53.4
1008	73 rd Army Band Storage	467	<0.1	81.9	60.5
1011	Distance Learning Center	477	<0.1	74.9	51.8
1049	786 th Family Office	545	<0.1	80.6	45.3
1048	512 MCT Reserve Office	516	<0.1	77.5	44
1047	512 MCT Office	494	<0.1	74	45
	512 MCT Office - <i>PM Reading</i>	501	<0.1	75.6	48.7
1052	694 th Ambulatory Det. Orderly Office	476	<0.1	74.8	48.5
	694 th Amb Det. Orderly Off. - <i>PM Reading</i>	447	<0.1	75.2	49.7
1050	694 th Ambulatory Det. Chaplain's Office	479	<0.1	76.2	46
1051	694 th Ambulatory Det. Office	469	<0.1	74.8	50.2
1053	694 th Ambulatory Det. Office	480	<0.1	74.4	51.1
1054	694 th Ambulatory Det. EKG Room	456	<0.1	74.1	45.2
1062	Computer Room	410	<0.1	73.3	58
1055	610 th QM WS Co. Readiness NCO's Office	499	<0.1	75.1	52.6
1056	610 th QM Commander's Office	462	<0.1	74.9	59.2

Table A-1.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
October 3, 2012.

Layout #	Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
1057	610 th QM WS Co. Orderly Office	478	<0.1	75.5	57.2
	610 th QM WS Co. Ordrlly. <i>PM Reading</i>	459	<0.1	75.6	51.5
1058	610 th QM Training NCO	472	<0.1	75.3	57
1059	610 th QM 1 st SGT's Office	495	<0.1	75.6	55
1002	640 th Supply Room	510	<0.1	85.6	65.3
1068	610 th Supply Room	420	<0.1	90	58
1068	610 th Supply Room Office	463	<0.1	86.5	37.4
1071	1011 th Supply Room	415	<0.1	92.2	53.8
1071	1011 th Supply Room Office	415	<0.1	92	54
1001	1011 th Storage Area	440	<0.1	89.2	46.8
1030	Conference Room	568		72.1	43.9
1063	Kitchen	444		85.1	59.8
1067	Men's Latrine	434		84.5	59.8
1067	Men's Locker Room	392		86.3	68.8
1066	Women's Latrine/Locker Room	392		82	76.2
1001	Fitness Room	484		80.4	32
	Outdoors	380		87	69

Notes:

°F Degrees Fahrenheit
ppm Parts per million

Table A-2.
 Lead Surface Wipe Samples
 Virgin Islands Army National Guard
 SFC L. Francis Armory
 St. Thomas, VI
 October 3, 2012

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
STTW01	Southwest Quadrant Floor Drill Hall	<4.0
STTW02	Southeast Quadrant Floor Drill Hall	<4.0
STTW03	Middle Quadrant Floor Drill Hall	<4.0
STTW04	Northeast Quadrant Floor Drill Hall	<4.0
STTW05	Northwest Quadrant Floor Drill Hall	<4.0
STTW06	Top of Refrigerator in Break Room	6.1
STTW07	Field Blank	<4.0
STTW08	Top of Serving Line Kitchen	<4.0
STTW09	Top of Refrigerator in Kitchen	4.7

Table A-3.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
October 3, 2012

Layout #	Area	Maximum Reading Foot candle (ft-cd)	Minimum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
1003	Drill Hall	108	20	50
1015	Break Room	27	2	5
1012	786 th Supply Room	78	24	50
1013	786 th Supply Office	141	35	56
1020	786 th QM Exec. Office	110	80	95
1021	786 th MSG Luciana Office	124	58	90
1022	786 th BN S4 Office	75	35	68
1024	786 th S4 NCOIC Office	121	62	79
1033	786 th Orderly Office	160	89	138
1031	786 th Readiness NCO	96	43	66
1032	786 th Commander's Office	91	37	73
1034	786 th Office	77	60	71
1035	786 th BN S1 Office	127	38	97
1036	786 th PS NCO Office	124	67	95
1038	786 th S1 Office	150	75	130
1037	786 th Copy/Mail Room	80	40	79
1040	786 th Office	145	88	130
1041	BN Commander's Conference Room	140	72	128
1039	786 th Reception's Office	122	95	114
1042	1011 th Det.1 Eng. Co. Orderly Room	90	57	60
1043	1011 th Det.1 Eng. Co. Office	96	46	85

Table A-3.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
October 3, 2012

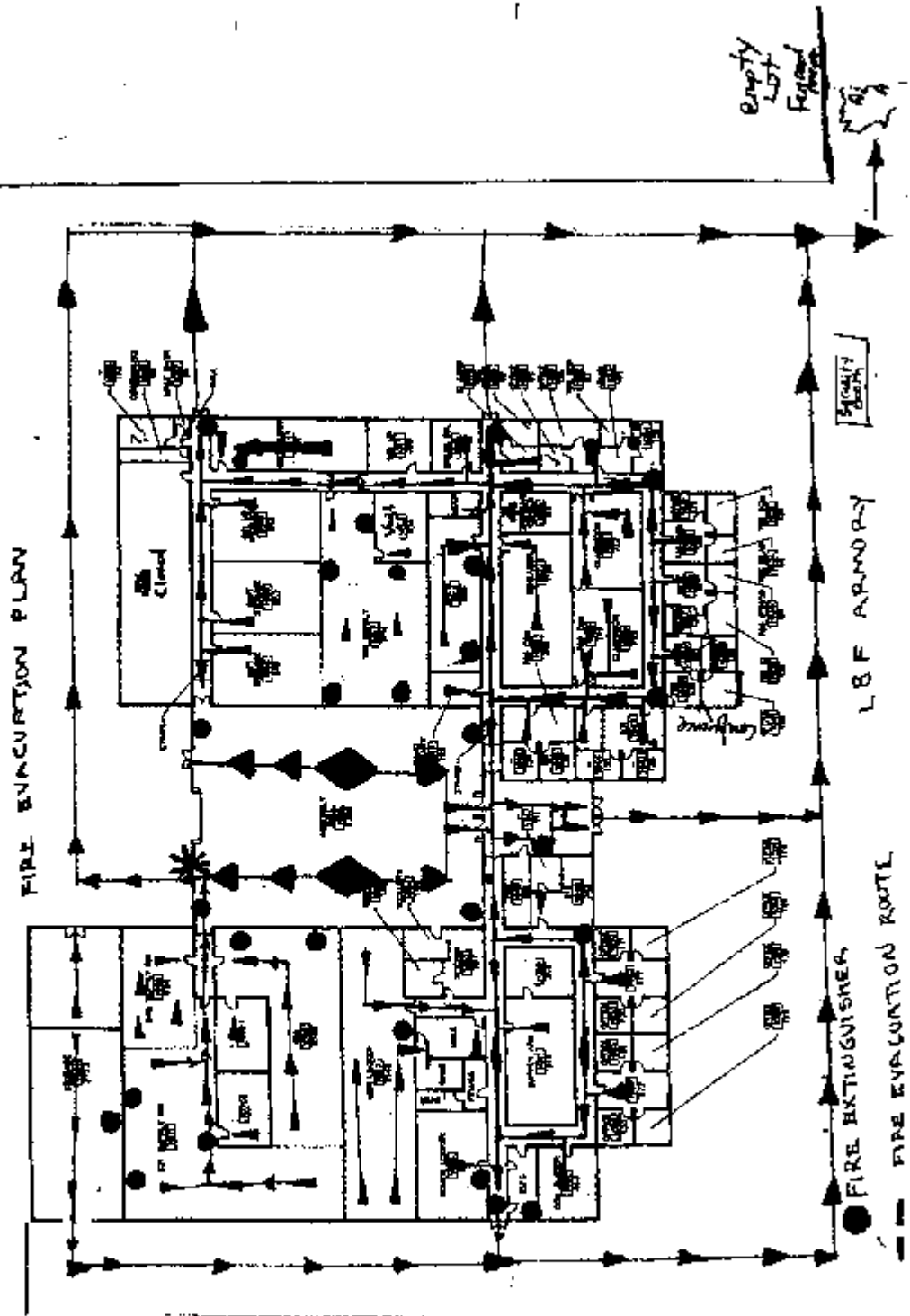
Layout #	Area	Maximum Reading Foot candle (ft-cd)	Minimum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
1044	1011 th Det.1 Eng. Co. Commander's Office	78	23	65
1029	786 th QM CSM Office	85	32	50
1028	73 rd Army Band Orderly Office	128	76	92
1045	73 rd Army Band Commander's Office	115	78	79
1046	73 rd Army Band Training NCO's Office	142	88	139
1025	73 rd Army Band Studio	27	1	10
1027	73 rd Army Band Rehearsal Area	114	75	103
1016	73 rd Army Band Supply Room	114	24	72
1017	786 th QM USPFO Representative Office	150	110	125
1014	786 th QM Area Empty Office	74	16	43
1008	73 rd Army Band Storage	20	9	18
1011	Distance Learning Center	73	8	28
1049	786 th Family Office	49	31	32
1048	512 MCT Reserve Office	103	48	90
1047	512 MCT Office	99	30	54
1052	694 th Ambulatory Det. Orderly Office	143	97	140
1050	694 th Ambulatory Det. Chaplain's Office	125	87	95
1051	694 th Ambulatory Det. Office	144	110	140
1053	694 th Ambulatory Det. Office	145	64	93
1054	694 th Ambulatory Det. EKG Room	142	83	140
1062	Computer Room	55	44	50
1055	610 th QM WS Co. Readiness NCO's Office	144	106	100

Table A-3.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
October 3, 2012

Layout #	Area	Maximum Reading Foot candle (ft-cd)	Minimum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
1056	610 th QM Commander's Office	167	105	150
1057	610 th QM WS Co. Orderly Office	137	69	114
1058	610 th QM Training NCO	157	109	120
1059	610 th QM 1 st SGT's Office	166	122	158
1002	640 th Supply Room	19	0	5
1068	610 th Supply Room	44	8	21
1068	610 th Supply Room Office	50	16	23
1071	1011 th Supply Room	56	7.5	11
1071	1011 th Supply Room Office	60	20	45
1001	1011 th Storage Area	19	0.3	3.0
1030	Conference Room	180	65	150
1063	Kitchen	120	70	80
1067	Men's Latrine	61	31	47
1067	Men's Locker Room	30	1	1
1066	Women's Latrine/Locker Room	63	10	60
1001	Fitness Room	82	25	45

Appendix B

* Your location/you are here



B-1

Appendix C



19-Oct-2012

Non-Responsive

Re: *Armory*

Work Order: **1210341**

Dear 

ALS Environmental received 9 samples on 15-Oct-2012 12:34 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me

Sincerely,

Non-Responsive

4000 510 4999 Glenview Illinois, IL 60045-4999 Phone: 847.634.1100 Fax: 847.634.1102
ALS Global P.O. Box 10000, 10000 10th Avenue, Denver, Colorado 80202

www.alsglobal.com

PEOPLE. SOLUTIONS. ENVIRONMENT.

ALS Environmental

Date: 19-Oct-12

Client: Tammier Sciences
 Project: Army
 Work Order: 1210341

Work Order Sample Summary

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1210341-01	STTAW01	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-02	STTAW02	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-03	STTAW03	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-04	STTAW04	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-05	STTAW05	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-06	STTAW06	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-07	STTAW07	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-08	STTAW08	Wipe		10-3-2012	10-15-2012 12:34	1
1210341-09	STTAW09	Wipe		10-3-2012	10-15-2012 12:34	1

ALS Environmental

Date: 19 Oct 12

Client: Tammer Sciences
Project: Armory
Work Order: 1210341

Case Narrative

The sample condition upon receipt was acceptable except where noted

Results relate only to the items tested and are not blank corrected.

MDLs and resulting Reporting Limits have been derived using wipe materials meeting ASTM E1792.

Page 1 of 1

3

ALS Environmental

Date: 10/03/12

Client: **Tanner Sciences** Work Order: **1210401**
 Project: **Amery**

Lab ID: **1210341-01A** Collection Date: **10/3/2012**
 Client Sample ID: **STTAW01** Matrix: **WIPP**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW6010B		Prep Date	Analyst
Lead	ND		4.0	µg/sample	1	10/16/2012 10/16/2012 00:20 PM

Lab ID: **1210341-02A** Collection Date: **10/3/2012**
 Client Sample ID: **STTAW02** Matrix: **WIPP**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW6010B		Prep Date	Analyst
Lead	ND		4.0	µg/sample	1	10/16/2012 10/16/2012 05:27 PM

Lab ID: **1210341-03A** Collection Date: **10/3/2012**
 Client Sample ID: **STTAW03** Matrix: **WIPP**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW6010B		Prep Date	Analyst
Lead	ND		4.0	µg/sample	1	10/16/2012 10/16/2012 05:32 PM

Lab ID: **1210341-04A** Collection Date: **10/3/2012**
 Client Sample ID: **STTAW04** Matrix: **WIPP**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW6010B		Prep Date	Analyst
Lead	ND		4.0	µg/sample	1	10/16/2012 10/16/2012 05:38 PM

Lab ID: **1210341-05A** Collection Date: **10/3/2012**
 Client Sample ID: **STTAW05** Matrix: **WIPP**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP			SW6010B		Prep Date	Analyst
Lead	ND		4.0	µg/sample	1	10/16/2012 10/16/2012 05:46 PM

Note:

ALS Environmental

Date: 10/03/12

Client: Tanager Sciences
 Project: Armory
 Work Order: 1210341

Lab ID: 1210341-06A
 Client Sample ID: STTAW06
 Collection Date: 10/3/2012
 Matrix: WIPP

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	61		5W601DB 4.0	µg/sample	Prep Date: 10/16/2012 1	Analyst: VAW 10/16/2012 09:52 PM

Lab ID: 1210341-07A
 Client Sample ID: STTAW07
 Collection Date: 10/3/2012
 Matrix: WIPP

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		5W601DB 4.0	µg/sample	Prep Date: 10/16/2012 1	Analyst: VAW 10/16/2012 09:50 PM

Lab ID: 1210341-08A
 Client Sample ID: STTAW08
 Collection Date: 10/3/2012
 Matrix: WIPP

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	ND		5W601DB 4.0	µg/sample	Prep Date: 10/16/2012 1	Analyst: VAW 10/16/2012 04:17 PM

Lab ID: 1210341-09A
 Client Sample ID: STTAW09
 Collection Date: 10/3/2012
 Matrix: WIPP

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
LEAD BY ICP Lead	47		5W601DB 4.0	µg/sample	Prep Date: 10/16/2012 1	Analyst: VAW 10/16/2012 04:23 PM

Note:

ALS Environmental

Date: 18-Oct-12

Client: Tammer Sciences

QC BATCH REPORT

Work Order: 1210377

Project: Airway

Batch ID: 13679 Instrument: ICP3 Method: SW6010B

MBLK Sample ID: mblk-13670-13670 Units: µg/sample Analysis Date: 10/16/2012 11:49 P
 Client ID: Run ID: ICP3_121016B Seq No: 514471 Prep Date: 10/16/2012 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RFD Ref Value	%RFD	RFD Limit	Qual
Lead	ND	4.0								

LCSB Sample ID: lcsb-13678-13670 Units: µg/sample Analysis Date: 10/16/2012 03:08 P
 Client ID: Run ID: ICP3_121019C Seq No: 518249 Prep Date: 10/16/2012 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RFD Ref Value	%RFD	RFD Limit	Qual
Lead	4487	4.0	4490	0	99.9	60-120	0			

LCSB Sample ID: lcsb-13670-13670 Units: µg/sample Analysis Date: 10/16/2012 03:14 P
 Client ID: Run ID: ICP3_121018C Seq No: 516720 Prep Date: 10/16/2012 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RFD Ref Value	%RFD	RFD Limit	Qual
Lead	4417	4.0	4490	0	98.4	60-120	4487	1.57	20	

The following samples were analyzed in this batch:

1210341-01a	1210341-02a	1210341-03a
1210341-04a	1210341-05a	1210341-06a
1210341-07a	1210341-08a	1210341-09a

Note: See Qual Data Page for a list of Qual/Spk and their assignments.

QC Page: 1 of 1

ALS Environmental

Date: 19-Oct-12

Client: Tammer Sciences
Project: Armory
WorkOrder: 1210341

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
u	Not accredited
D	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCS/D	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MDL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PCS	Post Digestion Spike
PQL	Practical Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/sample	

ALS Environmental

Sample Receipt Checklist

Client Name: TAMMIE-NAPER-LAWRENCE

Date/Time Received: 15-Oct-12 12:34

Work Order: 1210341

Received by: KMY

Checklist completed by: Non-Responsive

15-Oct-12
Date

Reviewed by: Non-Responsive

16-Oct-12
Date

Matrices:

Carrier name: Priority US Mail

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s):

[Empty input field]

Cooler(s)/Igt(s):

[Empty input field]

Water - VOA vials have zero headspace?

Yes No No VOA vials submitted

Water - pH acceptable upon receipt?

Yes No N/A

pH adjusted?

Yes No N/A

pH adjusted by:

[Empty input field]

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

[Empty input field]

Corrective Action:

[Empty input field]

SRC Page 1 of 1



ANALYTICAL RESPONSE

REGULAR

REQUEST FOR ANALYSIS

Date 10/1/12
 Company Name Tanner Sciences, Inc.
 Address 3744 Lawrence Dr
Norpsville TN 37056
 Person to
 Email Add
 Telephone
 Fax Tele

Non-Responsive

South Region IIT
College Park, GA

Armory
10/3/2012

1210341

Laboratory Use Only	TRACER	Lot #	Notes
01	STAW#1	BabyWipe	Lead
↓	↓	↓	↓
09	STAW#9		

CHAIN OF CUSTODY

Non-Responsive

Appendix D

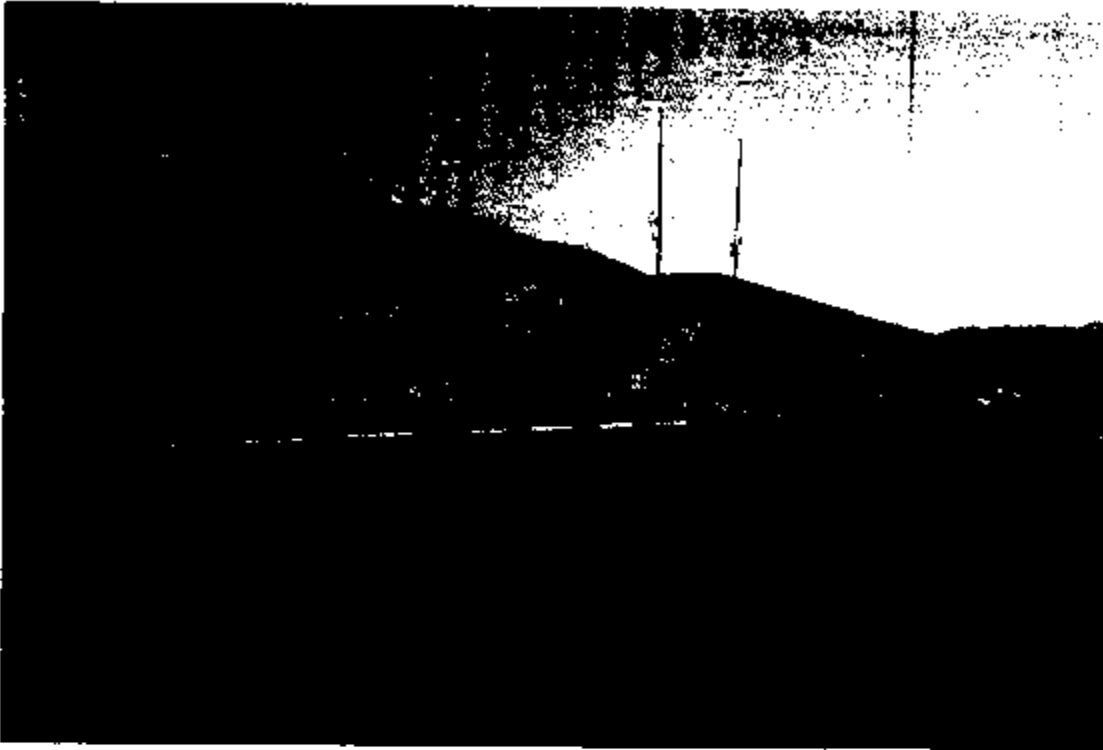


Photo #1: Front entrance of the VIARNG Armory Building.



Photo #2: Rear entrance of the VIARNG Armory Building..

D-1

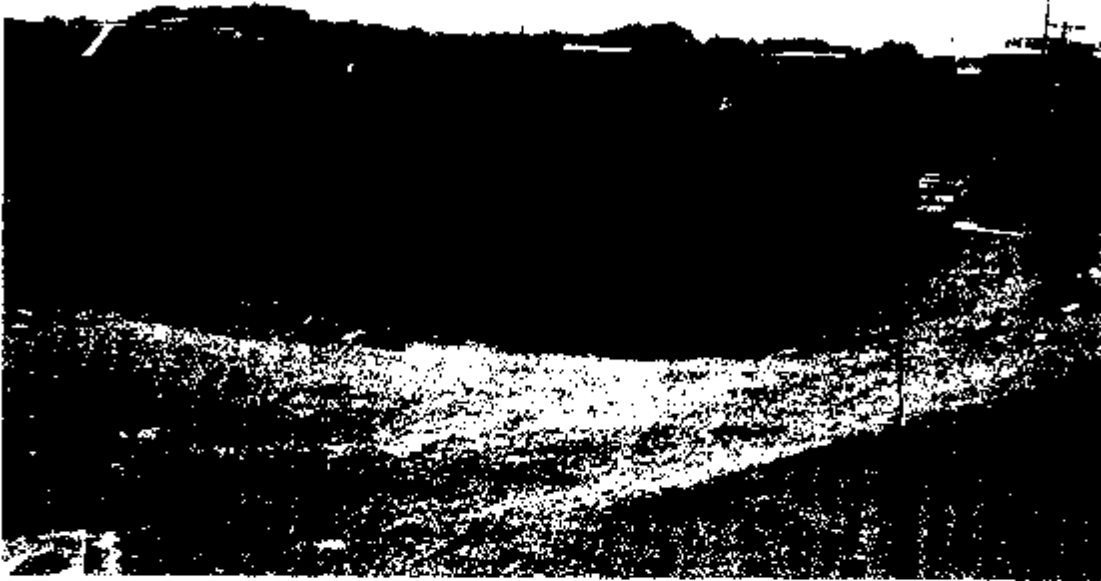


Photo #3: Northwest Corner of the Armory.



Photo #4: Northeast Corner of the Armory.

