

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Armory in Adrian, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 24, 2014 at the Michigan Army National Guard Armory, located in Adrian, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory has an indoor firing range that is now closed. The Drill Room and the Kitchen are not open to the public for rental, but families of Guard employees do use the Drill Room for events.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Eleven wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

Six of the eleven wipe samples had high level of lead ranging from 122 to 1560 ug/ft². Areas with elevated lead include the drill room on the basket ball support, in the locker room/former firing range, and above a serving counter in the club room.

Recommendations

1. Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any

Surface Wipe Testing for Lead
Survey Date September 24, 2014

Armory
Adrian, MI

further questions, please contact **Non-Responsive**

Non-Responsive

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Eleven wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

Six of the eleven wipe samples had high level of lead ranging from 122 to 1560 ug/ft². Areas with elevated lead include the drill room on the basket ball support, in the locker room/former firing range, and above a serving counter in the club room.





Recommendations




1. Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Adrian Armory

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on floor		<10
W-2 Drill room on basket ball support		396
W-3 Locker room/former firing range on window sill		1055
W-4 Locker room/former firing range on floor at target end		1560

A-2

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Outside vault on pipe		1203
W-6 Kitchen on ice machine		<91
W-7 Basement room on locker		<91
W-8 Basement storage cases retrain on locker		<91

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Basement storage cages SM-CMD on locker		286
W-10 Club room on top of serving counter overhang		122
W-11 Office 1SG Vandenberghe on desk		<91
W-12 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60606 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention: **Non-Responsive**

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Adrian, MI (Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12161
DFOH Lab Nos.: TM-14-73546 through TM-14-73557
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

Non-Responsive



Project 12161
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73546	<10	<10
W-2	TM-14-73547	44	396
W-3	TM-14-73548	116	1055
W-4	TM-14-73549	172	1560
W-5	TM-14-73550	132	1203
W-6	TM-14-73551	<10	<91
W-7	TM-14-73552	<10	<91
W-8	TM-14-73553	<10	<91
W-9	TM-14-73554	31	286
W-10	TM-14-73555	13	122
W-11	TM-14-73556	<10	<91
W-12**	TM-14-73557	<10	

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead – Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12161
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 24, 2014

Armory
Adrian, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET															
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				PROJECT REFERENCE Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: <i>Armory</i> Proj. Manager: <i>Adrian</i> Location (City, State): <i>Adrian MI</i>				For Lab Use Only Project / Report #: 12/10/14 Due Date: 10/16/14 Samples Received Chilled? *YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (circle one) Water Sample Codes: Turn Around Time Codes: Analysis Requested: Container Types: P-Plastic, G-Glass, V-VOC Preservatives: A-Nono, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH STD- Standard 3D- Three Day Rush [®] WH Weekend/Holiday*							
Non-Responsive				Sample Location / Description				Air Flow (LPM) Time (Min.) Volume (Liters)		Wipe Area (ft ²) Volume (Liters)		Water Volume (Liters) Code ¹ Turn Around Time ²		Lab ID #	
ID #				Type ¹ Media ² Collected Date Time											
W-1				75 9/24/14								STD 14-73546			
W-2												73547			
W-3												73548			
W-4												73549			
W-5												73550			
W-6												73551			
W-7												73552			
W-8												73553			
W-9												73554			
W-10												73555			
W-11												73556			
W-12												73557			
Sample Type Codes: 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other				Sample Media Codes: 1-Charcoal 2-Matched Weight, 0.8um 3-PVC fiber 4-MDE 0.8um, 37mm 5-Ghost Wipes™ 6-Passive badge 7-Other				Relinquished By: Non-Responsive				Date & Time:			
Received By:				Date & Time:											
COMMENTS:															

* Applied to organic and inorganic analysis in cases of an emergency only. [®] Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Armory in Greenville, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 25, 2014 at the Michigan Army National Guard Armory, located in Greenville, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory has an indoor firing range that is now closed. The Drill Room and the Kitchen are open to the public for events.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Ten wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

Three of the ten wipe samples had high levels of lead. Two samples collected in the garage/former firing range had lead levels of 289 and 544 ug/ft². A sample collected in the Drill Room on a window ledge above an exit door had 2,209 ug lead/ft².