D-3

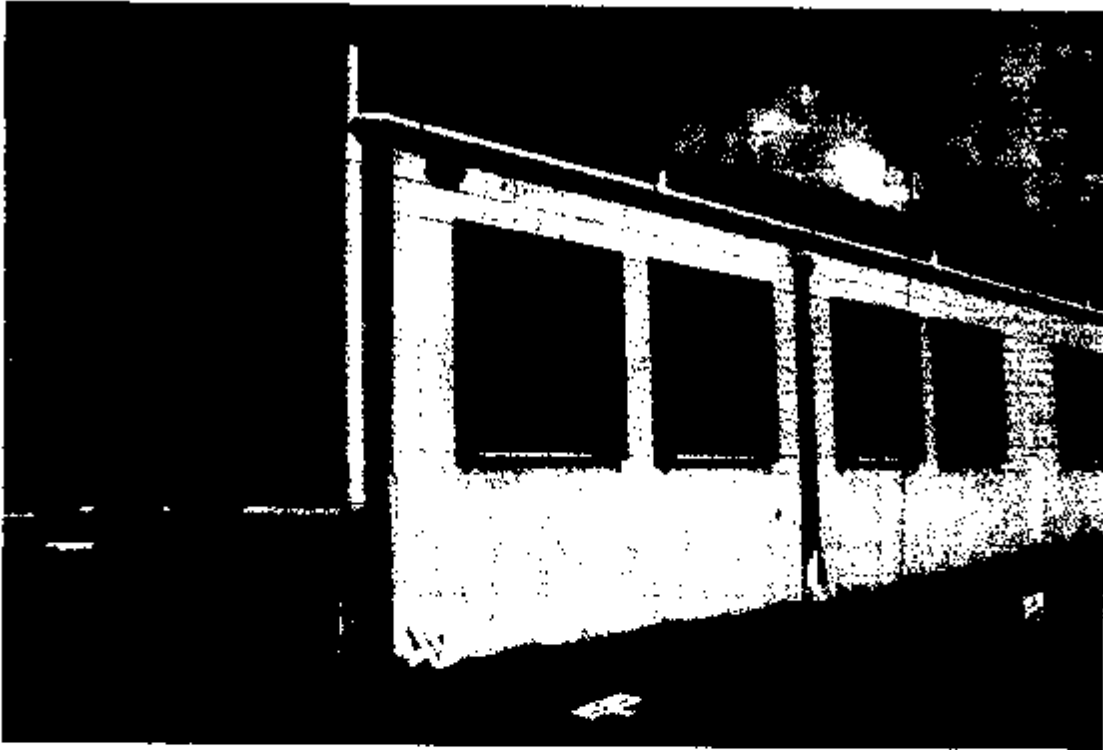


Photo #5: Southeast corner of the Armory showing the improved gutter drainage.



Photo #6: Rain gutters in need of repair on the south end of the building.



Photo #7: Armory Drill Hall facing north.



Photo #8: Armory Drill Hall facing south.

D-4

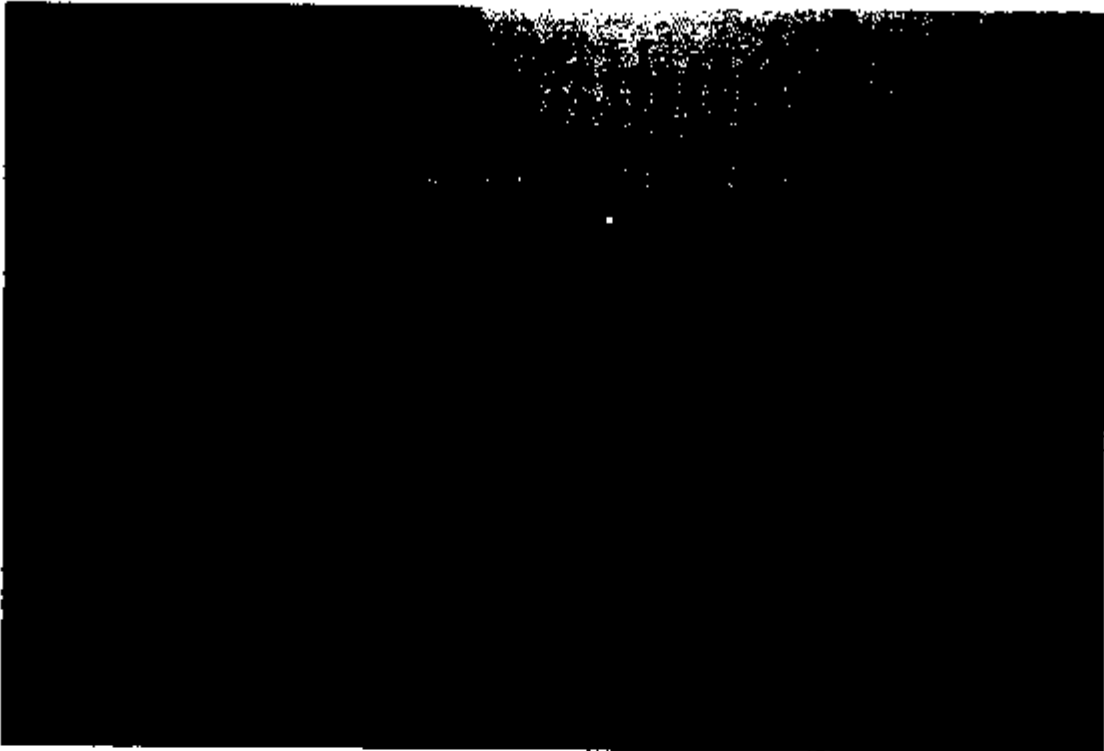


Photo #9: Army band studio stained ceiling tiles.

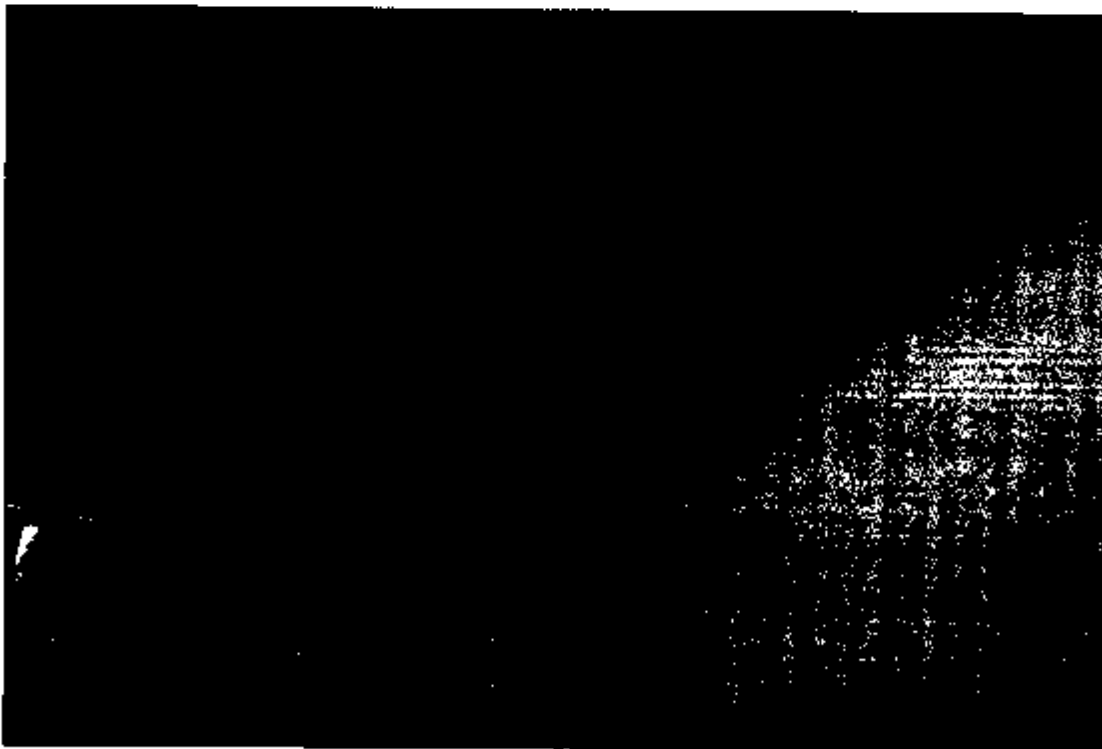


Photo #10: Evidence of water leaks on the ceiling above the east entrance.

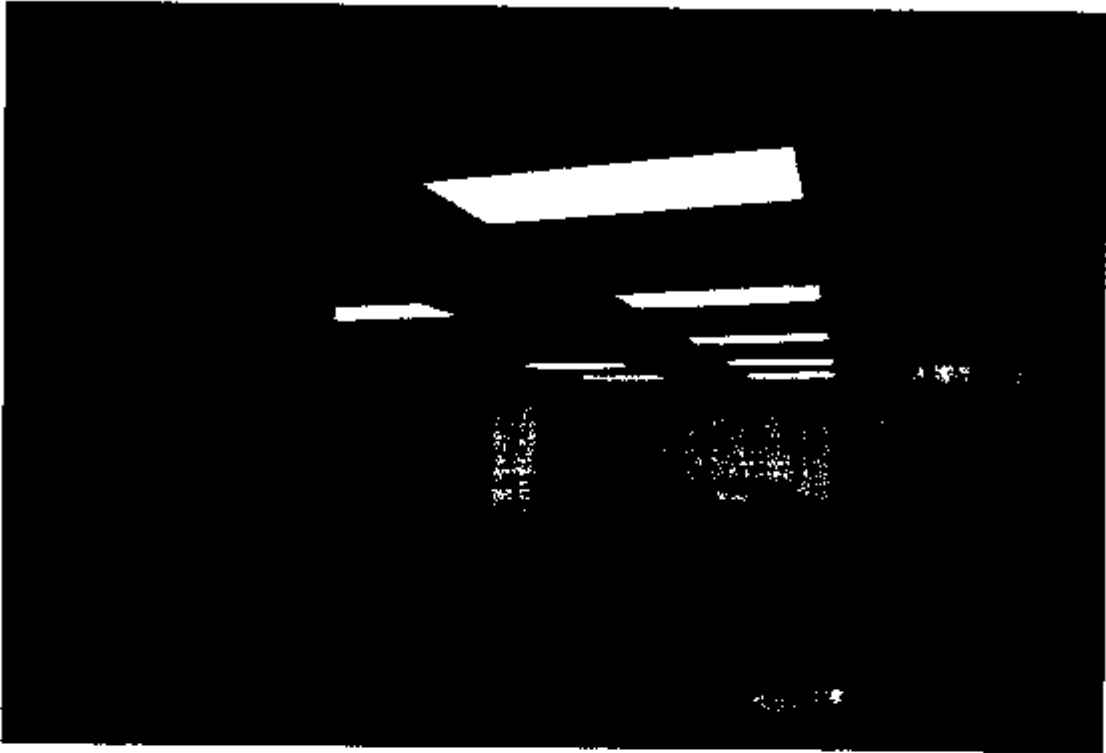


Photo #11: Distance Learning Center – showing stained ceiling tiles.

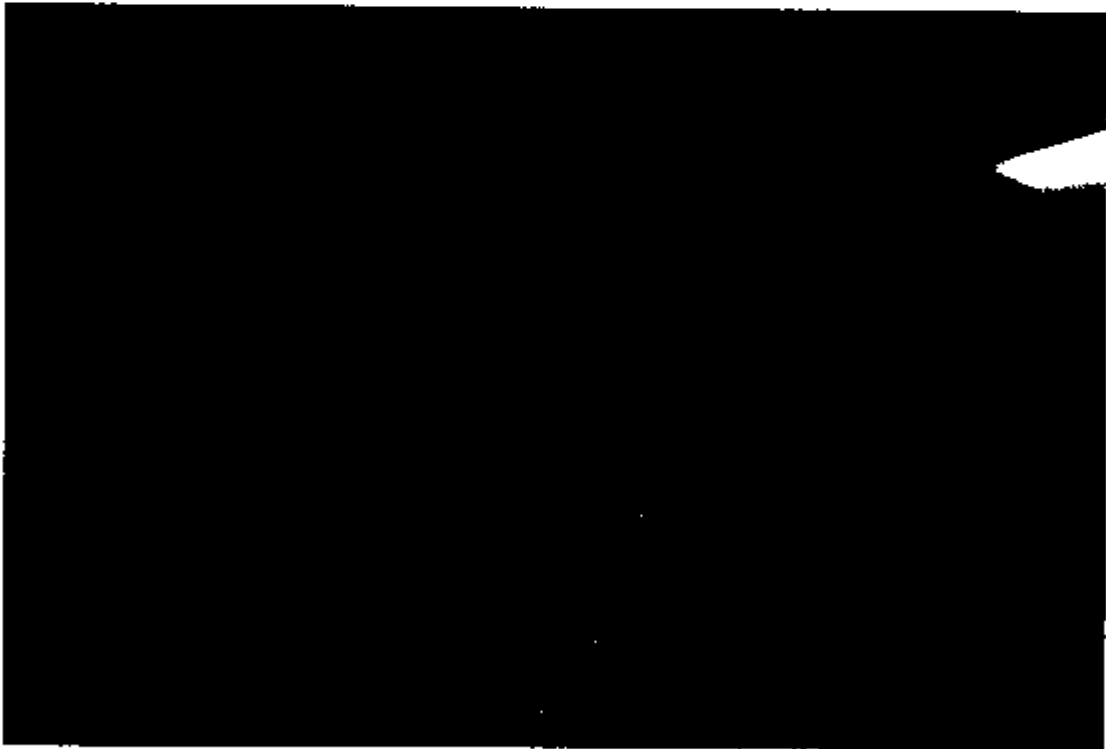


Photo #12: East wall in the distance learning center showing water leaks.



Photo #13: 610th QM office supply diffuser.



Photo #14: Another 512th TC Det office supply diffuser.

D-7

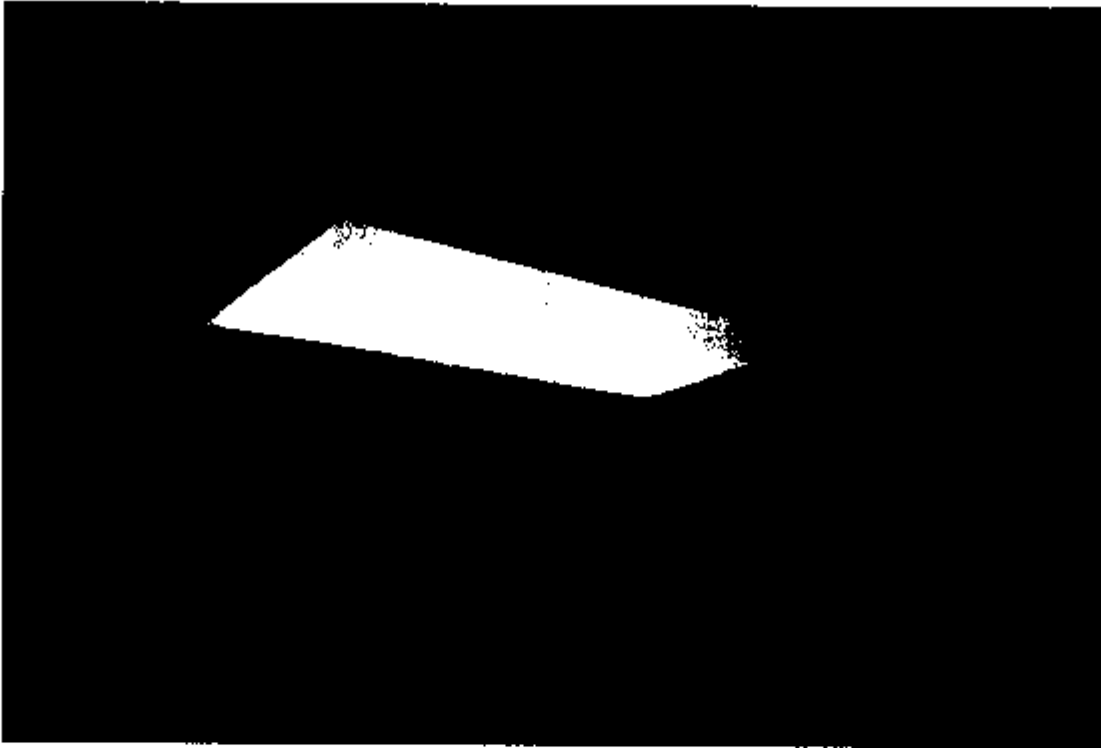


Photo #15: Water stains on the ceiling of the main hallway.

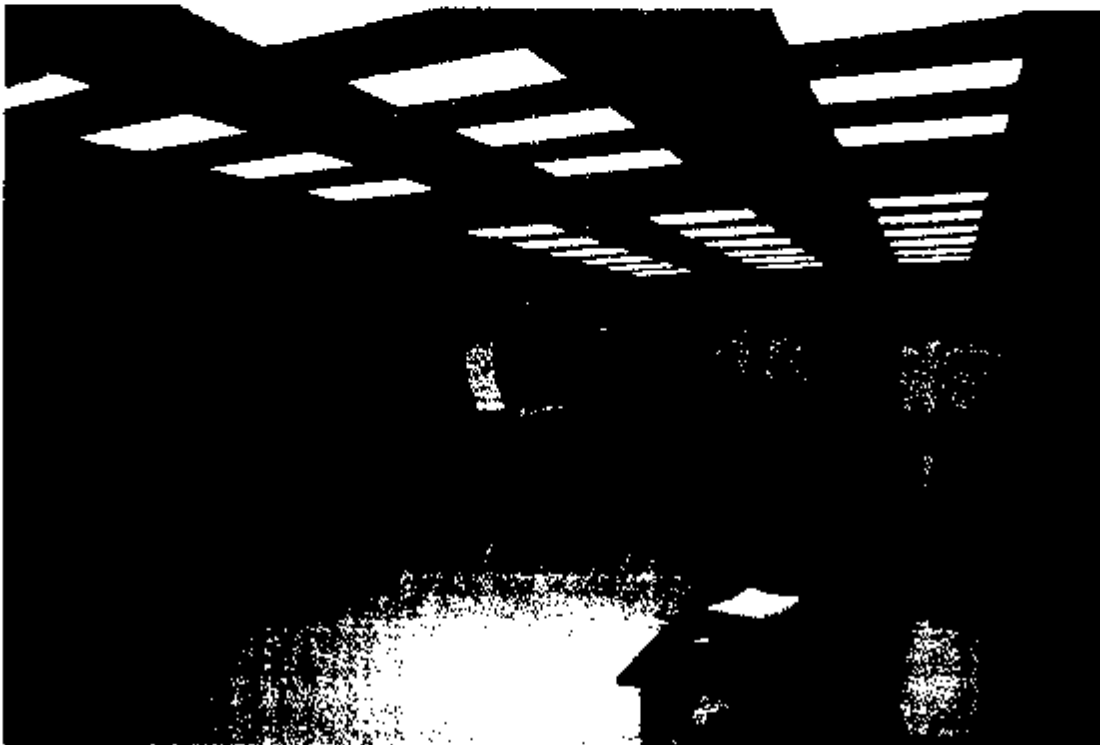


Photo #16: Armory conference room.

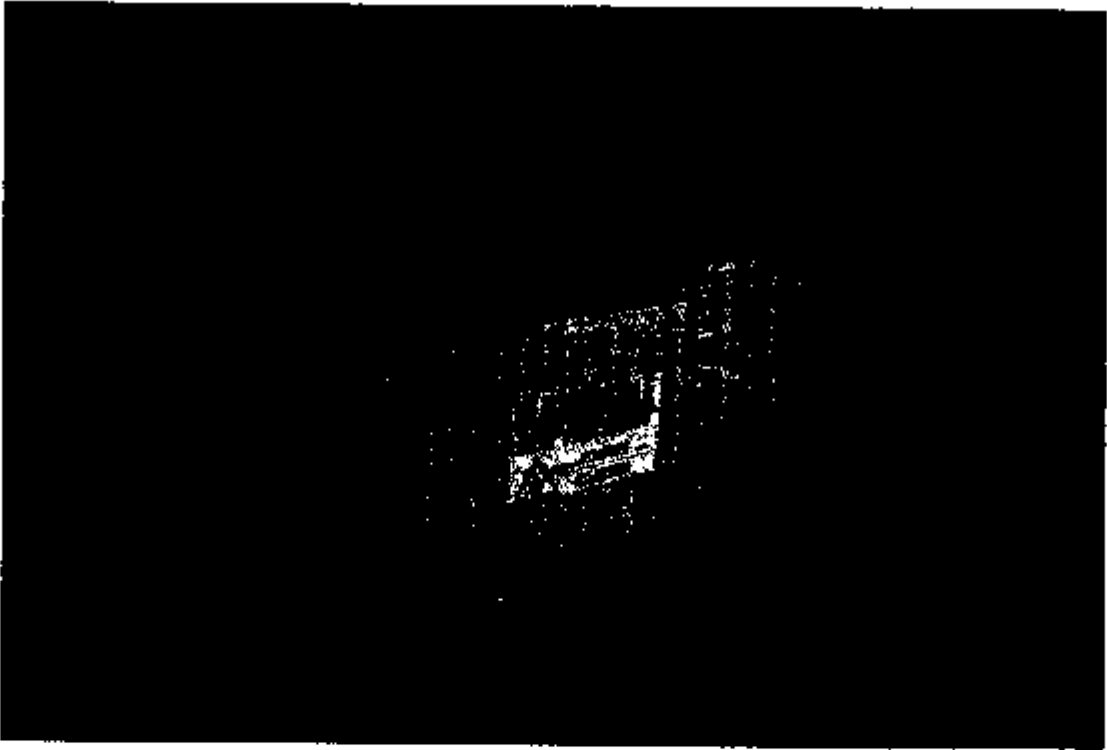


Photo #17: Flammable storage cabinets in the supply area showing MSDS book on top.



Photo #18: Inside the flammable storage cabinet.

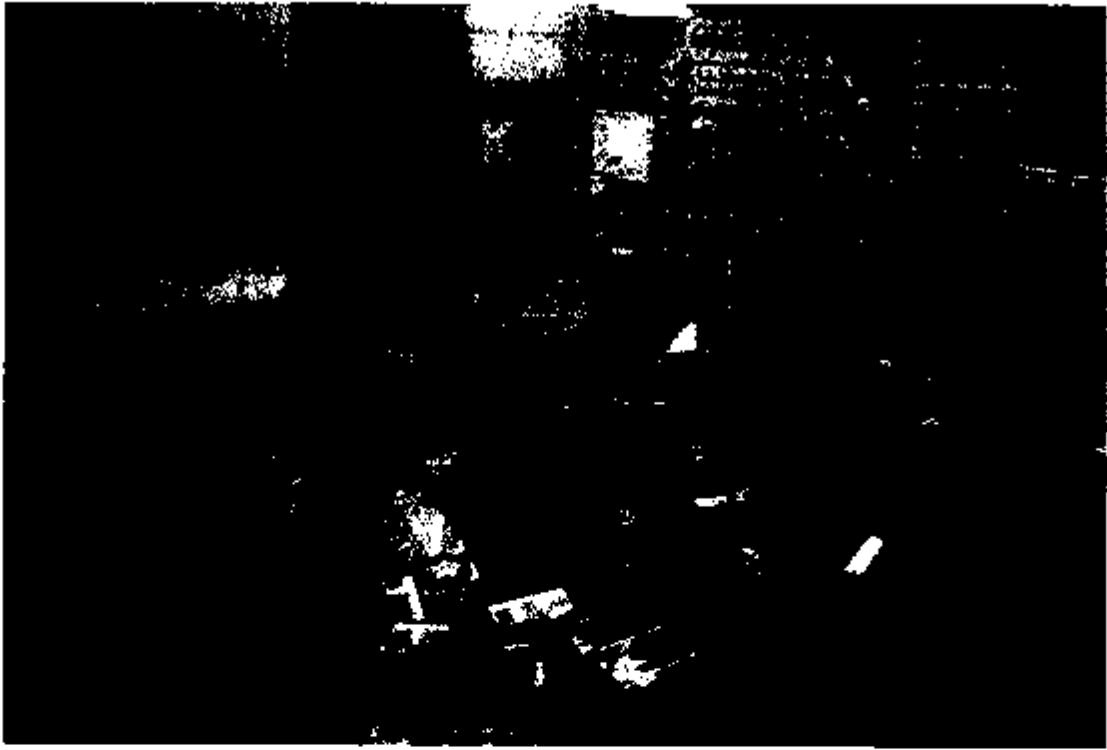


Photo #19: Chemicals stored in the storage room.