Recommendations

1. Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any further questions, please contact Non-Responsive [REDACTED].

Surface Wipe Testing for Lead
Survey Date September 25, 2014

Armory
Greenville, MI

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Ten wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

Three of the ten wipe samples had a high level of lead. Two samples collected in the garage/former firing range had lead levels of 289 and 544 ug/ft². A sample collected in the Drill Room on a window ledge above an exit door had 2,209 ug lead/ft².

Recommendations

1. Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)





Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Greenville Armory

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on floor		<10
W-2 Kitchen on ice machine		<91
W-3 Office supply room on mouse pad		<91
W-4 Outside vault on locker		<91

A-2



Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Greenville, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Supply cage on metal cabinet		<91
W-6 Garage/former firing range on exhaust vent on wall		135
W-7 Garage/former firing range, office, on wall ledge		<91
W-8 Garage/former firing range, office on floor		289

Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Greenville, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Garage/former firing range, upper level on floor		544
W-10 Drill room on window ledge above exit		2,209
W-11 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention: **Non-Responsive**

Submitted By:

Reference Data:

Sampling Site: NGB: Greenville, MI (Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12155
DFOH Lab Nos.: TM-14-73493 through TM-14-73503
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame and/or Perkin Elmer 600 furnace atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

Non-Responsive



Project 12155
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft²)
W-1	TM-14-73493	<10	<10
W-2	TM-14-73494	<10	<91
W-3	TM-14-73495	<10	<91
W-4	TM-14-73496	<10	<91
W-5	TM-14-73497	<10	<91
W-6	TM-14-73498	15	135
W-7	TM-14-73499	<10	<91
W-8	TM-14-73500	32	289
W-9	TM-14-73501	60	544
W-10	TM-14-73502	243	2209
W-11**	TM-14-73503	<10	

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft²	250 µg/ft²	400 µg/ft²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft²	10 µg/ft²

Non-Responsive



Project 12155
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Greenville, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET															
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				PROJECT REFERENCE Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: Armory Proj. Manager: Location (City, State): Greenville, MI				For Lab Use Only Project / Report #: 12155 Due Date: 10/6/14 Samples Received Chilled? YRS (circle one) Water Sample Codes: Turn Around Time Codes: Analysis Requested: Container Types: STD- Standard P-Plastic, G-Glass, V-VOC 3D- Three Day Rush WH Weekend/Holiday Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH				Conditions on Receipt with Name & Date Rev. 07/2013			
Non-Responsive				ID # Type Media Collected Date Time Sample Location / Description				Air Flow (LPM) Time (Min.) Volume (Liters) Area (ft ²)		Wipe Volume (Liters) Code*		Turn Around Time* Lab ID #			
				WJ-1 7 5 9/25/14						STD TW-14-73493					
				WJ-2						16		73494			
				WJ-3						16		73495			
				WJ-4						16		73496			
				WJ-5						16		73497			
				WJ-6						16		73498			
				WJ-7						16		73499			
				WJ-8						16		73500			
				WJ-9						16		73501			
				WJ-10						16		73502			
				WJ-11						16		73503			
Sample Type/Code 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other				Sample Media/Code 1-Charcoal 2-Matched Weight, 0.6um 3-PVC filter 4-MI CE 0.6 um, 37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other				Relinquished By				Received By			
COMMENTS:				Non-Responsive											

* Applied to organic and inorganic analysis in cases of an emergency only. ® Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Armory in Howell, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 25, 2014 at the Michigan Army National Guard Armory, located in Howell, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory has an indoor firing range that is now closed. The Drill Room and the Kitchen are open to the public.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Fifteen wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

Five of the fifteen wipe samples had high levels of lead. Two samples collected on surfaces above the Drill Room floor had lead levels of 236 and 1422 ug/ft². Three samples collected in the former firing range were as high as 2071 ug/ft².

Recommendations

- Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any

Surface Wipe Testing for Lead
Survey Date September 25, 2014

Armory
Howell, MI

further questions, please contact **Non-Responsive**

Non-Responsive

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Fifteen wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

Five of the fifteen wipe samples had high levels of lead. Two samples collected on surfaces above the Drill Room floor had lead levels of 236 and 1,422 ug/ft². Three samples collected in the former firing range were as high as 2,071 ug/ft².

Recommendations

1. Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)





Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Howell Armory

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on floor		<10
W-2 Drill room on exit sign		1,422
W-3 Kitchen on ice machine		<91
W-4 Room 11 adjacent to Drill room on locker		<91

A-2





Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Howell, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Fitness room on pipe		<91
W-6 Drill room on basket ball support		236
W-7 Former firing range on floor		<91
W-8 Former firing range on wall near target		214

Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Howell, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Former firing range on floor		2,071
W-10 Former firing range on wall/ceiling		737
W-11 Former firing range, office 2 nd PLT on shelf		<91
W-12 Locker room on pipe		<91

Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Howell, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-13 Boiler room on metal cabinet		<91
W-14 Hallway/stairs outside drill room kitchen on floor		<91
W-15 Front office on mouse pad		<91
W-16 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention: **Non-Responsive**

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Howell, MI (Armory)
Sample Media: Ghost Wipe(s)[®]
Method Reference: OSHA ID-121
Project ID: Project 12154
DFOH Lab Nos.: TM-14-73477 through TM-14-73492
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame and/or Perkin Elmer 600 furnace atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

Non-Responsive



Project 12154
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft²)
W-1	TM-14-73477	<10	<10
W-2	TM-14-73478	156	1422
W-3	TM-14-73479	<10	<91
W-4	TM-14-73480	<10	<91
W-5	TM-14-73481	<10	<91
W-6	TM-14-73482	26	236
W-7	TM-14-73483	<10	<91
W-8	TM-14-73484	24	214
W-9	TM-14-73485	228	2071
W-10	TM-14-73486	81	737
W-11	TM-14-73487	<10	<91
W-12	TM-14-73488	<10	<91
W-13	TM-14-73489	<10	<91
W-14	TM-14-73490	<10	<91
W-15	TM-14-73491	<10	<91
W-16**	TM-14-73492	<10	<91

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft²	250 µg/ft²	400 µg/ft²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft²	10 µg/ft²

Non-Responsive



Project 12154
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Howell, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET Page 1 of 2

City of Chicago Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				Agreement No.: A 106644		For Lab Use Only Project/Report #: 12154				Conditions on Receipt with Name & Date			
				Statement of Work No.: S 180648		Due Date: 10/16/14				Samples Received Chilled? YES (circle one)		Rev. 07/2010	
Non-Responsive				Project No.: P 180649		Container Types: P-Plastic, G-Glass, V-VOC				STD- Standard 3D- Three Day Rush* WH Weekend/Holiday*			
				Agency: ARNG		Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH				Lead			
				Proj. Manager: Armory									
				Location: Howell (City, State): MI									
ID #	Type*	Media*	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Area (ft ²)	Volume (Liters)	Code*	Turn Around Time*	Lab ID #
W-1	7	5	Sep 25					1/44				STD	73477
W-2								1/6					73478
W-3								1/6					73479
W-4								1/6					73480
W-5								1/6					73481
W-6								1/6					73482
W-7								1/6					73483
W-8								1/6					73484
W-9								1/6					73485
W-10								1/6					73486
W-11								1/6					73487
W-12								1/6					73488
W-13								1/6					73489
Non-Responsive													
COMMENTS:													

* Applied to organic and inorganic analysis in cases of an emergency only. * Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

Surface Sample Lead Testing
Survey Date: September 25, 2014

Armory
Howell, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Page 2 of 2

536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				Agreement No.: A 106644 Statement S 180648 Project of Work No.: P 180649 Agency ARNG Proj. Manager Armory Location Howell MI (City, State):		For Lab Use Only Project/Report #: 12154 Due Date: 10/6/14 Samples Received Chilled? YES NO (circle one) Water Sample Grade: Internal Use Only Codes: A-B-C-D-E-F-G-H-I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z Container Types: P-Plastic, G-Glass, V-VOC Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH STD- Standard 3D- Three Day Rush* WH Weekend/Holiday*													
Non-Responsive				Sample ID #		Type		Media		Collected Date Time		Sample Location / Description		Air Flow (LPM) Time (Min.) Volume (Liters) Area (ft ²) Wipe Volume (Liters) Code*		Turn Around Time*		Lab ID #	
				W-14		75		Sept 25						16		STD		TH-14-73490	
				W-15										16				73491	
				W-16														73492	
1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other				1-Charcoal 2-Matched Weight, 6-Inch 3-PVC filter 4-M CE 0.8 um .37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other				Non-Responsive											
COMMENTS:																			