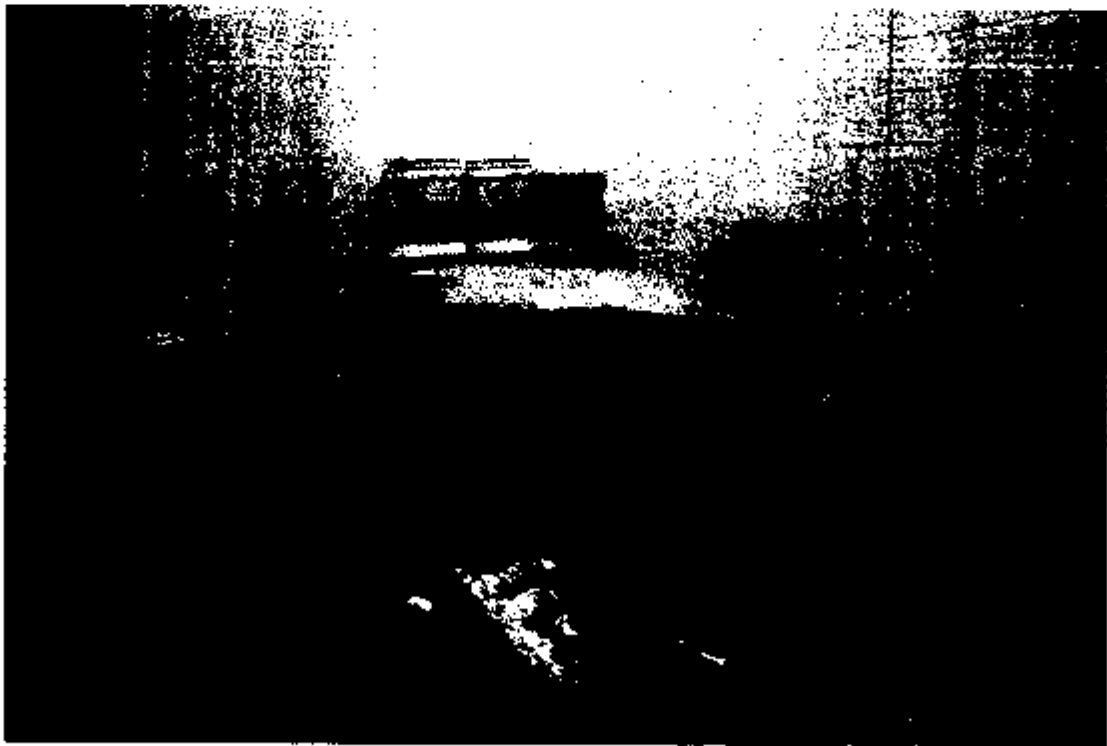


Photo #20: More chemicals stored in the storage room.

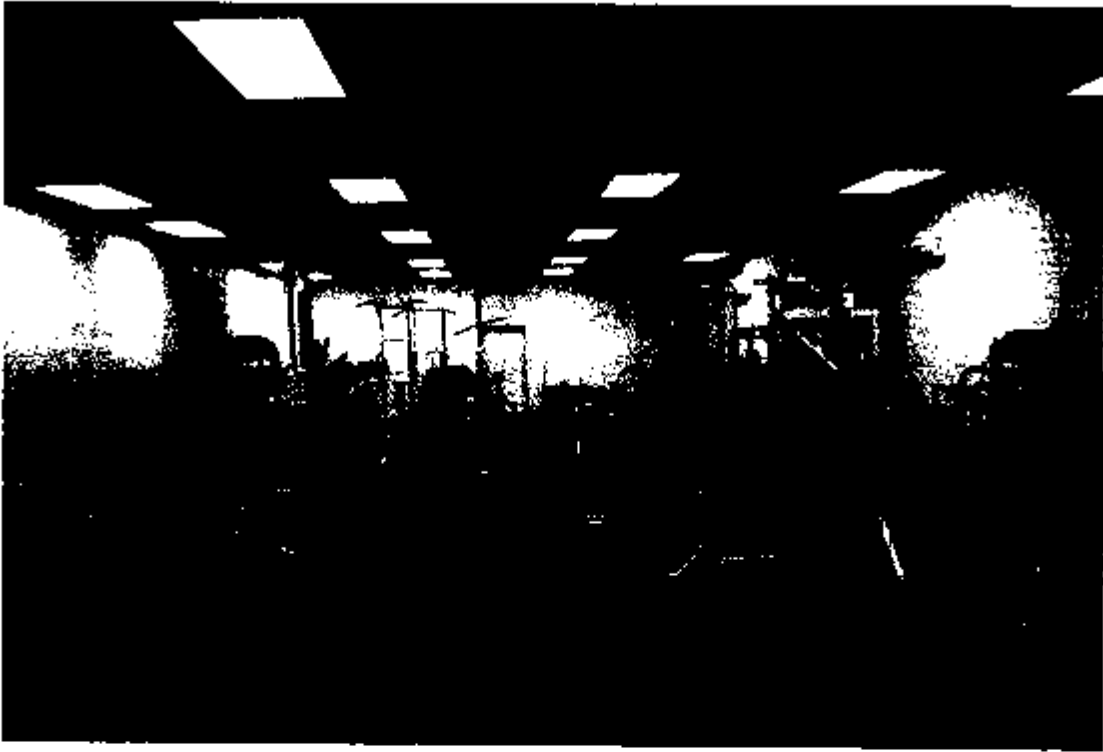


Photo #21: Armory's fitness center.



Photo #22: Kitchen.

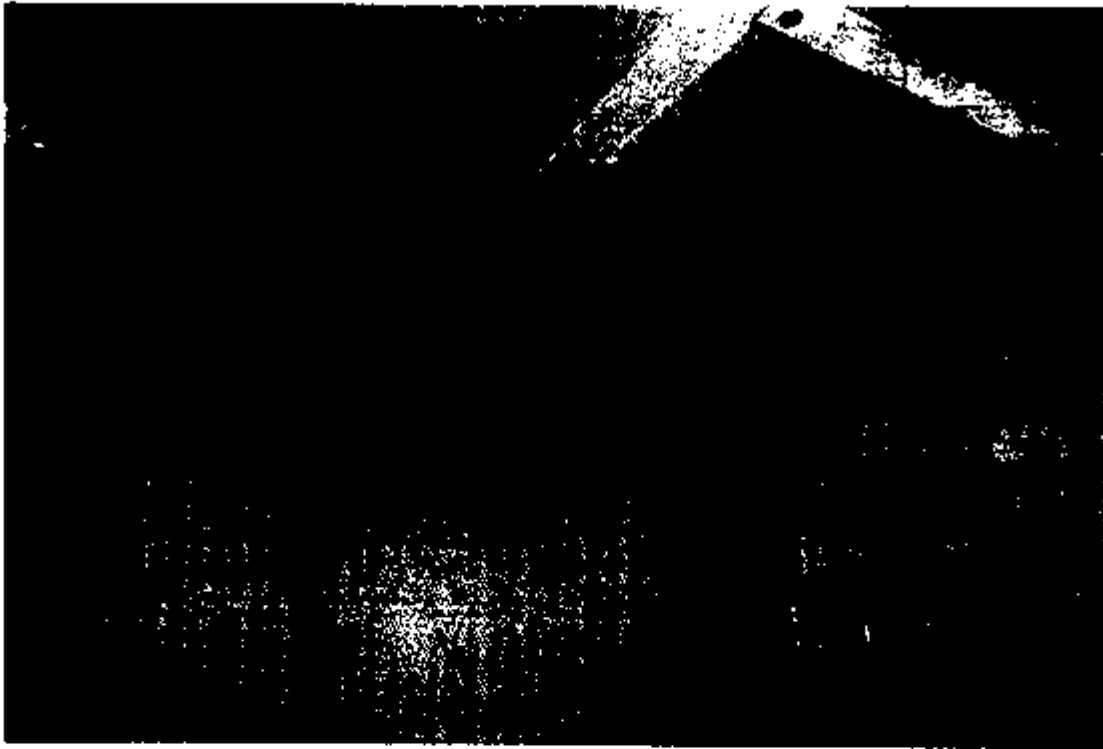


Photo #23: Air handler filters in need of changing.

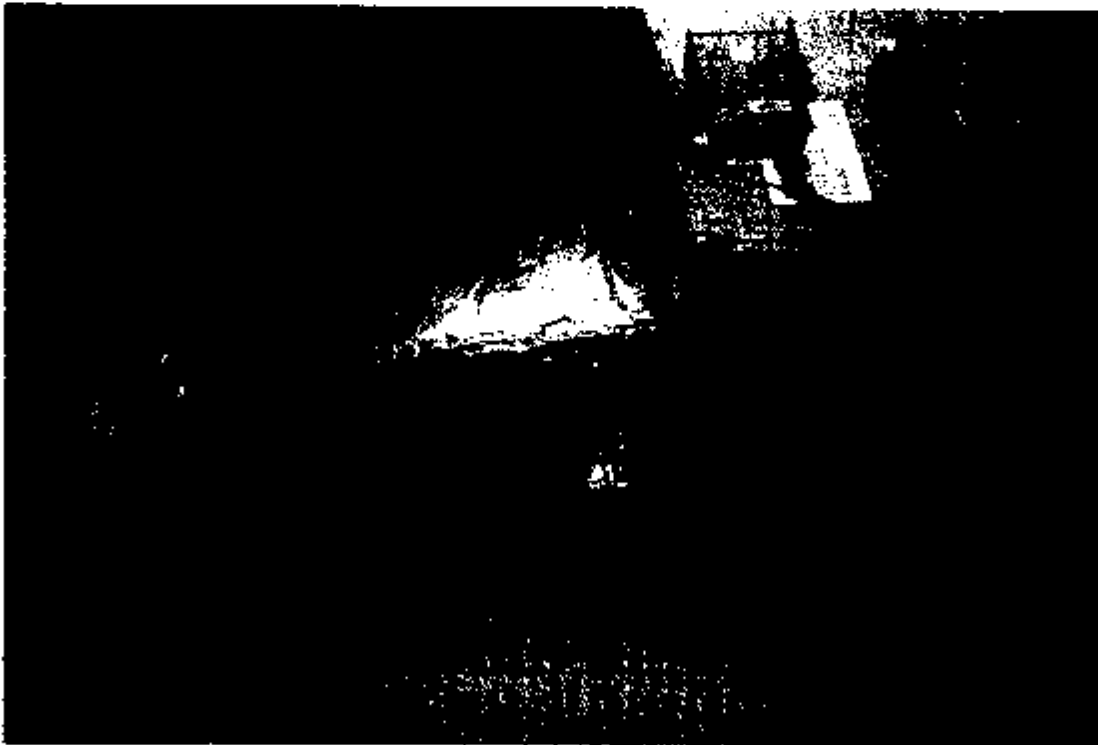


Photo #24: Rust spots on the air handler a sign of poor drainage of condensate.

Appendix f:



CERTIFICATE OF CALIBRATION AND TESTING

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

ENVIRONMENT CONDITION		MODEL	964
TEMPERATURE	67.3 (19.7) °F (°C)	SERIAL NUMBER	P12230042
RELATIVE HUMIDITY	54 %RH		
BAROMETRIC PRESSURE	29.03 (983.1) inHg (hPa)		

AS LEFT IN TOLERANCE
 AS FOUND OUT OF TOLERANCE

- CALIBRATION VERIFICATION RESULTS -

TEMPERATURE VERIFICATION				SYSTEM T-100			Unit: °F (°C)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	32.0 (0.0)	32.0 (0.0)	31.5-32.5 (-0.3-0.3)	2	140.0 (60.0)	140.0 (60.0)	139.5-140.5 (59.7-60.3)

HUMIDITY VERIFICATION				SYSTEM H-100			Unit: %RH
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	10.0	9.5	7.8-12.2	4	90.0	89.4	67.8-72.2
2	30.0	29.4	27.8-32.2	5	90.0	89.0	87.8-92.2
3	50.0	49.6	47.8-52.2				

VELOCITY VERIFICATION				SYSTEM V-10R			Unit: ft/min (m/s)
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	0 (0.00)	0 (0.00)	-3-3 (-0.02-0.02)	7	645 (3.28)	641 (3.26)	625-664 (3.18-3.31)
2	35 (0.18)	36 (0.18)	32-38 (0.16-0.19)	8	996 (5.06)	977 (5.06)	966-1026 (4.91-5.31)
3	65 (0.33)	66 (0.33)	62-68 (0.31-0.35)	9	1470 (7.47)	1450 (7.47)	1425-1515 (7.24-7.65)
4	100 (0.51)	100 (0.51)	97-103 (0.49-0.52)	10	2311 (12.76)	2311 (12.76)	2306-2367 (12.37-13.14)
5	160 (0.81)	160 (0.81)	155-165 (0.79-0.84)	11	4509 (22.90)	4529 (23.01)	4373-4644 (22.22-23.59)
6	330 (1.67)	329 (1.67)	320-339 (1.62-1.72)	12	7998 (40.63)	8048 (40.88)	7758-8238 (39.41-41.85)

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

Measurement Variable	System ID	Last Cal	Cal Due	Measurement Variable	System ID	Last Cal	Cal Due
Temperature	E003304	02-20-12	06-20-12	Temperature	E003305	02-20-12	06-20-12
Humidity	E003296	09-08-11	09-08-12	Pressure	E001557	06-06-12	12-06-12
Pressure	E001556	05-04-12	12-04-12	DC Voltage	E001558	09-12-11	11-04-12
Velocity	E003327	10-14-07	09-19-12	Temperature	E001552	01-20-12	07-20-12

Non-Responsive

June 7, 2012

DATE

**CERTIFICATE MAY
 BE COPIED
 RETURN ORIGINAL**



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

ARNG-CSG

March 16, 2015

MEMORANDUM Adjutant General VI ARNG, ATTN: **Non-Responsive**, Deputy State Surgeon
4031 la Grande, Princesse Lot IB, Christiansted, Virgin Islands 00820-4353

SUBJECT: Transmittal of Industrial Hygiene Survey Report of VIARNG SFC L. Francis
Readiness Center, St. Thomas, VI

1. References.

- a. OSHA Standards 29 CFR (Code of Federal Regulations), General Industry, revised 1996 rev.
- b. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
- c. Title 29, Code of Federal Regulations (CFR), 2009 rev., part 1910, Occupational Safety and Health Standards.
- d. Title 29 CFR, General Industry, revised 1996 rev. Part 1940
- e. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007
- f. AR 385-10, the Army Safety Program, 23 August 2007.
- g. AR 11-34, 15 February 1990, the Army Respiratory Protection Program.
- h. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 12 September 2008.
- i. TB MED 503, the Army Industrial Hygiene Program, 30 October 2000.
- j. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- k. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- l. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection.

2. General. At the request of **Non-Responsive** Deputy State Surgeon and the Safety & Occupational Health Office an Industrial Hygiene Service was put together to conduct an IH Survey of the VI ARNG SFC L. Francis Readiness Center, St. Thomas, USVI.

3. Findings. All sampling data and field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1) Operations of very short duration were not sampled due to the requirements of the sampling method. If the operation changes or if the

SUBJECT: Transmittal of Industrial Hygiene Survey Report of VIARNG SFC L. Francis
Readiness Center, St. Thomas, VI
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. The remarks 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 Action Plan (IHAP) for FY2015. A follow up operation and hazard specific air sampling survey based on the enclosed findings will be included in the FY2016 IHAP.
- c. Have all HHIM data entered into the HHIM computer module.
- d. Use the report to help in correcting all deficiencies noted.
- e. 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.
- f. Contact the State Occupational Health Office, for any medical Surveillance that may be needed.
- g. To execute your responsibilities in correcting all deficiencies, coordinate with the Occupational Health Nurse and the Occupational Safety and Health Office for technical guidance.

Non-Responsive

State Safety Manager, ATTN: **Non-Responsive** Grande Princess, Lot
1B, Christiansted, St. Croix USVI 00820-4353.

ENCL.

as

Industrial Hygiene Survey Report

For

U.S. Virgin Islands Army National Guard

At

SFC L. Francis Readiness Center
St. Thomas, VI.

Prepared for:

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

By

Non-Responsive

3744 Lawrence Drive
Naperville, IL 60564

February 28, 2015

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- I. Executive Summary
- II. Introduction
- III. Background
- IV. Scope of Work
- V. Sampling Methods
- VI. Discussion
- VII. Recommendations

Appendices

- A. Summary of Results.
- B. Floor Layout
- C. Photos.
- D. Laboratory Report and Chain of Custody Form.
- E. Certificates of Calibration

I. EXECUTIVE SUMMARY

At the request of the National Guard Bureau Region South Industrial Hygiene Office, field personnel conducted an industrial hygiene survey in the U.S. Virgin Islands Army National Guard (VIARNG) SFC L. Francis Readiness Center located in Saint Thomas, Virgin Islands on November 19, 2014. This survey was requested by VIARNG as part of the VIARNG Safety and Occupational Health program to ensure safe and healthful workplaces.

Carbon dioxide (CO₂) readings, which are commonly used as an indicator of makeup air volume being introduced to the occupied spaces, were within an acceptable range. Readings ranged from 482 to 687 part per million (ppm). The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) recommends providing a minimum of 20 cubic feet per minute (CFM) outside makeup air per person to maintain the indoor CO₂ level below 1000 ppm. Carbon monoxide levels were all less than 1 ppm.

Temperature and relative humidity readings in the occupied office areas during the survey period ranged from 65 to 85 degree Fahrenheit (°F) and from 34% to 65%, respectively. The relative humidity readings are outside the ASHRAE recommended guideline range of 30% to 60%. It is important to maintain the relative humidity within the recommended 30% to 60% range so as to minimize the growth of allergenic and pathogenic organisms.

Surface wipe samples for lead ranged from less than 3 micrograms per square feet (ug/ft²) to 380 ug/ft². Two areas, namely the rifle racks in both supply room vaults, had lead levels at or above the NGB recommended limit of 200 ug/ft². The remainder of the areas sampled were well below the limit.

Average illumination levels as measured throughout the facility ranged from 7 to 137 foot candles throughout the facility. Except for two areas that needed light bulb replacements, most lighting levels were within the recommended ranges for the areas measured. No sources of excessive noise were identified throughout the Readiness Center.

Chemical storage was found to be proper in the flammable cabinets with no incompatibilities. MSDSs were available near the storage cabinets.

Stained ceiling tiles and walls which denotes water leaks and a potential for mold growth, were observed in various parts of the Readiness Center to include the hallway ceiling, the office of the Battalion S4, the 773rd Army Band Studio, Rehearsal, and Supply Room, the assembly hall wall, and the distance learning center. These water leaks should be isolated and repaired as soon as

feasible. Standing water was observed in the air handler condensate pan serving the west end of the building.

Based on the walkthrough and the above observations, microbiological air and wipe sampling was deemed unnecessary at this time. However, all water leaks should be addressed and a proper maintenance program for the HVAC system should be in place in order to maintain good air quality in the Readiness Center. Other recommendations are listed herein.

II. INTRODUCTION

Non-Responsive CIH representing the National Guard Bureau, South Regional Industrial Hygiene Office, and **Non-Responsive** representing the VIARNG Occupational Safety and Health Office conducted an industrial hygiene survey at the SFC L. Francis Readiness Center located in St. Thomas, Virgin Islands on November 19, 2014. The purpose of the survey was to identify potential health hazards present at the Readiness Center as part of the Virgin Islands Army National Guard Occupational Health Program.

This survey was conducted in the interest of assisting in preventing employee illness and in meeting legal obligation where applicable. Based on information provided, reasonable effort was made to conduct a comprehensive survey covering the parameters considered. Results and recommendations are based on samples taken and conditions observed during the survey. Changes in operating conditions, materials used and work practices can alter the quality of air and the outcome of this type of survey.

III. BACKGROUND

The readiness center building, which was built in 1991, is a one story structure with approximately 43,500 square feet of space. The building consists of a large assembly/drill hall surrounded by offices, and supply rooms on three sides. A copy of the floor layout is included in Appendix B. The readiness center houses a number of units including the 610th Quarter Master Company, 631st DET 1 1011th Engineer Company, 73rd Army Band, and the HHC 786th Combat Sustainment Support Battalion (CSSB). Other units that use the Readiness center include the 512th TC DET (MCT).

The Heating Ventilating and Air Conditioning (HVAC) system for the building consisted of six air-handlers with cooling and heating capabilities. One air handler is located above the suspended ceiling in the east side and the second in the break room. These two air handlers serve the east side offices. One air handler is located in the 610th Quarter Master Company office space and it serves the west side offices. Three air handlers are suspended from the assembly hall ceiling and they serve the assembly hall. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings.

IV. SCOPE OF WORK

The survey included the following work:

- Conduct a safety walkthrough of the Readiness Center;
- Identify sources of noise within the facility;
- Collect lead surface wipe samples;
- Evaluate and follow-up on any Indoor Air Quality (IAQ) issues;
- Perform air monitoring, if necessary;
- Measure the volumetric flow of local exhaust ventilation systems where available;
- Measure illumination levels in all accessible areas of the facility;
- Review hazardous material storage and use procedures.

Air monitoring consisted of collecting carbon dioxide and monoxide readings, and temperature and relative humidity readings as indoor air quality parameters. Observations for water leaks or water damaged building material were also noted.

V. SAMPLING METHODS

Carbon dioxide, carbon monoxide, temperature and relative humidity readings were measured using a TSI VelociCalc Model 9565-P handheld meter with TSI 982 Probe for Temperature/Humidity/CO/CO2, calibration dates: June 2014. Serial number 9565P1423027.

Lead wipe samples were collected from various surfaces in the Readiness Center 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 ALS laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory.

Illumination measurements were collected using an EXTECH Model 407026 light meter. Measurements were taken on desk surfaces and in office areas approximately four feet from the floor.

VI. DISCUSSION

Carbon dioxide (CO₂) readings, which are commonly used as an indicator of makeup air volume being introduced to the occupied space ranged from 482 to 687 ppm in the occupied office areas. Refer to Table A-1 in Appendix A. These levels are well below the Occupational Safety and Health Administration (OSHA) regulated Permissible Exposure Level (PEL) of 5,000 ppm and the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) guideline level of 1000 ppm. ASHRAE document Standard 62 Ventilation for Acceptable Indoor Air Quality, (62.1 2013) recommends a minimum of 20 cubic feet per minute (CFM) outside makeup air per person to be delivered to the occupied space during normal occupancy. Based on this minimum amount of outside makeup air and a typical office population density of 7 employees per 1000 square feet of space, indoor CO₂ levels should not exceed 1000 ppm. Carbon monoxide readings, which are an indicator of a combustion source, were all below 0.1 ppm.

Temperature and relative humidity readings in the occupied office areas during the survey period ranged from 65 to 85 degree Fahrenheit (°F) and from 34% to 65%, respectively. These readings are outside the ASHRAE recommended guideline range of 30% to 60%. This range is recommended to minimize growth of allergenic and pathogenic organisms. Refer to Table A-1 in Appendix A. Outdoor temperature and relative humidity readings were 89 - 92 °F and 67 - 71%, respectively.

Surface wipe samples for lead ranged from 3 micrograms per square feet (ug/ft²) to 380 ug/ft². 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. Except for two samples, all sample results were below the NGB recommended limit of 200 ug/ft². One sample collected from the top of a rifle rack in the 631/1011 vault and

the other from the top of a rifle rack in the 786th vault were at or above the recommended 200 ug/ft². These areas should be wiped down using a wet method in order to clean up the lead contamination. The laboratory report and chain of custody forms are attached in Appendices D. Illumination levels were measured throughout the facility at task surface level, such as on desks or work benches. Table A.3 in Appendix A lists the measurements in each area within the facility. Measurements not taken on a desk or workbench were taken at waist level or approximately 4 feet from the floor. Average levels ranged from 7 to 137 foot candles throughout the facility. The illumination measurements were compared with recommendations made by the Industrial Engineering Society (IES)/American National Standards Institute (ANSI) RP7-1991 and 41 CFR 101-20-107, Energy Conservation Rule, Federal Property Management Regulations. In general, 50 FC is the minimum lighting requirements for the performance of tasks where reading is required, 30 FC is required for work areas where reading is not required, 10 FC is required for non-work areas, such as aisles and corridors, and 5 FC is required for walking surfaces, such as mechanical spaces. 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. Supplemental lighting is used for specific work in darker areas, such as at desktop level. Lighting levels in the readiness center were within the recommended ranges for the applicable area except for two areas, the army band studio and the 786th family office. The lighting levels in the band studio were the result of burnt out bulbs. Many light bulbs were found to be in need of replacement in the band studio. However, the 786th office was maintained at this level because of personal preference.

Based on observations during the walkthrough baseline survey, no sources of excessive noise were identified. No area noise readings were collected.

Hazardous materials used in the Readiness Center consisted of industrial type cleaning supplies

stored in the janitor's closet and other chemicals stored in flammable cabinets in the various supply rooms within the facility. All flammable storage cabinets had Material Safety Data Sheets available for the chemicals stored in them. All containers were properly labeled and no storage incompatibilities were found.

Finally, a number of stained ceiling tiles, as evidence of water leaks, were observed during the walkthrough in the S4 Office, distance learning center, the 773rd Army Band Studio, Rehearsal, and Supply Room. Other water leak staining was observed in the distance learning room, the assembly hall northeast wall, and hallway ceiling outside the 610 QM Co. offices. Refer to photos in appendix C. These water leaks should be isolated and repaired as soon as feasible. It is very important to repair all water leaks and replace or clean and disinfect the contaminated building materials. Standing water in the west side air handler condensate pan was noted. This standing water is a source of mold growth if it is not drained. The drain to the condensate pan should be repaired to prevent any water from accumulating without proper drainage. Refer to photo #9 in Appendix C. This could be an indication of HVAC system lack of maintenance. A scheduled maintenance program is necessary to keep all systems working properly; filter changes, ensuring proper drainage of condensate pans, and adequate supply of outside makeup air are examples of a proper maintenance program elements. On the exterior of the building, the roof gutter on the west wall had evidence of water staining indicating improper drainage. These gutters should be repaired and drained properly similar to the gutters found on the east wall of the building.

Finally, a fire extinguisher in the army band supply room was found with the last inspection performed last year. All fire extinguishers should be inspected monthly and tested annually. See photo #22

Based on the walkthrough and the above observations, microbiological air and surface wipe sampling was deemed unnecessary at this time. However, all water leaks should be addressed and the proper maintenance program for the HVAC system should be in place in order to maintain good air quality in the Readiness center. Also, clean and disinfect all stained supply air diffusers.

VII. RECOMMENDATIONS

1. Repair all water leaks as soon as feasible.
2. Replace the water stained/damaged ceiling tiles in all areas as highlighted above.
3. Repair the walls in the assembly hall and distance learning center.
4. Implement a maintenance program for the Readiness center HVAC system that will ensure regular filter changes and proper condensate pan drainage.
5. Repair the roof gutters on the west end of the building.
6. Replace the light bulbs in the band rehearsal room.
7. Clean the rifle racks in the supply room vaults.
8. Ensure that all fire extinguishers are inspected monthly and tested annually.

Appendix A

Table A-1.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Readiness Center
St. Thomas, VI
November 18, 2014

Layout #	Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
1003	Assembly Hall	432	<0.1	82.6	71.2
	Assembly Hall- <i>PM Reading</i>	463	<0.1	74.5	69
1012	786 th Supply Room	589	<0.1	76	57
1013	786 th Supply Office	525	<0.1	82.6	52
1020	786 th BN Sexual Harassment. Office	500	<0.1	70.6	65.6
1021	786 th Operations SGT Office	498	<0.1	71.4	59.4
1022	786 th BN S4 Office	530	<0.1	71	57
1024	786 th S4 NCOIC Office	498	<0.1	71.3	57.3
1033	786 th Orderly Office	585	<0.1	71.4	34
	786 th Orderly Office - <i>PM Reading</i>	550	<0.1	72.2	49.7
1031	786 th Readiness NCO	650	<0.1	71.6	53.1
1032	786 th Commander's Office	555	<0.1	70	55.5
	786 th Commander's Office - <i>PM Reading</i>	497	<0.1	71.6	60
1034	786 th 1 st SGT Office	584	<0.1	71.2	51.6
1035	786 th BN SI Office	565	<0.1	71.4	52.8
1036	786 th PS NCO Office	660	<0.1	71.2	56
1038	786 th SI Office	563	<0.1	72.7	53.1
	786 th SI Office - <i>PM Reading</i>	535	<0.1	72.8	50.6
1041	BN Commander's Conference Room	528	<0.1	70.6	47.3
1042	631 st Det 1 1011 th Eng. Co. Orderly Room	578	<0.1	67.5	64.2
	631 st Det 1 1011 th Eng. Co. Orderly <i>PM Reading</i>	583	<0.1	75.4	44.5
1044	631 st Det 1 1011 th Eng. Co. Commander's Office	552	<0.1	69.1	59.2
1029	786 th QM USPFO Rep Office				
1028	73 rd Army Band Orderly Office	675	<0.1	75.5	51.4
	73 rd Army Band Orderly Off. - <i>PM Reading</i>	550	<0.1	82	36
1045	73 rd Army Band Commander's Office	540	<0.1	74.6	52.6

A-1

Table A-1.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Readiness Center
St. Thomas, VI
November 18, 2014

Layout #	Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
1046	73 rd Army Band Readiness Office	635	<0.1	73.9	54.4
1025	73 rd Army Band Studio	507	<0.1	68.4	49.3
1027	73 rd Army Band Rehearsal Area	522	<0.1	65	56
	73 rd Army Band Rehearsal Area - <i>PM Reading</i>	549	<0.1	67.5	47.3
1017	786 th QM USPFO Representative Office	550	<0.1	72.5	55
1014	Security Operations Plan Office	518	<0.1	70.7	63
1008	73 rd Army Band Storage	559	<0.1	71.8	55.6
1011	Distance Learning Center	546	<0.1	69.4	56.2
	Distance Learning Center - <i>PM Reading</i>	525	<0.1	70.8	65.3
1049	786 th Family Office	558	<0.1	72	57.7
1048	1st Mission Support Command Office	582	<0.1	68.7	54
1047	1st Mission Support Command	595	<0.1	71	46.8
	1st Mission Support Command - <i>PM Reading</i>	565	<0.1	73.5	48.7
1052	694 th Ambulatory Det. Orderly Office	692	<0.1	75	41
	694 th Amb Det. Orderly Off. - <i>PM Reading</i>	624	<0.1	72.2	53.2
1051	694 th Ambulatory Det. Care Office	687	<0.1	74.5	46
1053	694 th Ambulatory Det. Hearing Office	659	<0.1	74	48.5
1015	Break Room	538	<0.1	70	61.4
	Break Room - <i>PM Reading</i>	525	<0.1	70.8	65.3
1055	610 th QM WS Co. Readiness NCO's Office	567	<0.1	75	48
1056	610 th QM Commander's Office	549	<0.1	75	48
1057	610 th QM WS Co. Orderly Office	565	<0.1	80	46
	610 th QM WS Co. Orderly. - <i>PM Reading</i>	568	<0.1	72.8	55.1
1058	610 th QM Training NCO	582	<0.1	76	54
1059	610 th QM 1 st SGT's Office	593	<0.1	73	59
1071	631 st 1011 th Supply Room	432	<0.1	85	53

A-2

Table A-1.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Readiness Center
St. Thomas, VI
November 18, 2014

Layout #	Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
1030	Conference Room	515	<0.1	67	46
1063	Kitchen	522	<0.1	78.7	62
	Outdoors AM	425	<0.1	89	71
	Outdoors PM	426	<0.1	92	67

Notes:

°F Degrees Fahrenheit
ppm Parts per million

Table A-2.
Lead Surface Wipe Samples
Virgin Islands Army National Guard
SFC L. Francis Readiness Center
St. Thomas, VI
November 18, 2014

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
STTW01	Field blank	<1.3
STTW02	Top of rifle rack in 631/1011 Vault	200
STTW03	Floor in 631/1011 Vault south side	19
STTW04	Floor in 631/1011 Vault by entrance	16
STTW05	Floor by 631/1011 Vault by east side	9.3
STTW07	Top of rifle rack in 786 Vault	380
STTW08	Floor in 786 Vault by entrance	5.2
STTW09	Floor Outside 786 Vault by entrance	7.9
STTW10	Floor in 786 Vault by the east side	37
STTW11	Top of filing cabinet in 786 th Supply office	3.0

Table A-3.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Readiness Center
St. Thomas, VI
November 18, 2014

Layout #	Area	Maximum Reading Foot candle (ft-cd)	Minimum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
1003	Assembly Hall	111	13	111
1020	786 th BN Sexual Harassment. Office	102	100	100
1021	786 th Operations SGT Office	123	55	61
1022	786 th BN S4 Office	94	29	48
1024	786 th S4 NCOIC Office	110	71	101
1033	786 th Orderly Office	150	32	82
1031	786 th Readiness NCO	89	13	77
1032	786 th Commander's Office	120	83	113
1034	786 th 1 st SGT Office	102	57	80
1035	786 th BN S1 Office	79	73	79
1036	786 th PS NCO Office	95	51	83
1038	786 th S1 Office	79	73	79
1041	BN Commander's Conference Room	110	80	99
1042	631 st Det 1 1011 th Eng. Co. Orderly Room	142	44	108
1044	631 st Det 1 1011 th Eng. Co. Commander's Office	83	50	65
1029	786 th QM USPFO Rep Office	181	40	72
1028	73 rd Army Band Orderly Office	136	26	100
1045	73 rd Army Band Commander's Office	100	39	52
1046	73 rd Army Band Readiness Office	116	92	105
1025	73 rd Army Band Studio	23	6	7
1027	73 rd Army Band Rehearsal Area	110	55	62
1014	Security Operations Plan Office	50	15	24

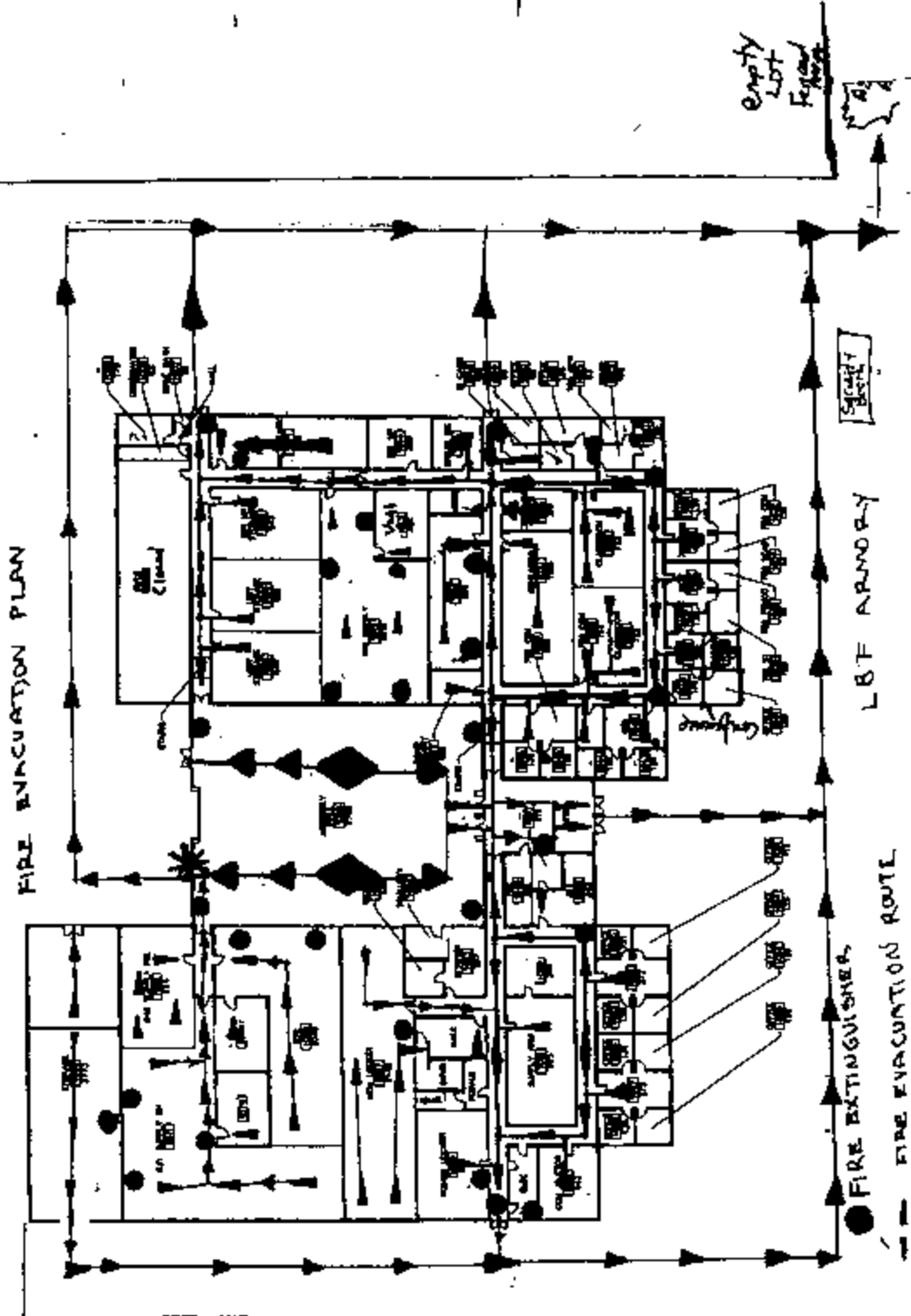
A-5

Table A-3.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Readiness Center
St. Thomas, VI
November 18, 2014

Layout #	Area	Maximum Reading Foot candle (ft-cd)	Minimum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
1008	73 rd Army Band Storage	98	18	85
1011	Distance Learning Center	81	4	39
1049	786 th Family Office	40	3	7
1048	1st Mission Support Command Office	67	39	51
1047	1st Mission Support Command	52	23	39
1052	694 th Ambulatory Det. Orderly Office	149	32	86
1051	694 th Ambulatory Det. Care Office	125	86	103
1053	694 th Ambulatory Det. Hearing Office	133	128	128
1015	Break Room	65	12	30
1055	610 th QM WS Co. Readiness NCO's Office	134	93	93
1056	610 th QM Commander's Office	104	61	90
1057	610 th QM WS Co. Orderly Office	120	83	95
1058	610 th QM Training NCO	129	41	81
1059	610 th QM 1 st SGT's Office	141	137	137
1071	631 st 1011 th Supply Room	54	5	35
1030	Conference Room	121	67	118
1063	Kitchen	142	65	130
1003	Assembly Hall	111	13	111
1012	786 th Supply Room	67	20	57
1013	786 th Supply Office	66	6	58
1020	786 th BN Sexual Harassment. Office	102	100	100

Appendix B

* YOUR location/you are here



B-1

Appendix C

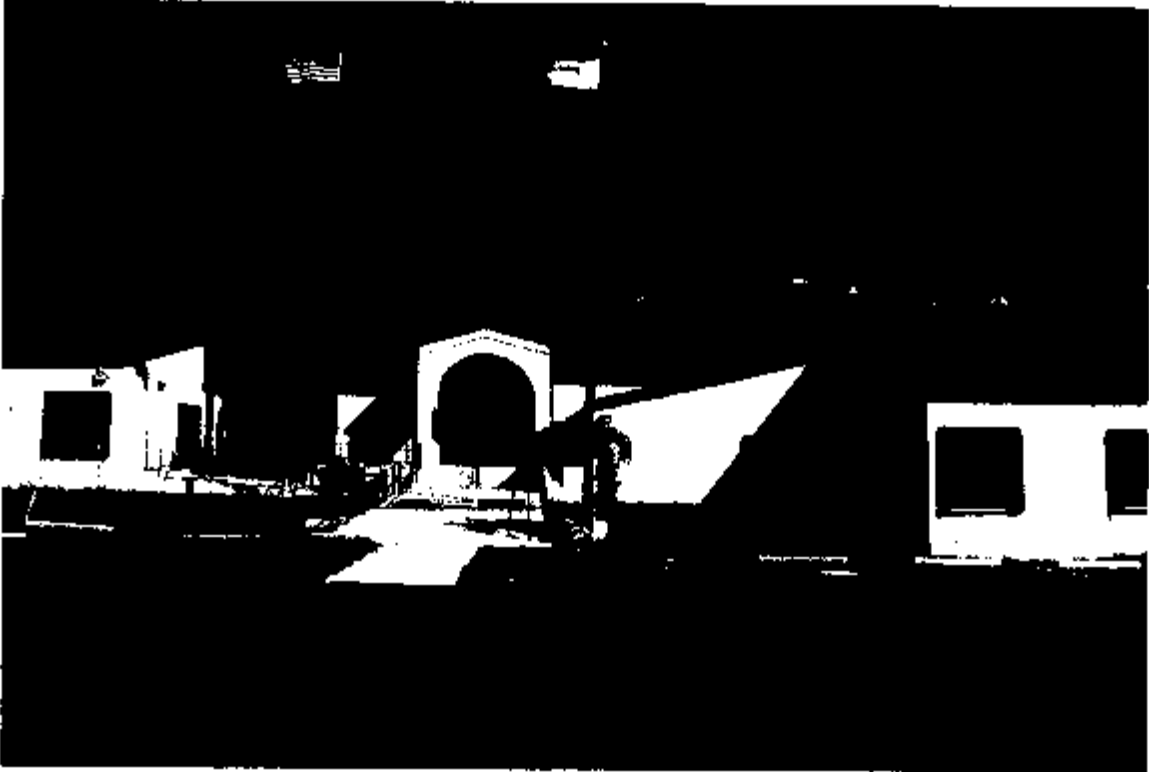


Photo #1: Front entrance of the VIARNG Readiness Center.



Photo #2: West side of the Building.

C-1



Photo #3: East side of the RC.



Photo #4: Rear of the building.



Photo #5: Assembly hall in the readiness center.



Photo #6: Water stains on the assembly hall north west corner wall



Photo #7: Falling insulation on the assembly hall ceiling.

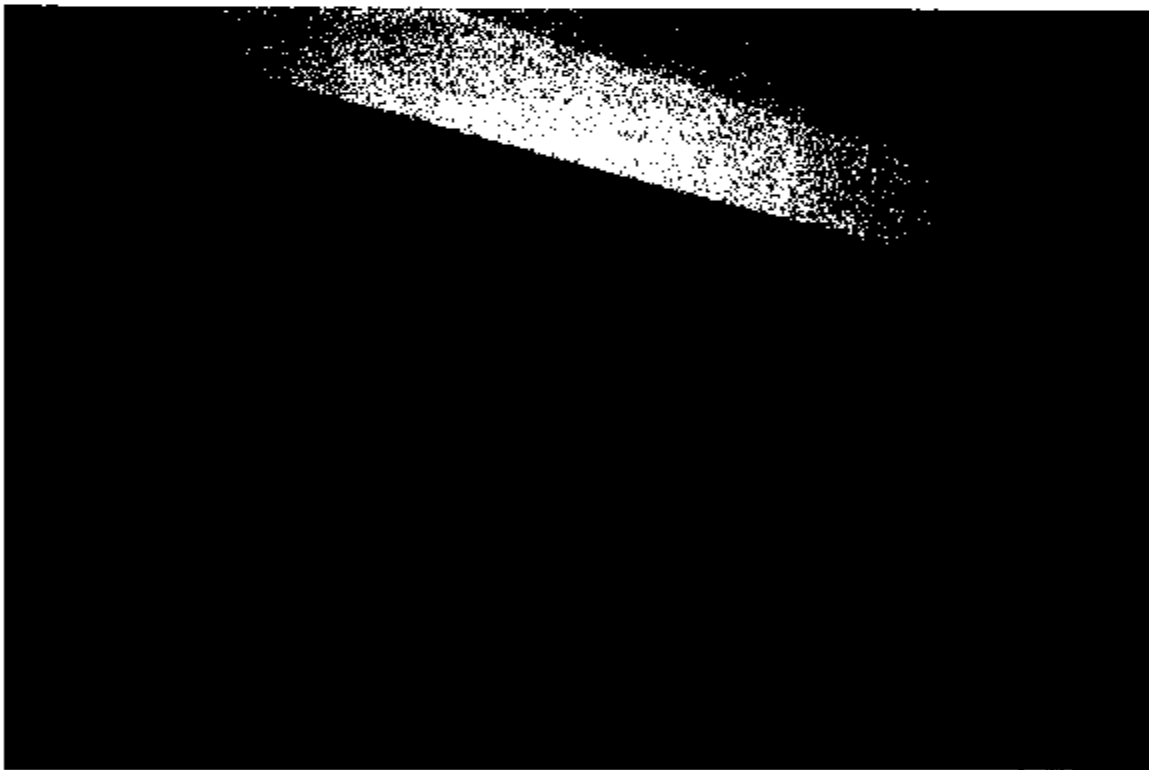


Photo #8: Water stains on the hallway ceiling outside of the 610 QM Water Supply office.

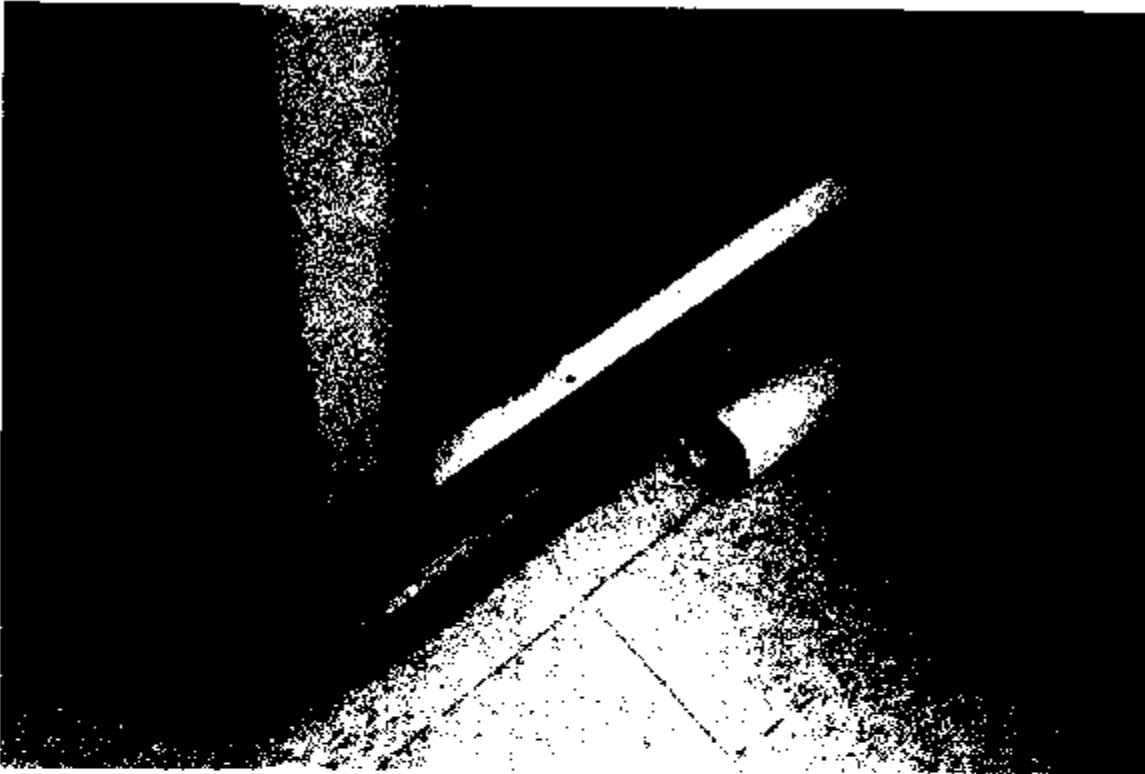


Photo #9: Standing water in the air handling unit condensate pan located on the west side.



Photo #10: Evidence of water leaks on the ceiling tiles in the 512 Mission Command Office.



Photo #11: Front entrance of the building.



Photo #12: Stained ceiling tiles in the Battalion S4 Office.



Photo #13: More stained tiles in the band rehearsal room.