* Applied to organic and inorganic analysis in cases of an emergency only. * Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Light Guard Armory in Detroit, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 23, 2014 at the Michigan Army National Guard, Light Guard Armory, located in Detroit, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory did have an indoor firing range but is now closed. The drill room and kitchen are not open to the public.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Nine wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

All nine surface wipe samples were below the limit of detection for lead.

Recommendations

None

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any further questions, please contact **Non-Responsive** [REDACTED].

Surface Wipe Testing for Lead
Survey Date September 23, 2014

Light Guard Armory
Detroit, MI

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A
Lead**Surface Wipe Sampling**

Nine wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).

The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

All nine surface wipe samples were below the limit of detection for lead.

Recommendations

None

Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Light Guard Armory


Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on the floor		<10
W-2 Drill room on AED box		<91
W-3 Drill room on upper heater		<91
W-4 Drill room on basket ball support		<91

A-2

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Kitchen on ice machine		<91
W-6 Locker room/former firing range on locker		<91
W-7 Locker room/former firing range on floor		<91
W-8 Room 43 on desk		<91

Surface Sample Lead Testing
Survey Date: September 23, 2014

Light Guard Armory
Detroit, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Recruiting Office on mouse pad		<91
W-10 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention:

Non-Responsive

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Detroit, MI (Light Guard Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12152
DFOH Lab Nos.: TM-14-73459 through TM-14-73468
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame and/or Perkin Elmer 600 furnace atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

Non-Responsive



Project 12152
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73459	<10	<10
W-2	TM-14-73460	<10	<91
W-3	TM-14-73461	<10	<91
W-4	TM-14-73462	<10	<91
W-5	TM-14-73463	<10	<91
W-6	TM-14-73464	<10	<91
W-7	TM-14-73465	<10	<91
W-8	TM-14-73466	<10	<91
W-9	TM-14-73467	<10	<91
W-10**	TM-14-73468	<10	

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12152
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 23, 2014

Light Guard Armory
Detroit, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET													
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				PROJECT REFERENCE Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: ARMY Proj. Manager: Light Guard Location (City, State): Detroit MI				For Lab Use Only Project / Report #: 12152 Due Date: 10/10/14 Samples Received Chilled? Y65 (circle one) Water Sample Codes: 789 Container Types: P-Plastic, G-Glass, V-VOC Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH				Conditions on Receipt with Name & Date Analysis Requested: Lead	
<div style="background-color: black; color: red; text-align: center; padding: 10px;">Non-Responsive</div>				Turn Around Time Codes STD- Standard 3D- Three Day Rush WH Weekend/Holiday		<div style="background-color: black; color: red; text-align: center; padding: 10px;">Non-Responsive</div>							
				Lab ID # W-1 75 9/23/14 STD TN-14-73459 W-2 73460 W-3 73461 W-4 73462 W-5 73463 W-6 73464 W-7 73465 W-8 73466 W-9 73467 W-10 73468									
				Sample Type Codes 1-Air 2-Water 3-Rain 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other				Sample Media Codes 1-Charcoal 2-Matched Weight, 0.8um 3-PVC filter 4-M CE 0.8um, 37mm 5-Ghost Wipes™ 6-Passive badge 7-Other				Relinquished By Date & Time Received By Date & Time	
COMMENTS:													

* Applied to organic and inorganic analysis in cases of an emergency only. ¹² Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the armory in Manistee, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 17, 2014 at the Michigan Army National Guard Armory, located in Manistee, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Nine wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

Two of the nine wipe samples had detectable levels of lead. The sample collected on the floor of the former firing range near the target end had a lead level of 1,780 ug/ft². A sample collected in the former firing range on a storage box had a lead level of 290 ug/ft².

Recommendations

- Clean the surfaces in the former firing range using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any

Surface Wipe Testing for Lead
Survey Date September 17, 2014

Armory
Manistee, MI

further questions, please contact **Non-Responsive**

██████.

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Nine wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

Two of the nine wipe samples had detectable levels of lead. The sample collected on the floor of the former firing range near the target end had a lead level of 1,780 ug/ft². A sample collected in the former firing range on a storage box had a lead level of 290 ug/ft².





Recommendations

1. Clean the surfaces in the former firing range using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Manistee Armory


Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Former firing range on floor at target end		1,780
W-2 Former firing range in crawl space on storage box		290
W-3 Former firing range on stereo speaker		<91
W-4 Drill room on soda machine		<91

A-2

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Drill room on basket ball support pipe		<91
W-6 Drill room on floor		<91
W-7 Bunk room on window sill		<91
W-8 Kitchen on ice machine		<91

Surface Sample Lead Testing
Survey Date: September 17, 2014

Armory
Manistee, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Drill room on ledge		<91
W-10 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention:

Non-Responsive

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Manistee, MI (Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12118
DFOH Lab Nos.: TM-14-73022 through TM-14-73031
Date Received: 09/22/14
Data Analyzed: 10/01/14 – 10/02/14
Date Issued: 10/03/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200/400 flame atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

Non-Responsive



Project 12118
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73022	196	1780
W-2	TM-14-73023	32	290
W-3	TM-14-73024	<10	<91
W-4	TM-14-73025	<10	<91
W-5	TM-14-73026	<10	<91
W-6	TM-14-73027	<10	<91
W-7	TM-14-73028	<10	<91
W-8	TM-14-73029	<10	<91
W-9	TM-14-73030	<10	<91
W-10**	TM-14-73031	<10	

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12118
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 17, 2014

Armory
Manistee, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET													
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				PROJECT REFERENCE Agreement No.: <u>A 106644</u> Statement of Work No.: <u>S 180648</u> Project No.: <u>P 180649</u> Agency: <u>ARNG</u> Proj. Manager: <u>Armory</u> Location: <u>Manistee</u> (City, State): <u>MI</u>				For Lab Use Only Project/Report #: <u>12/18</u> Due Date: <u>9/20/14</u> Samples Received Chilled? <u>YES</u> <u>NO</u> (circle one) Container Types: P-Plastic, G-Glass, V-VOC Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH				Conditions on Receipt with Name & Date STD- Standard 3D- Three Day Rush® WH Weekend/Holiday*	
Non-Responsive				Non-Responsive				Lead					
ID #	Type ¹	Media ²	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Area (ft ²)	Volume (Liters)	Code ³	Turn Around Time ⁴	Lab ID #
W-1	7	5	9/17/14					16			STD	TM-14-73022	
W-2								16				73023	
W-3								16				73024	
W-4								16				73025	
W-5								16				73026	
W-6								144				73027	
W-7								16				73028	
W-8								16				73029	
W-9								16				73030	
W-10												73031	
Sample Media Codes 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other 1-Charcoal 2-Matched Weight, 0.8um 3-PVC filter 4-M CE 0.5 um, 37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other													
COMMENTS:													

* Applied to organic and inorganic analysis in cases of an emergency only. ® Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Olympia Armory in Detroit, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 23, 2014 at the Michigan Army National Guard Olympia Armory, located in Detroit, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory has an indoor firing range but it has never been used. The drill room and kitchen are open to the public for events.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Nine wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

All nine surface wipe samples were below the limit of detection for lead.

Recommendations

None

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any further questions, please contact **Non-Responsive** [REDACTED].

Surface Wipe Testing for Lead
Survey Date September 23, 2014

Olympia Armory
Detroit, MI

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A
Lead**Surface Wipe Sampling**

Nine wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).

The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

All nine surface wipe samples were below the limit of detection for lead.

Recommendations

None





Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Olympia Armory

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on floor		<10
W-2 Drill room on locker		<91
W-3 Kitchen on ice machine		<91
W-4 Storage on electrical box		<91

A-2


Surface Sample Lead Testing
Survey Date: September 23, 2014

Olympia Armory
Detroit, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Classroom on TV projector		<91
W-6 Office – SGT Jones on mouse pad		<91
W-7 Locker room on locker		<91
W-8 Fitness room/Former firing range on floor		<91

Surface Sample Lead Testing
Survey Date: September 23, 2014

Olympia Armory
Detroit, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Fitness room/Former firing range on equipment		<91
W-10 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention:

Non-Responsive

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Olympia, MI (Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12158
DFOH Lab Nos.: TM-14-73522 through TM-14-73531
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (312) 886-0413.