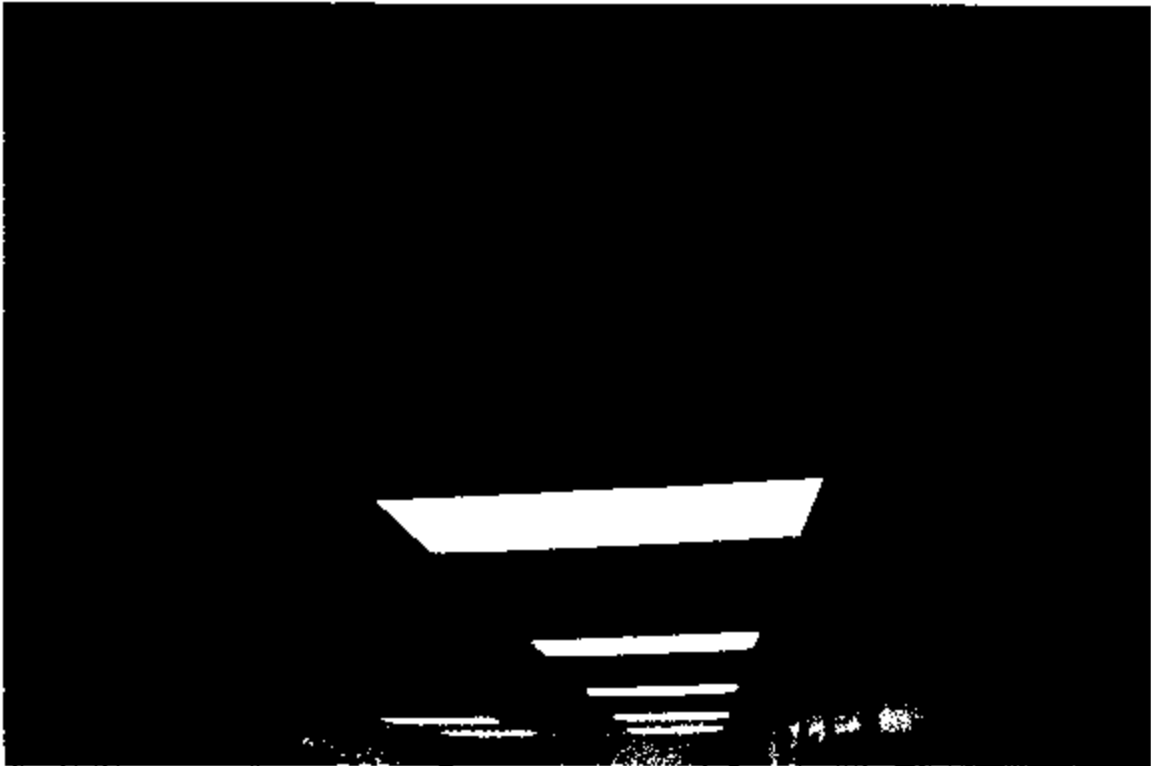


Photo #14: Stained ceiling tiles in the distance learning center.



Photo #15: Water stains on the east wall of the distance learning center.

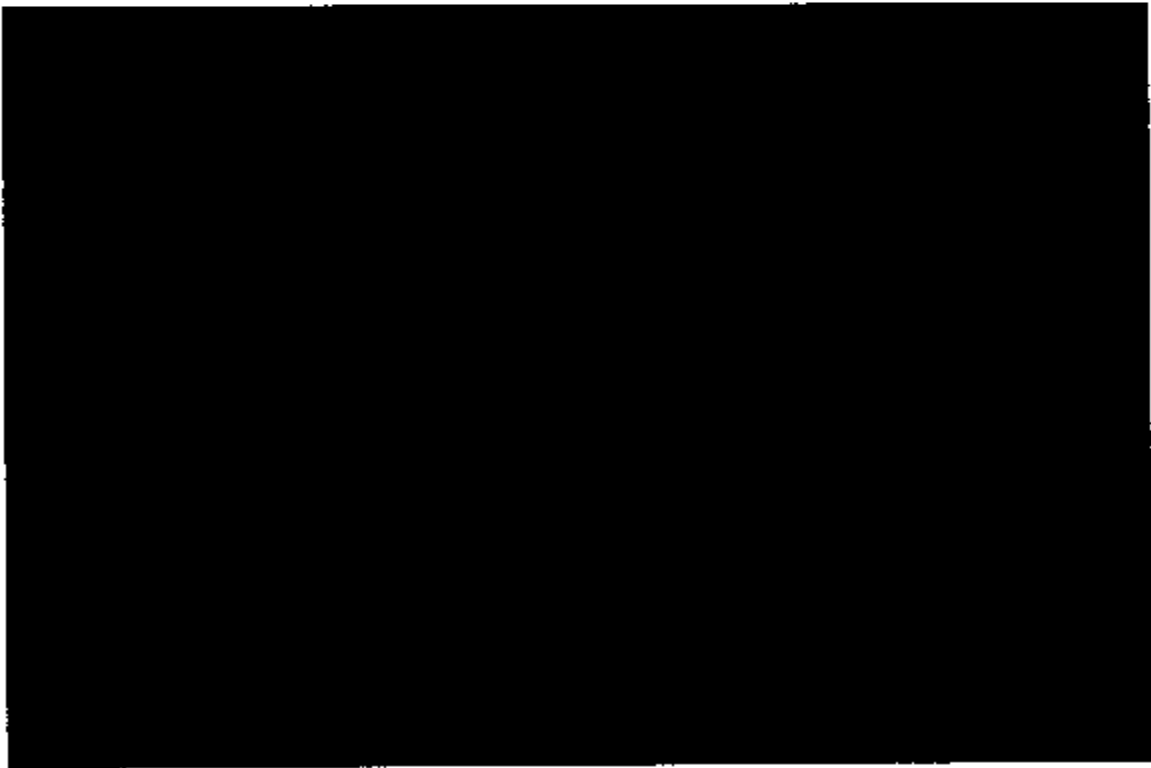


Photo #16: Close up of photo 15 above showing peeling paint and potential mold growth.

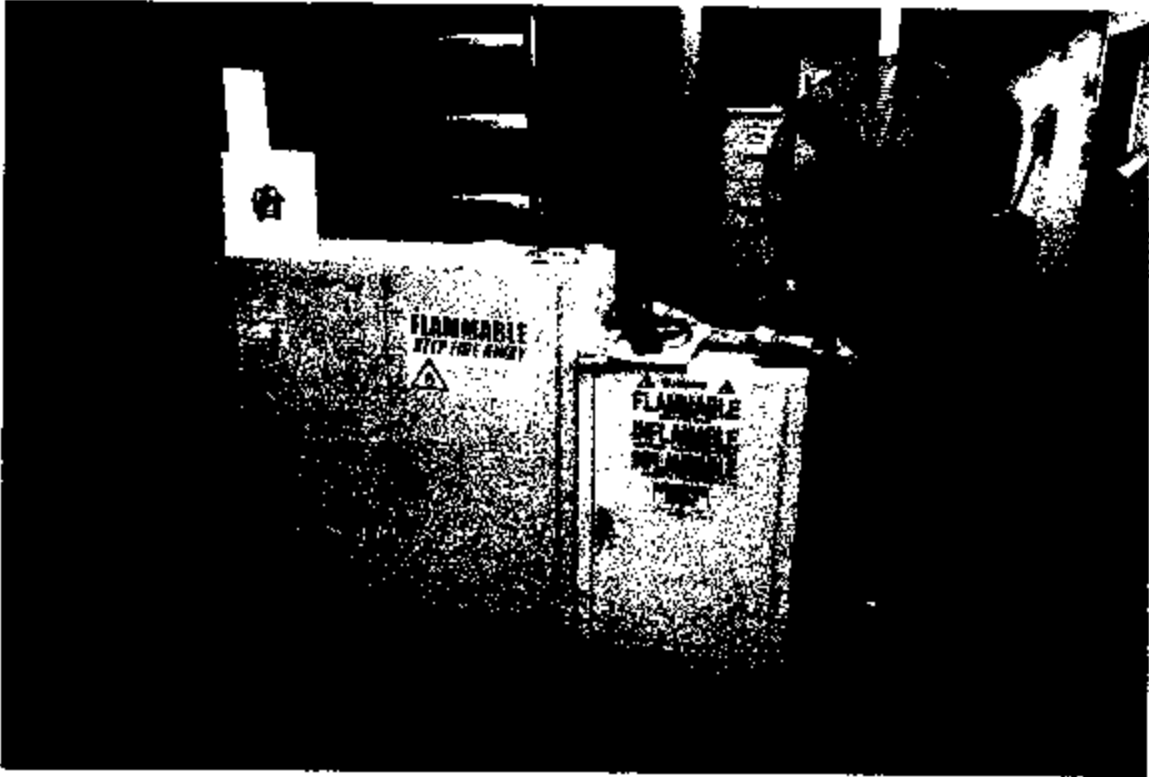


Photo #17: Readiness Center Fitness Room.

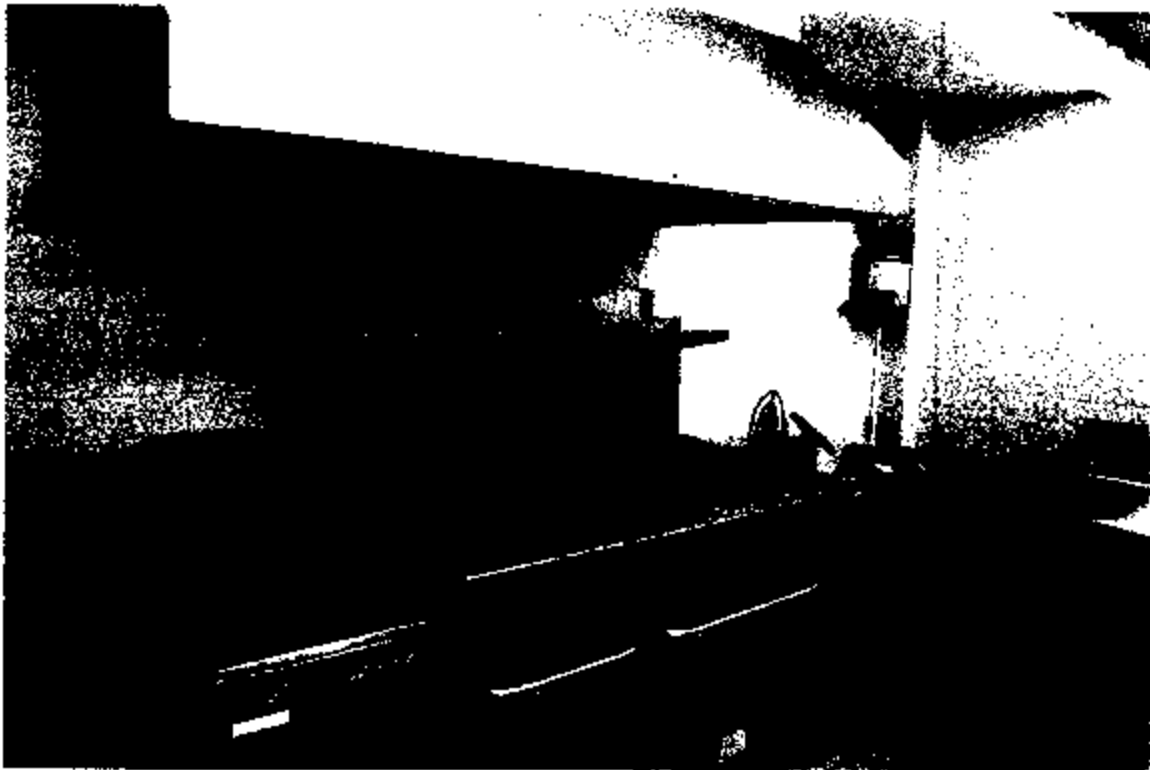


Photo #18: Cooking range in the kitchen.

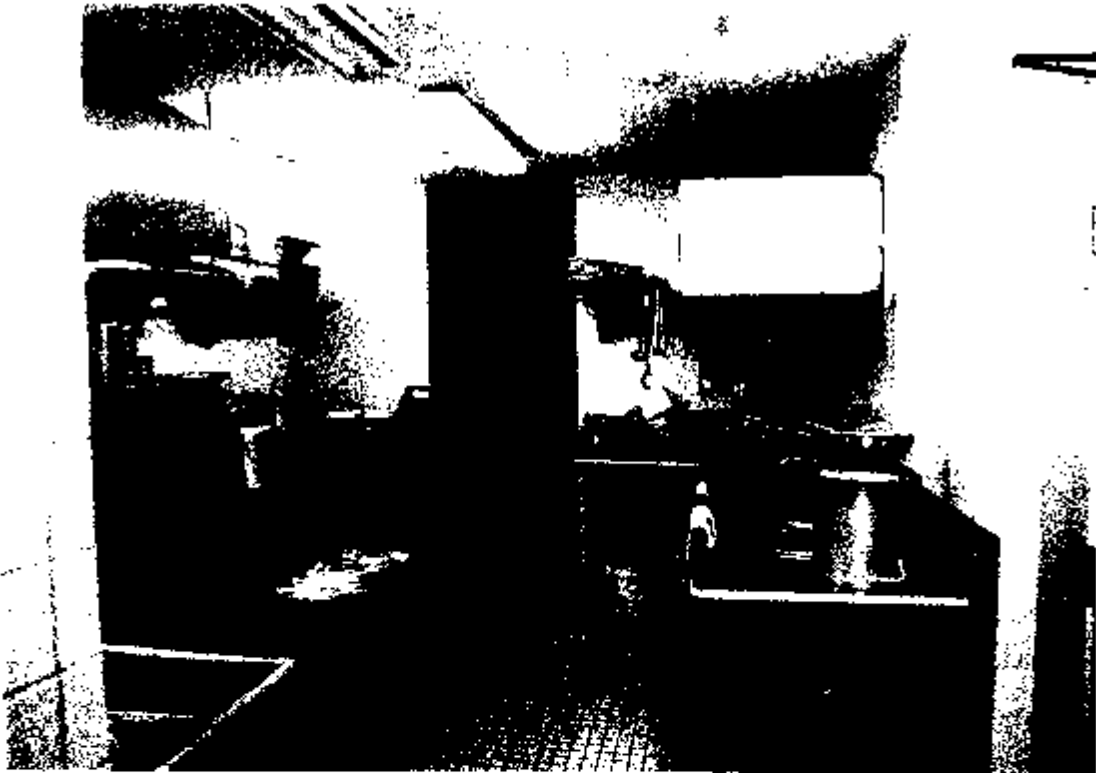


Photo #19: Chemicals stored in the storage room.

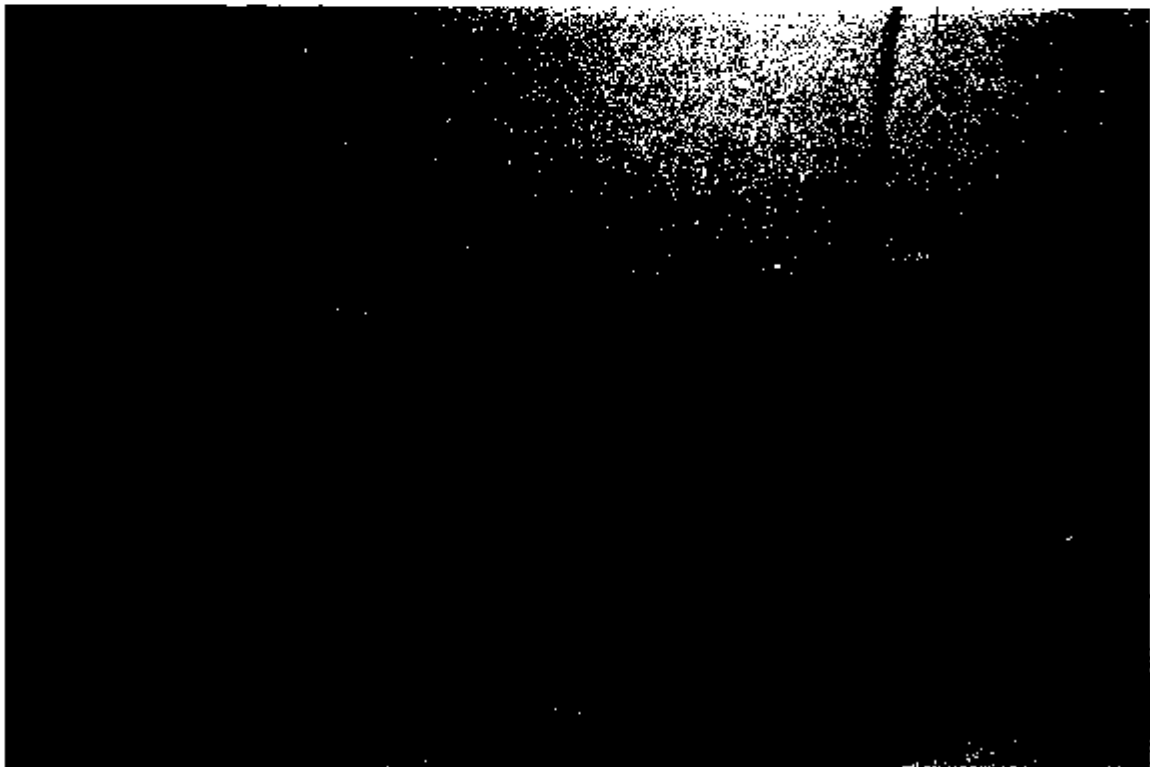


Photo #20: Air handler in the break room

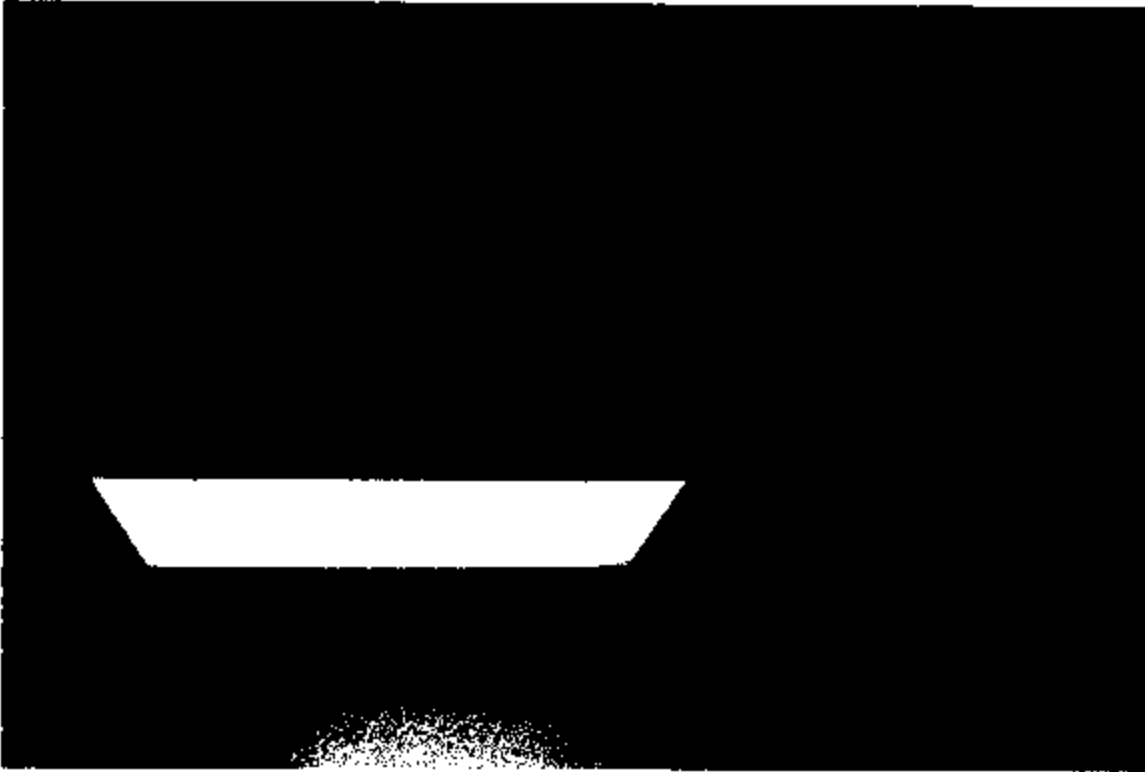


Photo #21: Stained ceiling tiles in the band supply room.



Photo #22: Unchecked fire extinguisher in the band supply room.

Appendix D



ANALYTICAL REPORT

Report Date: December 01, 2014

Non-Responsive

Workorder: **34-1432838**
 Client Project ID: St Thomas KC
 Purchase Order: St Thomas KC
 Project Manager: **Non-Responsive**

Analytical Results

Sample ID: STTW01	Collected: 11/10/2014
Lab ID: 1432838001	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	<1.3 1.3

Sample ID: STTW02	Collected: 11/10/2014
Lab ID: 1432838002	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	200 1.3

Sample ID: STTW03	Collected: 11/10/2014
Lab ID: 1432838003	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	19 1.3

Sample ID: STTW04	Collected: 11/10/2014
Lab ID: 1432838004	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	15 1.3

ADDRESS 960 West LeVoy Drive, Salt Lake City, Utah, 84123 USA PHONE +1 801 266 7700 FAX +1 801 268 9992
 ALS GROUP USA, CORP. An ALS Limited Company



RIGHT SOLUTIONS. RIGHT PARTNERS.



ANALYTICAL REPORT

Workorder: **34-1432838**
 Client Project ID: St Thomas KC
 Purchase Order: St Thomas KC
 Project Manager: **Non-Responsive**

Analytical Results

Sample ID: STTW05	Collected: 11/10/2014
Lab ID: 1432838005	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	9.3 1.3

Sample ID: STTW07	Collected: 11/10/2014
Lab ID: 1432838006	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	380 1.3

Sample ID: STTW08	Collected: 11/10/2014
Lab ID: 1432838007	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	5.2 1.3

Sample ID: STTW09	Collected: 11/10/2014
Lab ID: 1432838008	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	7.9 1.3

Sample ID: STTW10	Collected: 11/10/2014
Lab ID: 1432838009	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	37 1.3

Sample ID: STTW11	Collected: 11/10/2014
Lab ID: 1432838010	Received: 11/24/2014
Method: NIOSH 7300 Mod.	Media: Wipe
	Sampling Parameter: Area 1 ft ²
	Prepared: 11/25/2014
	Analyzed: 11/26/2014
Analyte	ug/sample RL (ug/sample)
Lead	3.0 1.3



ANALYTICAL REPORT

Workorder: **34-1432838**
 Client Project ID: St Thomas KC
 Purchase Order: St Thomas KC
 Project Manager: Paul Pope

Report Authorization (e/S is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
NIOSH 7300 Mod.	Non-Responsive	

Laboratory Contact Information

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

Non-Responsive

General Lab Comments

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

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

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

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

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

Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.
 LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.
 ND = Not Detected, Testing result not detected above the LOD or LOQ.
 NA = Not Applicable.
 ** No result could be reported, see sample comments for details.
 < This testing result is less than the numerical value.
 () This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.



ANALYTICAL REQUEST FORM

1432838

1. REGULAR Status

RUSH Status Requested - ADDITIONAL CHARGE

RESULTS REQUIRED BY _____ DATE _____

CONTACT ALS SALT LAKE PRIOR TO SENDING SAMPLES

2. Date 11/21/14 Purchase Order No. _____ 4. Quote No. _____

3. Company Name Timber Science, Inc. ALS Project Manager _____

Address 3744 Lawrence Dr 5. Sample Collection _____

Norville, TN 37056 Sampling Site St. Thomas RC

Person to **Non-Responsive** Industrial Process Supply/RC

Telephone _____ Date of Collection 11/19/2014

Fax Telep _____ Time Collected AM

E-mail Ad _____ Date of Shipment 11/21/2014

Billing Ad _____ Chain of Custody No. _____

College Park GA 6. How did you first learn about ALS? _____

7. REQUEST FOR ANALYSES

Laboratory Use Only	Client Sample Number	Matrix*	Sample Volume	ANALYSES REQUESTED - Use method number if known	Units**
	SITW01	Boylup	1g/soil	Lead	Field Blank
	SITW05				
	SITW07				
	SITW11				

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

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

Comments _____

Possible Contamination and/or Chemical Hazards

7. Chain of Custody

Relinquished by **Non-Responsive** Date/Time 11/21/2014

Received by _____ Date/Time 11/24/14 11:16


Relinquished by _____ Date/Time _____

Received by _____ Date/Time _____

960 West LeVoy Drive / Salt Lake City, UT 84123 800-356-9136 or 801-286-7700 / FAX: 801-268-8992

ALS Environmental

Appendix E



CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardinal Road, Shrewsbury, MN 55128 USA
Tel: 1-800-874-2811 1-651-491-2811 Fax: 1-651-499-3824 <http://www.tsi.com>

ENVIRONMENT CONDITION			MODEL	9565-P
TEMPERATURE	74.3 (23.0)	°F (°C)	SERIAL NUMBER	9565P1423027
RELATIVE HUMIDITY	45	%RH		
BAROMETRIC PRESSURE	28.91 (799.2)	in-Hg (hPa)		

AS SHIP AS TO BE CALIB.
 AS FOUND OUT OF TOLERANCE

- CALIBRATION VERIFICATION RESULTS -

THERMO COUPLE			SYSTEM PRESSURE 01-01				
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	71.3 (21.8)	71.3 (21.8)	69.3-73.3 (20.7-22.9)				

DIFFERENTIAL PRESSURE			SYSTEM PRESSURE 01-01				
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	4.111 (-1029.6)	4.113 (-1029.1)	4.116-4.066 (-1028.6-1031.4)	3	3.133 (2075.6)	3.135 (2075.6)	3.036-3.220 (2064.3-2087.3)
2	2.208 (574.6)	2.206 (579.2)	2.182-2.234 (543.0-596.3)	4	14.107 (5512.6)	14.106 (5512.9)	13.965-14.259 (5126.3-5682.3)

BAROMETRIC PRESSURE			SYSTEM PRESSURE 01-01				
#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	18.56 (625.9)	18.95 (627.6)	19.56-20.34 (628.4-649.5)	3	34.22 (1158.1)	34.22 (1158.3)	33.32-34.83 (1155.1-1181.2)
2	23.16 (695.6)	23.02 (654.3)	23.20-24.06 (665.1-671.4)				

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specifications that applicable to its design and has been calibrated using standards whose accuracy is traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to measurement with a primary reference to NIST, or is derived from accepted values of physical constants. TSI's calibration system is traceable to NIST since 1970.

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E001299	07-05-14	07-09-15	DC Voltage	E001300	01-09-14	07-09-15
Temperature	E001625	10-22-14	11-22-14	Pressure	E001302	03-12-14	03-12-15
Pressure	E001301	03-12-14	03-12-15				

Non-Responsive

June 6, 2014

124 11



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-SEIH

29 September 2008

MEMORANDUM FOR: Adjutant General, ATTN.: **Non-Responsive** Deputy State
Surgeon 4031 la Grande, Princesse Lot IB, Christiansted, Virgin Islands 00820-4353

SUBJECT: Transmittal of Industrial Hygiene Report of the SFC L. Francis Armory, St.
Thomas, USVI.

1. References.

- a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
- b. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007.
- c. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 23 May 2008.
- d. AR 385-10, The Army Safety Program, 23 August 2007.
- e. National Guard Pamphlet 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006.
- f. NGR 385-15, Policy and Responsibilities, Evaluation and Operation of Army National Guard Indoor Firing Ranges, 3 November 2006.
- g. DA PAM 40-503, The Army Industrial Hygiene Program, 30 October 2000.
- h. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2008, American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- i. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.

SUBJECT: Transmittal of Industrial Hygiene Report of the SFC L. Francis Armory, St. Thomas, USVI.

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- j. Title 29, Code of Federal Regulations (CFR), 2008 rev., part 1910, Occupational Safety and Health Standards.
- k. USAEHA TG-141, November 1997, Guidelines for Air Sampling and Bulk sample Collection
- l. Report dated Sep 18, 2008, Industrial Hygiene Survey, Tammer Sciences Inc. 3744 Lawrence Dr., Naperville, IL.

2. General.

- a. At the request of **Non-Responsive**, Deputy State Surgeon and the Safety & Occupational Health Office, an Industrial Hygiene Service was put together to conduct a follow up IH Health Hazard Survey of the VI ARNG SFC L. Francis Armory located in St. Thomas, VI.
- b. **Non-Responsive** Tammer Sciences Inc. 3744 Lawrence Dr., Naperville, IL conducted the survey.

3. Findings. All HHIM field survey forms, industrial hygiene sampling and survey findings of the report are enclosed (See ENCL 1).

4. Understand that all findings in the enclosed report have been reviewed by the Regional Industrial Hygienist and the following recommendations are the ones to be followed.

- a. Use the guidance given in the enclosed report as good IH practices, requesting industrial hygiene (IH) services where needed. The recommendations that follow are based on the survey findings as reported for each operation surveyed:
 - i. Fix all leaks and water-damaged areas that allow water to get into the ventilation system or building surfaces, and materials. Prevent buildup of moisture in the drill hall and the supply areas. (RAC 3)
 - ii. Find and discard microbial damaged materials. Replace the water stained/damaged ceiling tiles in the distance learning center. (RAC 3)
 - iii. Clean and disinfect all contaminated surfaces with a 10 percent Clorox™ solution during off hours. (RAC 3)
- b. 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 FY2008. A follow up operation and hazard specific

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SUBJECT: Transmittal of Industrial Hygiene Report of the SFC L. Francis Armory, St. Thomas, USVI.

air sampling survey based on the enclosed findings will be included in the FY2009 IHIP. Have all HHIM data entered into the DOEHS IH 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.

Non-Responsive

CF: NGB-ARS-IHSE

State Safety Manager, ATTN **Non-Responsive**, 031 La Grande Princess, Lot 1B, Christiansted, St. Croix USVI 00820-4353.

ENCL.

as

Industrial Hygiene Follow-up Survey Report

For

U.S. Virgin Islands Army National Guard

At

SFC L. Francis Armory
St. Thomas, VI.

Prepared for:

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

By

Non-Responsive

Naperville, IL 60564

September 18, 2008

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I. EXECUTIVE SUMMARY

At the request of the National Guard Bureau Region South Industrial Hygiene Office, field personnel conducted a follow up industrial hygiene survey in the U.S. Virgin Islands Army National Guard (VIARNG) SFC L. Francis Armory located in Saint Thomas, Virgin Islands during the week of July 14 and July 21st 2008. This survey was requested by VIARNG as a follow to an earlier survey conducted in 2006 and as part of the VIARNG Safety and Occupational Health program to ensure safe and healthful workplaces.

Air sampling results for viable and non viable fungi indoors were all in an acceptable range and similar to the earlier survey which was conducted right after Armory renovation and clean-up. Surface wipe samples were elevated when compared to the earlier survey. Several ceiling tiles in the distance learning center had water stains.

Carbon dioxide (CO₂) readings, which are commonly used as an indicator of makeup air volume being introduced to the occupied spaces were also within an acceptable range. Readings ranged from 250 to 480 part per million (ppm). The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) recommends providing a minimum of 20 cubic feet per minute (CFM) outside makeup air per person to maintain the indoor CO₂ level below 1000 ppm. Carbon monoxide levels were all less than 0.1 ppm. Temperature and relative humidity readings in the occupied office areas during the survey period ranged from 71 to 86 degree Fahrenheit (°F) and from 36% to 68%, respectively. Except for the supply areas and the drill hall, the relative humidity readings are within the ASHRAE recommended guideline range of 30% to 60%. These areas had elevated temperature and relative humidity because of lack of air conditioning.

Illumination readings ranged from 15 to 164 footcandles. Three out of the 30 areas measured had lighting levels below the recommended minimum of 50 foot candles. Changing light bulbs to a higher wattage and providing task lighting is recommended to increase lighting levels if necessary. No significant noise sources were found in the occupied areas.

Lead surface wipe sample results did not show elevated levels. Lead levels ranged from less than 2 micrograms per square foot to 18 micrograms per square foot (ug/ft²). The National Guard Bureau recommends a limit of 200 ug/ft² for surface contamination.

Based on the survey results, air supply diffusers to the occupied areas should be cleaned and disinfected. Also, the water stained ceiling tiles in the distance learning center should be replaced.

II. INTRODUCTION

Non-Responsive representing the VIARNG and **Non-Responsive** CIH representing the National Guard Bureau, South Regional Industrial Hygiene Office, conducted a follow up industrial hygiene survey in the SFC L. Francis Armory located in St. Thomas, Virgin Islands during the week of July 15 and 22, 2008. This survey was requested by the VIARNG as a follow-up to an earlier survey conducted in 2004 where elevated levels of fungi were found. Since the 2004 survey the armory have been undergoing major renovation to abate the microbiological contamination and repairing water leaks. Another follow-up survey was conducted in 2006 to address employee concerns about the quality of air after the conclusion of the renovation and abatement work.

This survey was conducted in the interest of assisting in preventing employee illness and in meeting legal obligation where applicable. Based on information provided, reasonable effort was made to conduct a comprehensive survey covering the parameters considered. Results and recommendations are based on samples taken and conditions observed during the survey. Changes in operating conditions, materials used and work practices can alter the quality of air and the outcome of this type of survey.

III. BACKGROUND

The armory building, which was built in 1991, is a one story building with approximately 43,500 square feet of space. The building consists of a large assembly/drill hall surrounded by offices, and supply rooms on three sides. A copy of the floor layout is included in Appendix C. The armory houses a number of units including the 631rd EN DET utilities, 640th QM TM Water, DET 1 661st MP CO Guard, 73rd AG Army Band, 786th QM HHD Water Supply BN, 610th QM CO Water Supply, DET 3 HQ TARC VI&AMEDD.

The Heating Ventilating and Air Conditioning (HVAC) system for the building consisted of three air-handlers with cooling and heating capabilities. Two air handlers are located above the suspended ceiling and the third in a mechanical room. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings. The cooling unit serving the west side of the building has been repaired and is operational.

The initial survey was conducted in October of 2004 found elevated levels (42,880 CFU/M³) of airborne viable fungi in five office areas sampled. Elevated levels of non-viable fungi (9,869 Spores/M³) were also found in the west section of the armory. The 2004 survey also showed elevated levels of contamination on air supply diffusers, stained ceiling tiles, and stained walls. *Stachybotrys chartarum* or toxic mold was identified in four out of the 8 surface wipe samples collected. Finally, the cooling unit for the air handler serving the west side of the building was not operational at the time of the survey.

A follow-up survey to the initial survey was conducted on October of 2006 to address the quality of the indoor air as a result of the renovation work that have been performed in the armory to abate the microbiological contamination and repair water leaks. Renovation work included the installation of new wallboard, ceiling and floor tiles. Walls were painted and vents were cleaned and

decontaminated. A/C units were repaired and serviced. At the time of this survey, the west part of the armory was complete while parts of the east side were still undergoing renovation. Water damage in the newly renovated section, Water Detachment Unit 610 was observed during sampling. The one elevated sample from this survey was collected from the Water Detachment Unit office. Airborne viable levels ranged from 36 colony forming units per cubic meter of air (CFU/M³) to 293 CFU/M³. The outdoor sample result was 400 CFU/M³. Only one sample collected in the Water Detachment Unit office had viable levels at 636 CFU/M³. Non-viable spores indoors ranged from 107 spores per cubic meter (Spores/M³) to 574 Spores/M³. This follow up study concluded that the renovation and abatement work did decontaminate the armory and lower the fungal airborne levels. However, renovation work needed to be completed and other repairs are still pending especially in the water detachment unit.

Since the last follow up survey, fine particulate matter or dust have been blowing through the air diffusers in various parts of the armory. The water detachment unit which is located in the west side had the worst case of dust deposits on surfaces. The source of the particulate dust was traced back to the insulation found inside the air handling units. A bulk sample of insulation similar in color and texture to the dust found earlier on desks and surfaces was found inside a duct connection to the supply air diffuser in the Water Detachment Unit. The bulk sample and three tape lift samples were analyzed for microbiological activities and found the bulk sample containing 140,000 colony forming units per gram. The tape lifts had minimal activities indicating clean surfaces.

IV. SCOPE OF WORK

As per the request of the Virginia Army National Guard, the survey work included an indoor air quality study that consisted of air sampling for viable and non-viable fungi, collecting carbon dioxide and monoxide readings, and temperature and relative humidity readings. In addition, lighting levels were recorded and noise sources were noted. Surface wipe samples for lead contamination were also collected. Observations for water leaks or water damaged building material were also noted.

V. SAMPLING METHODS

Microbiological sampling was performed for airborne viable and non-viable fungi. Air samples for the viable fungi were obtained using a single stage factory calibrated Andersen Viable Particle Sampler. This instrument is a cascade impactor, which, in conjunction with a vacuum pump, permits the retention of bioaerosol viable particles on a collection medium. Collection plates were obtained from Federal Occupational Health (FOH) microbiology laboratory, and consisted of a petri dish filled with agar malt extract for fungi. Prior to taking each sample, the single stage was thoroughly wiped with 70% isopropanol, and then air dried. The collection plate was then placed into the stage, which was subsequently capped and connected to the vacuum pump. Each sample was collected over a three minute period at a flow rate of 28.3 liters per minute (l/min). After sampling, each petri dish was removed, capped, and taped.

Non-viable samples were obtained by drawing a sample of air through a Zefon cassette designed to trap any particles on the media. Each sample was collected over a ten minute period and the cassette

Industrial Hygiene Follow-up Survey
Survey Date July 15-17, 2008

Virgin Islands Army National Guard
Saint Thomas Armory, US VI

was then capped and placed in a sampling bag. All samples were express mailed (next day delivery) on the same day of the survey to the FOH microbiology laboratory for analysis. Identification of fungi was based on colony morphology, spore shape and size, and spore formation.

Carbon dioxide, carbon monoxide, temperature and relative humidity readings were measured using a TSI Qtrak Model 7545 handheld meter. Illumination measurements were collected using an EXTECH Model 407026 light meter. Measurements were taken on desk surfaces and in office areas approximately four feet from the floor.

Lead wipe samples were collected from representative surfaces in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes or ghost wipes to wipe one square foot of surface. Samples were then placed in a sealed plastic bag and sent for analysis to DATACHEM laboratory, which is an American Industrial Hygiene Association (AIHA) Accredited laboratory.

VI. DISCUSSION

Indoor Air Quality

Air sampling results for viable fungi indoors ranged from 118 to 778 colony forming units per cubic meter of air (CFU/M³). Non-viable spore levels indoors ranged from 27 spores per cubic meter (Spores/M³) to 394 Spores/M³. Microbiological surface wipe sampling results ranged from 47,000 to 810,000 Colony forming unit per square inch (CFU/in²). Refer to Appendix B for a complete list of results and Table A-1 in Appendix A for a summary of airborne samples and Table A-2 for a summary of surface wipes. The airborne sample results are in line with the air sampling results obtained in 2006, which ranged from 36 to 636 CFU/M³ for the viable fungi and from 107 to 574 Spores/M³ for the non-viable. However, the surface wipe sample results were elevated when compared to the 2006 survey. The 2006 survey was conducted after a major renovation and clean up of the Armory. Consideration should be given to clean and disinfect all supply diffusers within the occupied space.

At the present time, there are no Occupational Safety and Health Administration (OSHA) standards or widely accepted recommended guideline levels for acceptable indoor levels of microbiological organisms. Selective comparison analysis has been used in microbiological surveys to assess microbial contamination. Such analysis compares results from suspect contaminated areas to the results obtained outdoors or in a non-suspect, complaint-free area, provided no opportunistic or toxigenic fungi are identified. When compared to the 2006 survey results and outdoor samples, the fungi levels were similar in all areas of the Armory. More importantly, occupants of the Armory did not express any concerns about the quality of the indoor air.

Carbon dioxide (CO₂) readings, which are commonly used as an indicator of makeup air volume being introduced to the occupied space ranged from 250 to 480 ppm in the occupied office areas. Refer to Table A-3 in Appendix A. These levels are well below the Occupational Safety and Health Administration (OSHA) regulated Permissible Exposure Level (PEL) of 5,000 ppm and the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) guideline level of 1000 ppm. ASHRAE document Standard 62 Ventilation for Acceptable Indoor Air Quality, recommends a minimum of 20 cubic feet per minute (CFM) outside makeup air per person to be delivered to the occupied space during normal occupancy. Based on this minimum amount of outside makeup air and a typical office population density of 7 employees per 1000 square feet of space, indoor CO₂ levels should not exceed 1000 ppm. Carbon monoxide readings, which are an indicator of a combustion source, were all below 0.1 ppm.

Temperature and relative humidity readings in the occupied office areas during the survey period ranged from 71 to 86 degree Fahrenheit (°F) and from 36% to 68%, respectively. Except for the supply areas and the drill hall, the relative humidity readings were within the ASHRAE recommended guideline range of 30% to 60%. This range is recommended to minimize growth of allergenic and pathogenic organisms. The drill hall and the supply areas readings were elevated because there is no air conditioning available. The temperature outdoors on the day of the survey was 95 °F and the relative humidity was 53%. Refer to Table A-3 in Appendix A.

Based on these results, airborne fungal levels were similar to the 2006 survey and are within acceptable limits. Carbon dioxide and carbon monoxide levels were also within the acceptable range. Except for the supply areas and the drill hall, the temperature and relative humidity readings were within the recommended ASHRAE range. Evidence of water leaks on ceiling tiles were observed in the distance learning center. Stained ceiling tiles in this area should be replaced.

Lightings

Illumination readings were collected in all accessible areas of the Armory on desk tops and approximately four feet from the floor in the general area of the offices. Average illumination readings ranged from 15 to 164 footcandles. Table A-4 lists the minimum maximum and average of all areas collected. The Army Design Guide (DG415-2) recommends a minimum illumination level of 50 foot candles for general office environment while the American National Standard Institute (ANSI) recommends a range of 50 to 100 foot candles depending on the tasks performed. This range 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 illuminance of 30 to 60 footcandles is recommended for Video Display Terminal (VDT) work. The availability of task lighting is important in providing increased illumination at the work surface while minimizing glare for VDT work. Task lighting is recommended for all VDT workstations.

Three readings out of the 30 lighting measurements were below the recommended minimum of 50 foot candles. Changing light bulbs to a higher wattage and providing task lighting is recommended to increase lighting levels. However, employees should be consulted as to the type of work being performed prior to changing the lighting levels.

Noise

No significant noise sources were found in the building occupied spaces.

Lead Surface Wipes

Nine representative areas within the Armory were sampled for lead surface contamination. Surface wipe results ranged from less than 2 to 18 micrograms per square foot of surface wiped. 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. Sampling results indicate not surface lead contamination in the Armory. The laboratory report and chain of custody forms are attached in Appendix C.

VII. RECOMMENDATION

Clean and disinfect the supply diffusers within the Armory and replace the water stained/damaged ceiling tiles in the distance learning center.

Appendix A

Table A-1.
 Microbiological Air Sampling Survey Summary
 Virgin Islands Army National Guard
 SFC L. Francis Armory
 St. Thomas, VI
 July 16, 2008

Sampling Location/Area	Viable Fungi Sample Number	Total Viable Fungi (CFU/M ³)	Major Species Identified	Non-Viable Fungi Sample Number	Non-Viable Fungi PM (Spores/ M ³)	Major Species Identified
631 st Eng Det Office	STT-ARM-01	118	<i>Non-sporulating Fungi</i>	13606819	394	<i>Cladosporium</i>
786 th QM WSB Commander's Office	STT-ARM-02	213	<i>Cladosporium</i>	13606894	66	<i>Cladosporium</i>
Conference Room	STT-ARM-03	166	<i>Non-sporulating Fungi</i>	13607115	41	<i>Cladosporium</i>
Distance Learning Center	STT-ARM-04	143	<i>Cladosporium</i>	13606853	27	<i>Cladosporium</i>
Commander's Office	STT-ARM-05	211	<i>Cladosporium</i>	13606917	66	<i>Cladosporium</i>
640 th QM Det Office	STT-ARM-06	201	<i>Cladosporium</i>	13606956	34	<i>Cladosporium</i>
694 th Amb Det Orderly Room	STT-ARM-07	165	<i>Cladosporium penicillium</i>	13606911	133	<i>Cladosporium</i>
610 th QM WS Co. Orderly Room	STT-ARM-08	330	<i>Cladosporium</i>	13606913	167	<i>Cladosporium</i>
S4 Battalion Office	STT-ARM-09	341	<i>Non-sporulating Fungi</i>	13606970	27	<i>Cladosporium</i>
S1 Battalion Office	STT-ARM-11	778	<i>Cladosporium</i>	13606890	34	<i>Cladosporium</i>

Table A-2.
 Microbiological Surface Wipe and Bulk Sampling Survey Summary
 Virgin Islands Army National Guard
 SFC L. Francis Armory
 St. Thomas, VI
 July 16, 2008

Sample Number	Sample Location	Total CFU/in ²	Majority Species
W010	Supply diffuser in S1 Battalion Office	280,000	<i>Cladosporium</i>
W011	Supply diffuser in 786 th Commander's Office	810,000	<i>Cladosporium</i>
W012	Return Air Grill in Distance Learning Center	200,000	<i>Cladosporium/Penicillium</i>
W013	Return Grill in the 640 th QM Det Office	390,000	<i>Aspergillus</i>
W014	Supply diffuser in the 610 th QM WS Co. Orderly Office	760,000	<i>Cladosporium</i>
W015	610 th QM WS Co. painted surface above window.	47,000	<i>Paecilomyces</i>

Table A-3.
Carbon Dioxide, Carbon Monoxide, Temperature, and Relative Humidity Summary
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
July 22, 2008

Area	Carbon Dioxide (ppm)	Carbon Monoxide (ppm)	Temperature °F	Relative Humidity Percent
Outdoors	220	<0.1	95	53
Conference Room	435	<0.1	71	60
S1 Battalion	440	<0.1	74.4	56
Copy Room	460	<0.1	73	57
786th QM WSB Training Officer	455	<0.1	73	58
S1 Office	395	<0.1	74	55
Battalion Commander	450	<0.1	73	57
Non-Responsive	410	<0.1	74	57
631st Eng. Det	475	<0.1	72	57
Commander Office	466	<0.1	72	57
Non-Responsive	450	<0.1	71	58
73rd Army Band	450	<0.1	71	58
Readiness NCO	480	<0.1	72	58
786th S&S BN	425	<0.1	72	60
Readiness NCO	450	<0.1	72	59
Commander	450	<0.1	72	60
OPN SGT	450	<0.1	72	58
786 QM S4	410	<0.1	72	55
Vacant Office	400	<0.1	72	60
Break room	450	<0.1	71	58
661 st MP Det	430	<0.1	72	59
786th Supply Room	275	<0.1	85	68
786th Supply Office	440	<0.1	83	56
786th Supply Cages	320	<0.1	86	65
Distance Learning	260	<0.1	77	36
Drill Hill	250	<0.1	85	71
Medics Office	300	<0.1	82	45
694 Amb Det Orderly Room	290	<0.1	77	51
Non-Responsive	280	<0.1	77	52
610 QM WSC	350	<0.1	77	57
Office	360	<0.1	76	56

Table A-4.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
July 22, 2008

Area	Minimum Reading Foot candle (ft-cd)	Maximum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
Conference Room	80.2	N/A	121.6
S1 Batallion	95.4	109.6	105.2
Copy Room	43.3	64	44.8
786th QM WSB Training Officer	132	135	134
S1 Office Cpt. Brewly	89.9	92.8	92.3
Batallion Commander	97	97	97
Non-Responsive	99.8	100.3	100
631st Eng. Det	11	113	92
Commander Office	62	79	71
Non-Responsive	73	76	73
73rd Army Band	70	71	70
Readiness NCO	44	45	44
786th S&S BN	98.9	102.6	101.2
Readiness NCO	83	83.9	83
Commander	66.6	66.6	66.6
OPN SGT	69.4	69.4	69.4
786 QM S4	107	108	107.4
Vacant Officec	46	47.4	46.6
Break room	147	157	147
661 st MP Det	57.4	58.7	57.4
786th Supply Room	15.4	15.6	15.4
786th Supply Office	22.4	23.7	22.6
786th Supply Cages	9.4	26.4	21
Distance Learning	11.6	79.5	29.4
Drill Hill	1.5	101.6	50.2
Medics Office	51.7	87.2	54.4
694 Amb Det Orderly Room	131.9	171.6	164.2
Non-Responsive Office	67.4	69.3	68.3
610 QM WSC	54.9	137.7	82.6
Office	119.6	123.8	119.6

Table A-5.
 Surface Lead Wipe Survey
 Virgin Islands Army National Guard
 SFC L. Francis Armory
 St. Thomas, VI
 July 22, 2008

Sample Number	Sample Location	Micrograms of lead (ug) per square foot
W01	Top of refrigerator in the break room	< 2.0
W02	Top of projector in distance learning center	2.1
W03	Drill floor northwest corner	< 2.0
W04	Drill floor southwest corner	< 2.0
W05	Drill floor southeast corner	< 2.0
W06	Drill floor northeast corner	< 2.0
W07	Top of cabinet in 694 th Amb Det orderly office	2.4
W08	Top of cabinet in 73 rd Army band office	18
W09	Top of outgoing mail box in S1 area.	2.5
W10	Field Blank	< 2.0

Appendix B

EMLab P&K

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

Client: U.S. Public Health Service

C/O: **Non-Responsive**

Re: 30; NGB-USVI

Date of Sampling: 07-16-2008

Date of Receipt: 07-24-2008

Date of Report: 07-25-2008

CULTURABLE AIR FUNGI REPORT

Location:	STT-ARM-01: 631st Eng Det office		STT-ARM-02: 786th QM WSB commander's office:		STT-ARM-03: Conference room		STT-ARM-04: Distance learning center, training room	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	1972386-1		1972387-1		1972388-1		1972389-1	
	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3
Acremonium								
Alternaria								
Aspergillus flavus								
Aspergillus fumigatus								
Aspergillus nidulans							2	24
Aspergillus niger							2	24
Aspergillus ochraceus			2	24			1	12
Aspergillus versicolor								
Aureobasidium	1	12						
Basidiomycetes								
Bipolaris/Drechslera group								
Botrytis								
Chaetomium	1	12						
Cladosporium	1	12	11	130	2	24	5	59
Curvularia								
Epicoccum								
Fusarium								
Non-sporulating fungi	5	59	3	35	11	130	1	12
Paecilomyces							1	12
Penicillium	3	35	2	24				
Phoma								
Rhizopus								
Stachybotrys chartarum								
Ulocladium								
Yeasts					1	12		
Positive Hole	400		400		400		400	
Sample volume (liters)	84.9		84.9		84.9		84.9	
TOTAL CFU*/M3		118		213		166		143

* cfu = colony forming units

Positive hole correction chart used for all calculations

Comments:

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.
 NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.)
 PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.
 The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.
 ‡ A "Version" greater than 1 indicates amended data.

EMLab ID: 447506. Page 1 of 3

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

Client: U.S. Public Health Service
C/O: **Non-Responsive**
Re: 154760031223707134650, NGB-USV1

Date of Sampling: 07-16-2008
Date of Receipt: 07-24-2008
Date of Report: 07-25-2008

CULTURABLE AIR FUNGI REPORT

Location:	STT-ARM-05: Commander's office		STT-ARM-06: 640th QM Det office		STT-ARM-07: 694th Amb Det orderly room		STT-ARM-08: 610th QM WS Co orderly room	
Comments (see below)	None		None		None		None	
Lab ID-Version†:	1972390-1		1972391-1		1972392-1		1972393-1	
	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3
Acremonium								
Alternaria	1	12	1	12			1	12
Aspergillus flavus								
Aspergillus fumigatus								
Aspergillus nidulans								
Aspergillus niger	3	35						
Aspergillus ochraceus								
Aspergillus versicolor								
Aureobasidium								
Basidiomycetes								
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	7	82	6	71	5	59	16	188
Curvularia								
Epicoccum							1	12
Fusarium								
Non-sporulating fungi	3	35	2	24	1	12	2	24
Paecilomyces								
Penicillium	3	35	1	12	5	59	5	59
Phoma								
Rhizopus								
Stachybotrys chartarum								
Ulocladium								
Yeasts	1	12	7	82	3	35	3	35
Positive Hole	400		400		400		400	
Sample volume (liters)	84.9		84.9		84.9		84.9	
TOTAL CFU*/M3		211		201		165		330

* cfu = colony forming units Positive hole correction chart used for all calculations

Comments:

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.

NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.)

PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

† A "Version" greater than 1 indicates amended data.

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Client: U.S. Public Health Service
 C/O **Non-Responsive**
 Re: A121840/S122578/P134630; NGB-USVI

Date of Sampling: 07-16-2008
 Date of Receipt: 07-24-2008
 Date of Report: 07-25-2008

CULTURABLE AIR FUNGI REPORT

Location:	STT-ARM-09: S4 Battalion office		STT-ARM-10: S1 Battalion office	
Comments (see below)	None		None	
Lab ID-Version‡:	1972394-1		1972395-1	
	raw ct.	cfu*/m3	raw ct.	cfu*/m3
Acremonium				
Alternaria			1	12
Aspergillus flavus				
Aspergillus fumigatus				
Aspergillus nidulans				
Aspergillus niger				
Aspergillus ochraceus				
Aspergillus versicolor				
Aureobasidium				
Basidiomycetes				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	4	47	56	707
Curvularia				
Epicoccum				
Fusarium				
Non-sporulating fungi	21	259	1	12
Paecilomyces				
Penicillium	3	35	4	47
Phoma				
Rhizopus				
Stachybotrys chartarum				
Ulocladium				
Yeasts				
Positive Hole	400		400	
Sample volume (liters)	84.9		84.9	
TOTAL CFU*/M3		341		778

* cfu = colony forming units Positive hole correction chart used for all calculations

Comments:

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.
 NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.)
 PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.
 The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.
 ‡ A "Version" greater than 1 indicates amended data.

EMLab ID: 447506, Page 3 of 3

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

Date of Sampling: 07-16-2008
 Date of Receipt: 07-24-2008
 Date of Report: 08-04-2008

Service
 Non-Response
 4630; NGB-USVI

FUNGAL CULTURE REPORT

Location:	W010: Supply diffuser S1 Battalion office	W011: 786th Cmd's office, supply diffuser	W012: Distance learning return grill	W013: 640th QM Det office return grill
Comments (see below)	None Swab sample	None Swab sample	None Swab sample	None Swab sample
Sample type	Swab sample	Swab sample	Swab sample	Swab sample
Media used	MEA	MEA	MEA	MEA
Lab ID-Version†	1972396-1	1972397-1	1972398-1	1972399-1
Sample size	1 in 2	1 in 2	1 in 2	1 in 2
Dilutions	1:10, 1:100, 1:1,000 & 1:10,000	1:10, 1:100, 1:1,000 & 1:10,000	1:10, 1:100, 1:1,000 & 1:10,000	1:10, 1:100, 1:1,000 & 1:10,000
TOTAL CFU*	280,000	810,000	200,000	390,000
DL %	100	100	100	100
CFU*/unit	280,000	810,000	200,000	390,000
DL	10	10	10	10
%	100	100	100	100
Aspergillus	10,000	10,000	10,000	10,000
Aspergillus flavus				
Aspergillus fumigatus				
Aspergillus nidulans				
Aspergillus niger				
Aspergillus ochraceus				
Aspergillus ustus				
Aspergillus versicolor				
Aureobasidium				
Basidiomycetes				
Bipolaris/Dicellaera group				
Botrytis				
Cladosporium	280,000	720,000	30,000	30,000
Curvularia				
Epizocum				
Fusarium				
Non-sporulating fungi	10,000	10,000	10,000	10,000
Paeclomyces	60,000	60,000	10	10
Penicillium	10,000	10,000	10	10
Stachybotrys chartarum				
Ulocladium				
Yeasts				
CFU	280,000	810,000	200,000	390,000
DL	10	10	10	10
%	100	100	100	100

* cfu = colony forming units

Comments:

† A "Version" greater than 1 indicates amended data.

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Date of Sampling: 07-16-2008
 Date of Receipt: 07-24-2008
 Date of Report: 08-04-2008

Client: U.S. Public Health Service
 4630; NGB-USVI

FUNGAL CULTURE REPORT

Location:	W014:		W015:	
	610th QM WS Co orderly supply diffuser	610th QM WS Co paint surface above window	610th QM WS Co orderly supply diffuser	610th QM WS Co paint surface above window
Comments (see below)	None	None	None	None
Sample type	Swab sample	Swab sample	Swab sample	Swab sample
Media used	MEA	MEA	MEA	MEA
Lab ID-Version†:	1972400-1	1972400-1	1972400-1	1972400-1
Sample size	1	1	1	1
Unit	1 in2	1 in2	1 in2	1 in2
Dilutions	1:10, 1:100, 1:1,000 & 1:10,000	1:10, 1:100, 1:1,000 & 1:10,000	1:10, 1:100, 1:1,000 & 1:10,000	1:10, 1:100, 1:1,000 & 1:10,000
TOTAL CFU*	760,000	760,000	47,000	47,000
Acromonium	180,000	180,000	10	24
Alternaria				
Aspergillus flavus				
Aspergillus fumigatus				
Aspergillus nidulans				
Aspergillus niger	20,000	20,000	10	3
Aspergillus ochraceus				
Aspergillus ustus				
Aspergillus versicolor	10,000	10,000	10	1
Aurobasidium				
Basidiomycetes				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	530,000	530,000	10	70
Curvularia				
Epicochium				
Fissarium				
Nonsporulating fungi				
Pachomyces				
Penicillium	20,000	20,000	10	3
Stachybotrys chartarum				
Ulocladium				
Yeasts				
CFU* ^{DL}	DL	DL	DL	DL
%	%	%	%	%
CFU* ^{DL}	CFU* ^{DL}	CFU* ^{DL}	CFU* ^{DL}	CFU* ^{DL}

* cfu = colony forming units
 † A "Version" greater than 1 indicates amended data.

EMLab P&K

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Client: [REDACTED]
C/O: [REDACTED]
Re: A121840/S122378/134050, NGB-USVI

Date of Sampling: 07-16-2008
Date of Receipt: 07-24-2008
Date of Report: 07-25-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	13606819: S1 Battalion office	13606894: 786th QM WSB Cmd office	13607115: Conference room	13606853: Distance learning/ training
Comments (see below)	None	None	None	None
Lab ID-Version†:	1972402-1	1972403-1	1972404-1	1972405-1
	raw ct. % read spores/m3	raw ct. % read spores/m3	raw ct. % read spores/m3	raw ct. % read spores/m3
Alternaria				
Arthrinium				
Ascospores*				
Aureobasidium				
Basidiospores*				
Bipolaris/Drechslera group				
Botrytis				
Chaetomium				
Cladosporium	13 25 347	2 25 53	1 25 27	1 25 27
Curvularia	6 100 40	2 100 13	1 100 7	
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Other colorless				
Penicillium/Aspergillus types†				
Pithomyces				
Rusts*				
Smuts*, Periconia, Myxomycetes*	1 100 7		1 100 7	
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	4+	3+	3+	3+
Sample volume (liters)	150	150	150	150
TOTAL SPORE/m3		394	66	41
				27

Comments:

* Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paeclomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.
The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.
‡ A "Version" greater than 1 indicates amended data.

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Client: U.S. Public Health Service

C/O: **Non-Responsive**

Re: [REDACTED]; NGB-USVI

Date of Sampling: 07-16-2008

Date of Receipt: 07-24-2008

Date of Report: 07-25-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	13606917: Commander's office			13606956: 640th QM Det office			13606911: 694th Amb Det orderly rm		
Comments (see below)	None			None			None		
Lab ID-Version:	1972406-1			1972407-1			1972408-1		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Alternaria									
Arthrinium									
Ascospores*									
Aureobasidium									
Basidiospores*									
Bipolaris/Drechslera group									
Botrytis									
Chaetomium									
Cladosporium	2	25	53	1	25	27	5	25	133
Curvularia									
Epicoccum									
Fusarium									
Myrothecium									
Nigrospora									
Other colorless									
Penicillium/Aspergillus types†									
Pithomyces									
Rusts*									
Smuts*, Periconia, Myxomycetes*	2	100	13	1	100	7			
Stachybotrys									
Stemphylium									
Torula									
Ulocladium									
Zygomycetes									
Background debris (1-4)††	3+			3+			3+		
Sample volume (liters)	150			150			150		
TOTAL SPORE/m3			66			34			133

Comments:

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.
 † The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
 †† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.
 The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.
 ‡ A "Version" greater than 1 indicates amended data.

EMLab ID: 447506, Page 2 of 3

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Client: U.S. Public Health Services
C7
Re: **Non-Responsive**

NGB-USVI

Date of Sampling: 07-16-2008
Date of Receipt: 07-24-2008
Date of Report: 07-25-2008

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	13606913: 610th QM WS Co, orderly rm	13606970: S4 Battalion office	13606890: 631st Eng Det office						
Comments (see below)	None	None	None						
Lab ID-Version†:	1972409-1	1972410-1	1972411-1						
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Alternaria									
Arthrinium									
Ascospores*									
Aureobasidium									
Basidiospores*									
Bipolaris/Drechslera group									
Botrytis									
Chaetomium									
Cladosporium	6	25	160	1	25	27	1	25	27
Curvularia	1	100	7						
Epicoccum									
Fusarium									
Myrothecium									
Nigrospora									
Other colorless									
Penicillium/Aspergillus types†									
Pithomyces									
Rusts*									
Smuts*, Periconia, Myxomycetes*							1	100	7
Stachybotrys									
Stemphylium									
Torula									
Ulocladium									
Zygomycetes									
Background debris (1-4+)††	4-			3+			4+		
Sample volume (liters)	150			150			150		
TOTAL SPORE/m3			167			27			34

Comments:

* Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paeecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.
The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.
‡ A "Version" greater than 1 indicates amended data.

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Environmental Health Laboratory, 150 S. Independence, Mill Mead, Suite 200, Mill Mead, VA 22111

Agreement No.: A 121840
Statement of Work No.: S 122578
Project No.: P 134630

For Lab Use Only
Project/Report #: [Redacted]
Due Date: [Redacted]
Samples Received/Chilled? YES NO (circle one)
Container Types: 2- Plastic, G-Glass, VAVOC reserved:
A-Nona, B-H₂SO₄, C-HNO₃, D-NaOH

Table with columns: SIT-ARM #, Date, Time, Location, Volume (Liters), Wipe Area (Sq Ft), Water Volume (Liters), Turn Around Time, Lab ID #

Comments: [Redacted]

* Applied to non-viable microbiological samples only. @ Applied to asbestos samples. SD: 2-hour PUM/PCM, 6-hour TEM; ND: 24-hour; R: 3-5 business days.

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Environmental Microbiology Laboratory		Project / Report #:		Conciliations on Receipt with Name & Date	
For Lab Use Only		Project / Report #:		Conciliations on Receipt with Name & Date	
Due Date:		Samples Received/Cultured? YES NO (circle one)		Turn Around Time Code*	
Sample Location / Description		Flow Time (LPM) (Min.)		Wipe Area (ft ²)	
Media*		Collected Date		Volume (Liters)	
Type*		Time		Water Volume Code*	
ID #		Sample Location / Description		Turn Around Time*	
				Lab ID #	
SIT-ARM φ9		283	3	84.9	
SIT-ARM φ10					
Wφ10					
Wφ11					
Wφ12					
Wφ13					
Wφ14					
Wφ15					

Non-Responsive

54 Ballation Office
601st Eng Det Office
Supply diffuser S1 Battalion
780th Cmd's office
Supply diffuser
Distance Learning
Return Grill
604th QM Det Office
Return Grill
610th QM WS Co
Orderly Supply diffuser
610th QM WS Co
Paint Surface above window

7/16/08 PM

1-Charcoal 2-XAD 3-Matched Weight
4-Preweighed 5-MEA 6-CCA 7-ROATE
8-All-Cell Cassette 9-MCE Cassette (I)
10-MCE Cassette (O.B.) 11-MCE Filter 12-Other

1-Air 2-Water 3-Paint 4-Sol 5-Dust
6-Bulk 7-Wipe 8-Contour Plate
9-Tape 10-Spore Trap (Zellon & others)
11-Other

COMMENTS:

* Applied to non-viable microbiological samples only. * Applied to asbestos samples, SD: 2-hour PLM/PCM, 6-hour TEM; ND: 24-hour; R: 3-5 business days.

CHAIN OF CUSTODY
www.EMLabPK.com



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 San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 • (866) 898-6653
 San Diego, CA: 5472 Kearny Villa Road, #130, San Diego, CA 92123 • (866) 465-6653

WEATHER
 None Light Moderate Heavy
 LTVB Fog Rain Snow Wind Clear

WEATHER NOTES
 Non-Culturable: Spore Trap, Spore Swab, Bulk
 Culturable: BioCassette, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate

PROJECT
 Project Disc: [Redacted]
 Project: [Redacted]
 Zip Code: [Redacted]
 PO Number: [Redacted]

WEATHER
 None Light Moderate Heavy
 LTVB Fog Rain Snow Wind Clear

WEATHER NOTES
 Non-Culturable: Spore Trap, Spore Swab, Bulk
 Culturable: BioCassette, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate

PROJECT
 Project Disc: [Redacted]
 Project: [Redacted]
 Zip Code: [Redacted]
 PO Number: [Redacted]

Sample ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)
13606819	S1 Battalion Office	ST	STD	150 L	73°F 63%
13606894	786th QM WSB and Office				
13607115	Conference Rooms				
13606853	Distance Learning Training				
13606917	Commander's Office				
13606956	40th QM Det. Office				
13606911	64th Amb Det. Office				
13606913	10th QM W5 Co. Office				
13606970	84 Battalion Office				
13606890	63rd Eng Det. Office				

DATE & TIME
 7/16/08 AM

RECEIVED BY
 [Redacted]

DATE & TIME
 [Redacted]

RECEIVED BY
 [Redacted]

REQUESTED SERVICES (✓ Boxes)	DATE & TIME
Non-Culturable: Spore Trap, Spore Swab, Bulk	
Culturable: BioCassette, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plate	
1-Media Surface Fungi (Census ID + App. spp.)	
2-Media Surface Fungi (Census ID + App. spp.)	
3-Media Surface Fungi (Census ID + App. spp.)	
Culturable Air Fungi (Census ID + App. spp.)	
Cream Stain and Counts (Culturable Air and Surface Bacteria)	
Legionella culture	
Total Coliform, Coli (Presence/Absence)	
Membrane Filtration (Please specify organism)	
MPN Bacteria (Please specify organism)	
Quantify + Sewage Screen	
Asbestos Analysis - PCM Airborne Fiber Count (NIOSH 7400)	
Asbestos Analysis - PLM (EPA method 600/R-93-116)	
PCR (Please specify test)	

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at www.emlabpk.com/facm.html
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Appendix C



TEST REPORT
Page 1 of 2
7/30/08

Submitted To: **Non-Responsive**

Reference Data:	Lead
Client Sample No.:	W01 through W10
P.O. No.:	Not Available
Sample Location:	St. Thomas Armory
Sample Type:	Ghost Wipe
Method Reference:	3050B/6010B
DCL Set ID No.:	08-S-3858
DCL Sample ID No.:	08-21817 through 08-21826
Sample Receipt Date:	7/28/2008
Preparation Date:	7/29/2008
Analysis Date:	7/29/2008

The samples were prepared in accordance with EPA method 3050B. Sample condition was acceptable upon receipt except where noted. The samples were then analyzed in accordance with EPA method 6010B using a trace ICP.

The results are provided in the enclosed data table. Results relate only to the items tested and are not blank corrected unless indicated in the data table.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Non-Responsive

Results
Lead

Client #	DCL #	Total Area (ft ²)	µg/Wipe	µg/ft ²
W01	08-21817	1	ND	<2.0
W02	08-21818	1	2.1	2.1
W03	08-21819	1	ND	<2.0
W04	08-21820	1	ND	<2.0
W05	08-21821	1	ND	<2.0
W06	08-21822	1	ND	<2.0
W07	08-21823	1	2.4	2.4
W08	08-21824	1	18	18
W09	08-21825	1	2.5	2.5
W10	08-21826	1	ND	<2.0
	Prep Blank		ND	
% Recovery	LCS 1		96	
% Recovery	LCS 2		94	
RPL			2.0	

ND = not detected at or above the reporting limit (RPL).
LCS = laboratory control sample.

Non-Responsive



ANALYTICAL REQUEST FORM

1. REGULAR Status
 RUSH Status Requested - ADDITIONAL CHARGE
 RESULTS REQUIRED BY _____ DATE _____
 CONTACT DATACHEM LABS PRIOR TO SENDING SAMPLES

2. Date 7/26/08 Purchase Order No. _____ 4. Quote No. _____
 3. Company Name Timmer Sciences, Inc. DCL Project Manager _____
 Address 3744 Lawrence Drive 5. Sample Collection _____
 City N/A Sampling Site St. Thomas Armory
 Person [Redacted] Industrial Process N/A
 Telephone _____ Date of Collection 7/22/08
 Fax Tele _____ Time Collected Day
 E-mail A _____ Date of Shipment 7/26/08
 Billing A _____ Chain of Custody No. _____
N 6. How did you first learn about DataChem?
M _____
Co _____

7. REQUEST FOR ANALYSES 08-5-3858

Laboratory Use Only	Client Sample Number	Matrix*	Sample Volume	ANALYSES REQUESTED - Use method number if known	Units**
<u>21817</u>	<u>W01</u>	<u>Ghost Wipe</u>		<u>Lead (Etb)</u>	
<u>21818</u>					
<u>21819</u>			<u>1 Subject</u>		
<u>21820</u>					
<u>21821</u>					
<u>21822</u>					
<u>21823</u>					
<u>21824</u>					
<u>21825</u>	<u>W10</u>				
<u>21826</u>					

* Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk sample; Blood; Urine; Tissue; Soil; Water; Other
 ** 1. µg/sample 2. mg/m³ 3. ppm 4. % 5. µg/m³ 6. _____ (other) Please indicate one or more units in the column entitled Units**

Possible Contamination and/or Chemical Hazards _____
 7. Chain of Custody
 Relinquished by [Redacted] 7/26/08
 Received by [Redacted] 7/28/08 11:07
 Relinquished by _____
 Received by _____

980 West LeVoy Drive / Salt Lake City, UT 84123 800-366-9135 or 801-268-7700 / FAX: 801-268-9892
 DATACHEM LABORATORIES, INC.

Appendix D

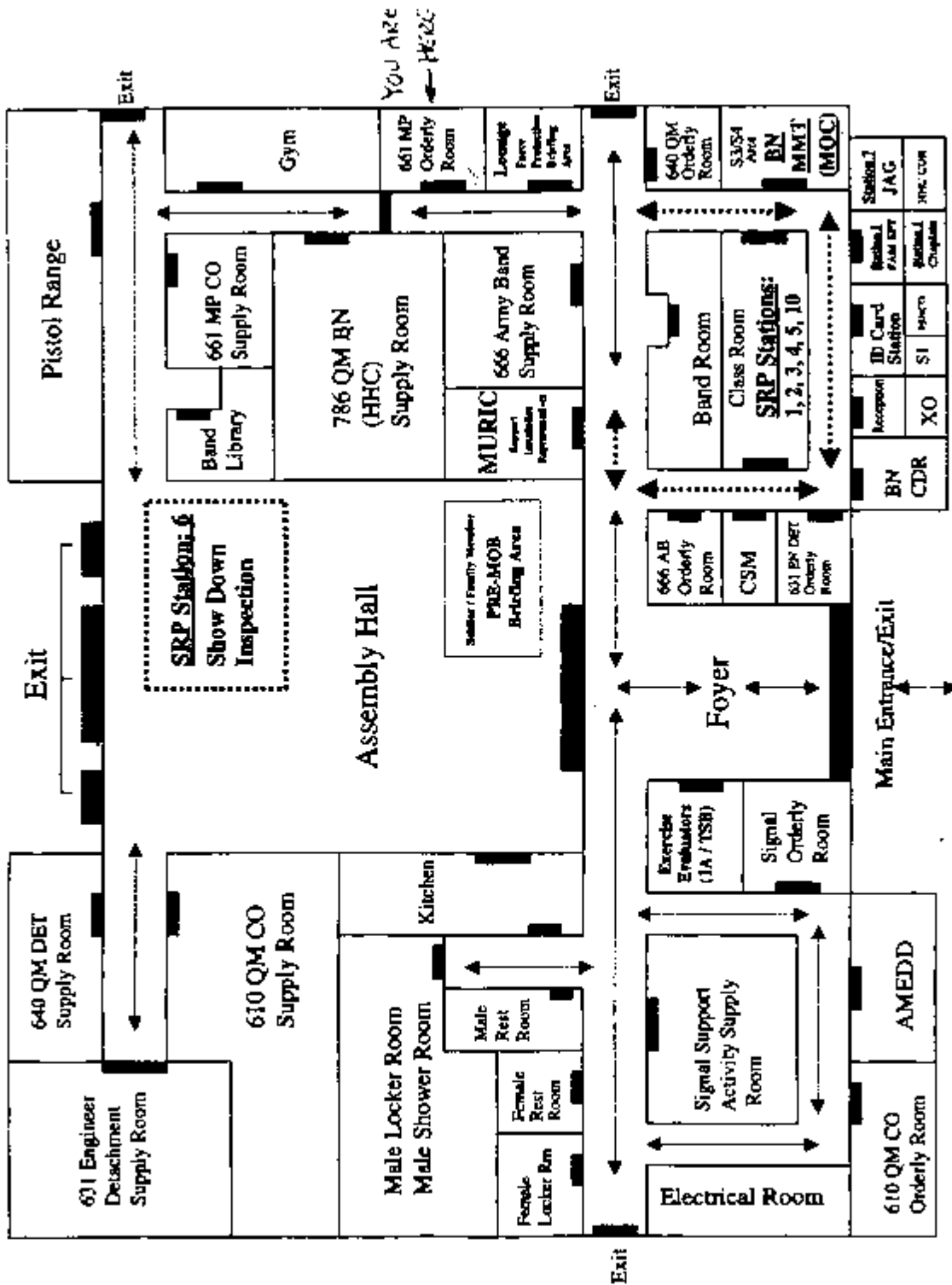
The following is a description of some common fungal species found in indoor environments.

1. Alternaria. A common allergen often found in carpets, textiles, and horizontal surfaces in building interiors such as window frames. It has been associated with hypersensitivity pneumonitis and extrinsic asthma.
2. Aspergillus flavus. An allergenic fungus. Its presence is associated with reports of asthma and can be found in water damage carpets. Some strains are capable of producing mycotoxins in the aflatoxin group. Aflatoxins are known animal carcinogens and are poisonous to humans by ingestions.
3. Aspergillus niger. Musty odor. Commonly found in the environment on textiles, in soil, grains, fruits, and vegetable. Reported to cause skin and pulmonary infections. Common cause of fungal related ear infections.
4. Aspergillus sp. Reported to cause ear and eye infections and many species produce mycotoxins, which may be associated with disease in humans and other animals. Common cause of extrinsic asthma.
5. Basidiomycetes. Fungal spores from mushrooms. Many mushroom spores are reported to be allergenic.
6. Cladosporium. A common allergen commonly identified as an outdoor fungus. Commonly found on the surface of fiberglass duct liner in the interior of supply ducts. Found on dead plants, woody plants, food, straw, soil, paint, and textiles. Common cause of extrinsic asthma.
7. Epicoccium. A common allergen found implants, soil, grains, textiles, and paper products.
8. Paecilomyces. Commonly found in soil and dust. Allergenic with some species reported to cause pneumonia.
9. Penicillium. Often found in aerosol samples, this type is commonly found in soil food, cellulose, grains, paint, and compost piles. It may cause hypersensitivity pneumonitis, extrinsic asthma, and is reported to allergenic to the skin. It can be commonly found in carpet, wallpaper, and interior fiberglass duct insulation.

For further readings on issues relating to microbiological contamination and indoor air quality please refer to:

-
-
-

Appendix E



Appendix F



Photo #1: Front entrance of the VIARNG Armory Building.



Photo #2: Drill Hall.



Photo #3: Water stained ceiling tiles in the distance learning center.



Photo #4: Distance Learning Center.



**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-SEIH

20 September 2009

MEMORANDUM Through **Non-Responsive** Deputy State Surgeon 4031 la Grande, Princesse
Lot IB, Christiansted, Virgin Islands 00820-4353

ATTN.: Commander, U.S. Virgin Islands Army National Guard (VI ARNG) SFT Lionel
B Francis Armory, St. Thomas, US Virgin Islands.

SUBJECT: Transmittal of Industrial Hygiene Report of VI ARNG SFT Lionel B Francis
Armory, St. Thomas, VI.

1. References.

- a. Department of Defense Instruction 6055.1, Department of Defense Occupational Safety and Health (OSH) Program, 19 August 1998.
- b. Title 29, Code of Federal Regulations (CFR), 2009 rev., part 1910, Occupational Safety and Health Standards.
- c. Title 29 CFR, General Industry, revised 1996 rev. Part 1940
- d. Army Regulation (AR) 40-5, Medical Service, Preventive Medicine, 25 May 2007
- e. AR 385-10, The Army Safety Program, 23 August 2007.
- f. AR 11-34, 15 February 1990, The Army Respiratory Protection Program.
- g. National Guard Regulation (NGR) 385-10, Army National Guard Safety and Occupational Health Program, 12 September 2008.
- h. TB MED 503, The Army Industrial Hygiene Program, 30 October 2000.
- i. Threshold Limit Values and Biological Exposure Indices (TLV's) for 2009 American Conference of Governmental Industrial Hygienists (ACGIH), Cincinnati, Ohio.
- j. Industrial Ventilation, 26th rd Edition, American Conference of Governmental Industrial Hygienist, Cincinnati, Ohio.
- k. Report dated Sep 16, 2009, Industrial Hygiene Survey, Tammer Sciences Inc. 3744 Lawrence Dr., Naperville, IL.

2. General.

20 September 2009

NGB-ARS-SEIH

SUBJECT: Transmittal of Industrial Hygiene Report of VI ARNG SFT Lionel B Francis Armory, St. Thomas, VI.

- a. At the request of **Non-Responsive** Deputy State Surgeon and the Safety & Occupational Health Office, an Industrial Hygiene Service was put together to conduct a follow up IH Health Hazard Survey of VI ARNG SFT Lionel B Francis Armory, St. Thomas, VI.
- b. **Non-Responsive** of Tammer Sciences Inc. 3744 Lawrence Dr., Naperville, IL conducted the survey.

3. Findings. 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.

- a. Understand that all findings found in the enclosed report have been reviewed by the Regional Industrial Hygienist and the following recommendations are the ones to be followed. Use the guidance given in the enclosed report as good IH practices, requesting industrial hygiene (IH) services where needed. The recommendations that follow are based on the survey findings.
 - i. Repair all water leaks and repair, replace, clean or disinfect all water damaged building materials. (RAC 3)
 - ii. Conduct a pre-occupancy survey for IFR after decontamination and renovations are completed. (RAC 3)
- b. 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. Have all HHIM data entered into the HHIM computer module.
- c. Use the report to help in correcting all discrepancies noted. Develop a corrective actions plan and forward it to the Occupational Safety and Health Office in 30 days detailing how recommendations are going to be implemented and expected time frames for their implementation.
- 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.

20 September 2009

NGB-ARS-SEIH

SUBJECT: Transmittal of Industrial Hygiene Report of VI ARNG SFT Lionel B Francis
Armory, St. Thomas, VI.

- 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.

Non-Responsive

CF:
State Safety Manager, ATTN: **Non-Responsive** 4031 La Grande Princess, Lot
1B, Christiansted, St. Croix USVI 00820-4353.

ENCL.

as

Industrial Hygiene Baseline Survey Report
For
U.S. Virgin Islands Army National Guard
(VIARNG)

At

SFT Lionel B Francis Armory
St. Thomas, VI.

Prepared for:

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

By

Non-Responsive

September 16, 2009

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- A. Floor Layout.
- B. Photographs.

Executive Summary

An initial baseline industrial hygiene survey was conducted at the SFT Lionel B Francis Armory on 21 July 2009 as part of the Virgin Island 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 where necessary, 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	No wipes collected. The IFR remains closed.	No action.
Asbestos Bulk Samples	No suspect material found.	No action.
Noise Survey	No excessive noise source was identified.	No action.
Illumination Survey	24 to 128 foot-candles	No action.
HVAC/IAQ	Three air handlers with cooling and heating capabilities. No IAQ issues were expressed by employees. Several water stains were observed.	Trace and repair all water leaks. Replace damaged building materials.

SUBJECT: Industrial Hygiene Initial Baseline Survey of the SFT Lionel B Francis Armory in Saint Thomas, Virgin Island on 21 July 2009

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 SFT Lionel B Francis Armory in Saint Thomas, Virgin Islands. **Non-Responsive** contract Industrial Hygienist, Tammer Sciences, Inc. conducted the survey on 21 July 2009. The purpose of the survey was to perform an initial baseline industrial hygiene survey to identify potential health hazards present at the armory. This survey was conducted in conjunction with an indoor air quality follow-up survey.

Site Description The armory building, which was built in 1991, is a one story building with approximately 43,500 square feet of space. The building consists of a large assembly/drill hall surrounded by offices, and supply rooms on three sides. A copy of the floor layout is included in Appendix A. The armory houses a number of units including the 631rd EN DET utilities, 640th QM TM Water, DET 1 661st MP CO Guard, 73rd AG Army Band, 786th QM HHD Water Supply BN, 610th QM CO Water Supply, DET 3 HQ TARC VI&AMEDD. The indoor firing range was converted to an office area but subsequently closed for contamination.

The Heating Ventilating and Air Conditioning (HVAC) system for the building consisted of three air-handlers with cooling and heating capabilities. Two air handlers are located above the suspended ceiling and the third in a mechanical room. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings. A copy of the floor layout and photos are included in Appendix A and B, respectively.

Scope of Work The work included collecting wipe samples for lead where necessary, 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 representative surfaces in the Armory in accordance to instructions published by Region South National Guard Bureau, which required the use of unscented baby wipes or ghost wipes to wipe one square foot of surface. 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 AES 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 an Extec light meter Serial 38363. Illumination readings were taken on work surfaces such as desks or approximately four feet from the floor.

FINDINGS and DISCUSSION:

The Point of Contact during the survey was **Non-Responsive**

Lead Wipe Samples: Samples were not collected because the range has been closed since the last survey and results of the last lead wipes did not reveal any contamination outside the firing range. The table below list the results form the previous survey.

Surface Lead Wipe Survey Virgin Islands Army National Guard SFC L. Francis Armory St. Thomas, VI July 22, 2008		
Sample Number	Sample Location	Micrograms of lead (ug) per square foot
W01	Top of refrigerator in the break room	< 2.0
W02	Top of projector in distance learning center	2.1
W03	Drill floor northwest corner	< 2.0
W04	Drill floor southwest corner	< 2.0
W05	Drill floor southeast corner	< 2.0
W06	Drill floor norhtast corner	< 2.0
W07	Top of cabinet in 694 th Amb Det orderly office	2.4
W08	Top of cabinet in 73 rd Army band office	18
W09	Top of outgoing mail box in S1 area.	2.5
W10	Field Blank	< 2.0

Asbestos Suspect Building Material No asbestos suspect building materials were identified in the Armory. No samples were taken.

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

Illumination Survey Illumination readings were collected in all accessible areas of the Armory on desk tops and approximately four feet from the floor in the general area of the offices. Average illumination readings ranged from 24 to 128 foot-candles. The Table below lists the minimum maximum and average of all areas collected. :

Table 1.
Lighting Survey
Virgin Islands Army National Guard
SFC L. Francis Armory
St. Thomas, VI
July 22, 2008

Area	Minimum Reading Foot candle (ft-cd)	Maximum Reading Foot candle (ft-cd)	Average Reading Foot candle (ft-cd)
Operations and logistics	16	143	48
786 th QM Orderly Room	20	160	108
Battalion Admin Area	12	134	113
631 st Engineering Detachment Area	36	138	68
73 rd Army Band Area	17	111	66
661 st MP Co Detachment I Orderly Room	23	87	28
694 th Ambulatory Detachment Orderly Room	27	158	65
610 th QM WS Co Area	9	138	69
Family Support Office	30	50	40
512 th TC Detachment Mission Support	3	75	24
Drill Hall	3	138	66
Distance Learning	3	72	33
786 QM SGM	18	102	42
Commander Office	8	147	48
786 training Officer	35	158	67
Conference Room	25	160	128
Break room	24	167	24
Supply	2	51	27

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. Task lights are also useful in increasing the illumination levels when reading tasks are done then when VDT work is required they can be shut off.

Heating Ventilating and Air Conditioning (HVAC) The Heating Ventilating and Air-Conditioning (HVAC) system for the building consisted of three air-handlers with cooling and heating capabilities. Two air handlers are located above the suspended ceiling and the third in a mechanical room. The cooling units are located on the roof. Outside air is introduced to the plenum space through wall openings.

Several water stains were observed throughout the armory which can be caused by water leaks. These leaks should be traced and repaired. Furthermore, all damaged building materials should be replaced, cleaned or disinfected.

Recommendation:

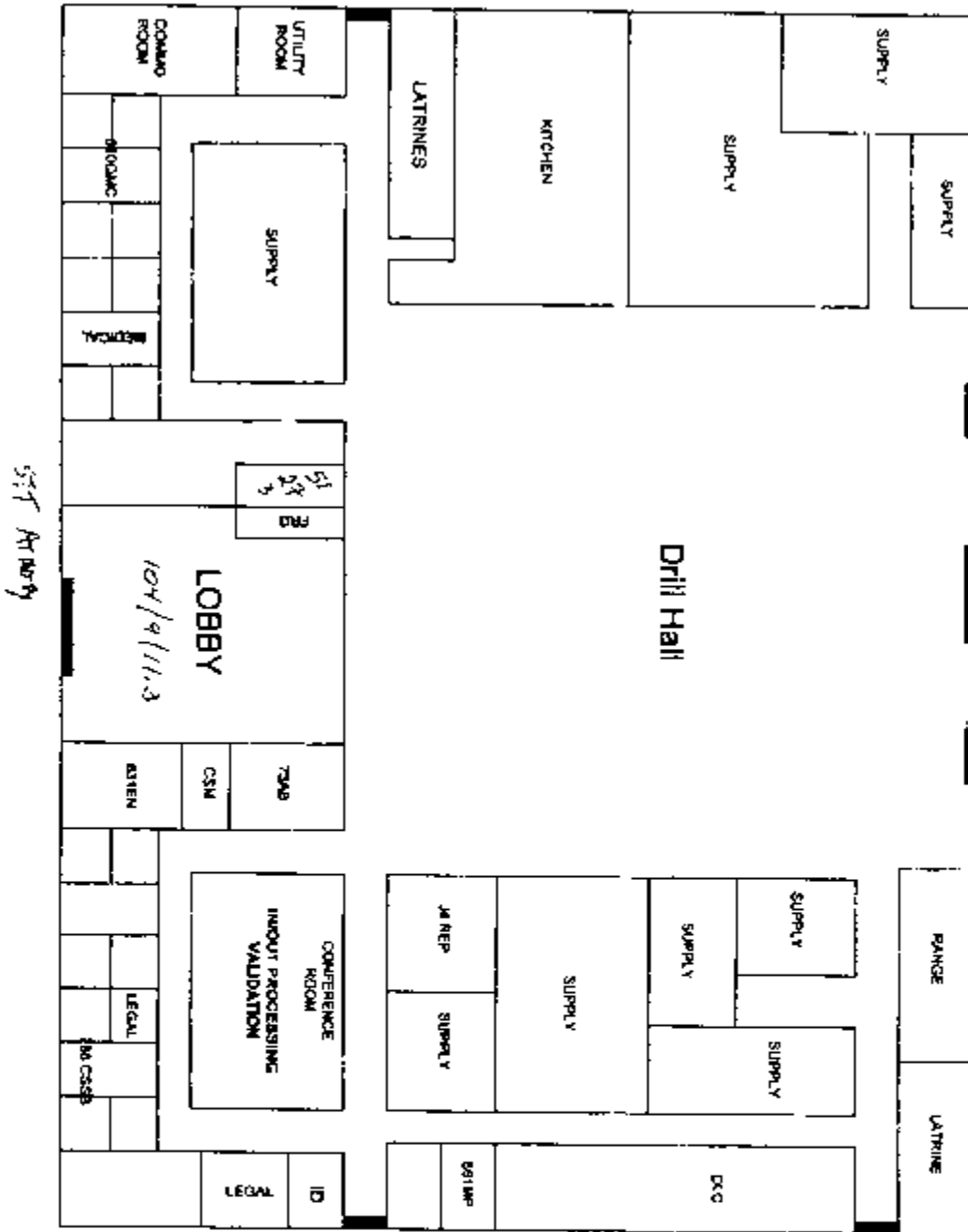
Repair all water leaks and repair, replace, clean or disinfect all water damaged building materials.

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

Non-Responsive

BEST AVAILABLE COPY

APPENDIX A



BEST AVAILABLE COPY

APPENDIX B



Photo #1: Front entrance of the VIARNG Armory Building.



Photo #2: North side of the Armory.



Photo #3: East side of the Armory.

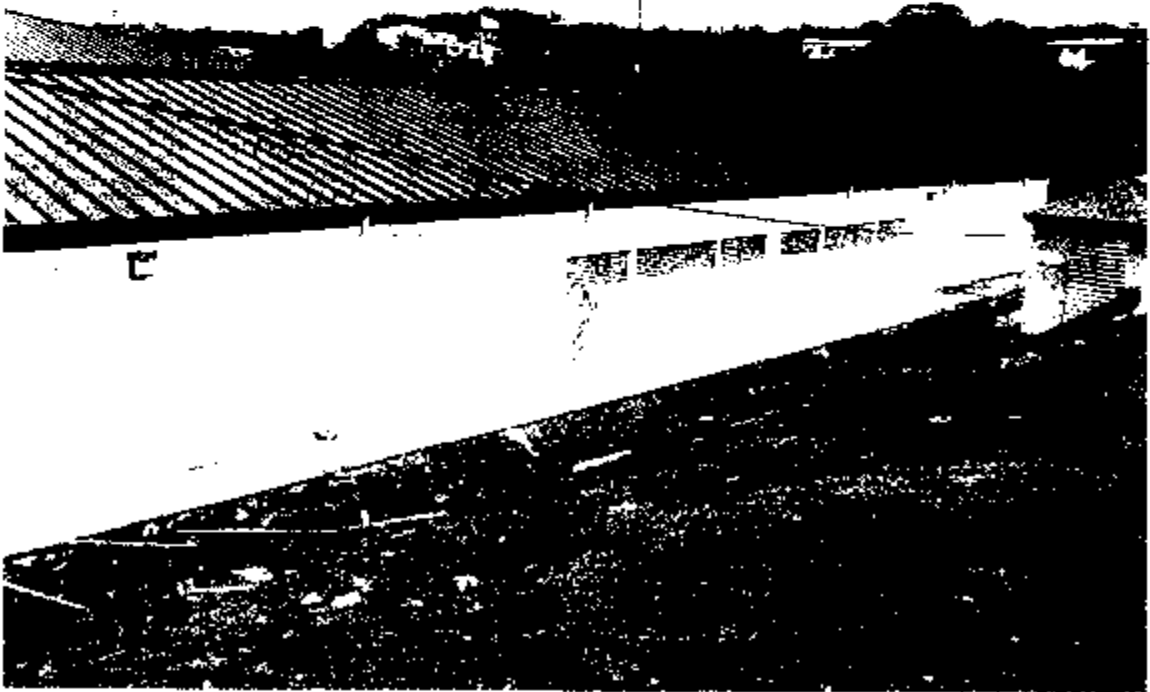


Photo #4: West side of the Armory.



Photo #5: Drill Hall facing north.



Photo #6: Drill Hall facing south.



Photo #7: Armory front lobby.



Photo #8: Conference Room.



Photo #9: Supply room.

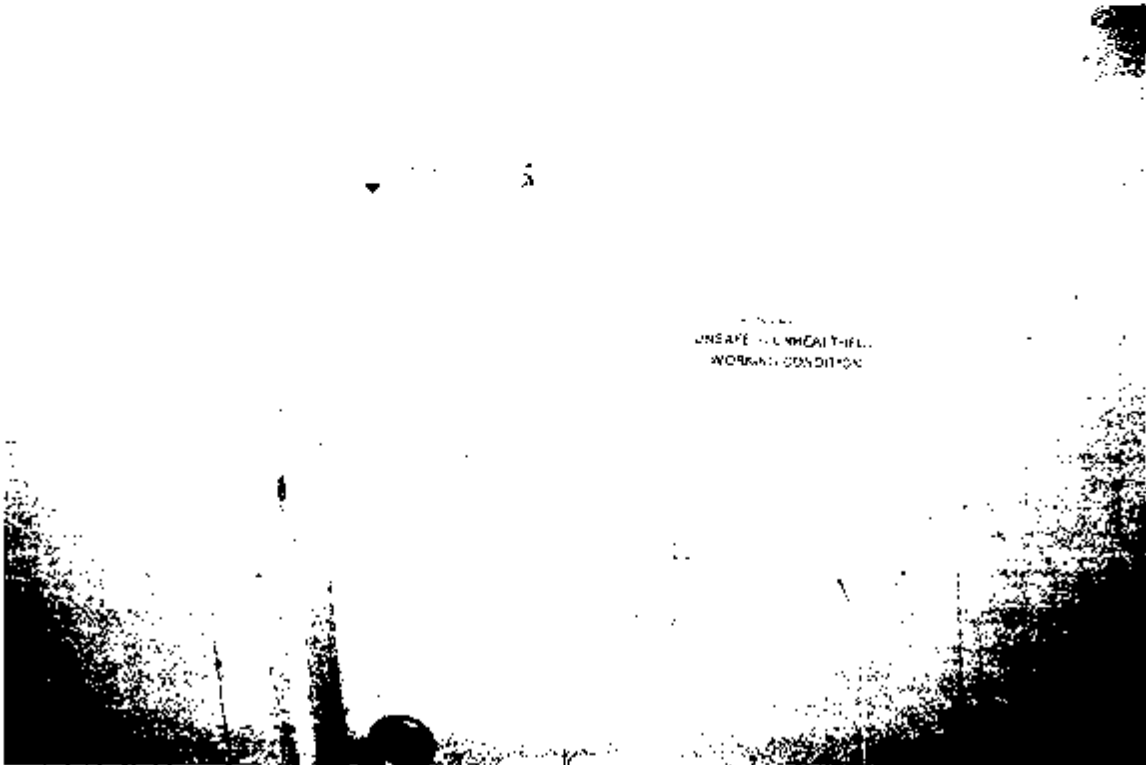


Photo #10: Entrance to the IFR showing the closing notices.