Non-Responsive



Project 12158
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73522	<10	<10
W-2	TM-14-73523	<10	<91
W-3	TM-14-73524	<10	<91
W-4	TM-14-73525	<10	<91
W-5	TM-14-73526	<10	<91
W-6	TM-14-73527	<10	<91
W-7	TM-14-73528	<10	<91
W-8	TM-14-73529	<10	<91
W-9	TM-14-73530	<10	<91
W-10**	TM-14-73531	<10	

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12158
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 23, 2014

Olympia Armory
Detroit, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: ARNG Proj. Manager: Armory Location (City, State): Olympia MI		For Lab Use Only Project/Report #: 12158 Due Date: 10/16/14 Samples Received Chilled? YES (NO) (circle one) Container Types: P-Plastic, G-Glass, V-VOC Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH STD- Standard 3D- Three Day Rust® WH Weekend/Holiday*				Conditions on Receipt with Name & Date <div style="border: 1px solid black; padding: 5px;"> Non-Responsive </div>				
ID #	Type*	Media*	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Area (ft²)	Volume (Liters)	Code*	Turn Around Time*	Lab ID #	
W-1	7	5	Sept 23					144			STD	74-14-73522		
W-2								16				73523		
W-3								16				73524		
W-4								16				73525		
W-5								16				73526		
W-6								16				73527		✓
W-7								16				73528		
W-8								16				73529		
W-9								16				73530		
W-10					blank			—				73531		
Sampling Instructions: 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other 1-Charcoal 2-Matched Weight, 0.3um 3-PVC filter 4-M CE 0.8 um .37 mm 5-Ghost Wipes™ 6. Passive badge 7. Other														
COMMENTS:														

* Applied to organic and inorganic analysis in cases of an emergency only. ** Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Armory in Pontiac, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 22, 2014 at the Michigan Army National Guard Armory, located in Pontiac, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Nine wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

One of the nine wipe samples had a high level of lead. The sample collected on a metal cabinet in Room 152 had a lead level of 476 ug/ft².

Recommendations

- Clean the surfaces in Room 152 using high-efficiency particulate air (HEPA) filter vacuums or wet methods. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any further questions, please contact Non-Responsive [REDACTED].

Surface Wipe Testing for Lead
Survey Date September 22, 2014

Armory
Pontiac, MI

Non-Responsive

Non-Responsive

Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Nine wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

One of the nine wipe samples had a high level of lead. The sample collected on a metal cabinet in Room 152 had a lead level of 476 ug/ft².

Recommendations

1. Clean the surfaces in Room 152 using high-efficiency particulate air (HEPA) filter vacuums or wet methods. (RAC 2)





Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Pontiac Armory

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room floor		<10
W-2 Room 152 on metal cabinet		476
W-3 Unit Storage 1 on table		<91
W-4 Locker room 106 on locker		<91

A-2


Surface Sample Lead Testing
Survey Date: September 22, 2014

Armory
Pontiac, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Locker room 114 on locker		<91
W-6 Kitchen on ice machine		<91
W-7 Room 134 on bench		<91
W-8 Classroom on desk		<91

Surface Sample Lead Testing
Survey Date: September 22, 2014

Armory
Pontiac, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Office on mouse pad		<91
W-10 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention: **Non-Responsive**

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Pontiac, MI (Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12151
DFOH Lab Nos.: TM-14-73449 through TM-14-73458
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame and/or Perkin Elmer 600 furnace atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at **Non-Responsive**

Non-Responsive



Project 12151
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73449	<10	<10
W-2	TM-14-73450	52	476
W-3	TM-14-73451	<10	<91
W-4	TM-14-73452	<10	<91
W-5	TM-14-73453	<10	<91
W-6	TM-14-73454	<10	<91
W-7	TM-14-73455	<10	<91
W-8	TM-14-73456	<10	<91
W-9	TM-14-73457	<10	<91
W-10**	TM-14-73458	<10	<91

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12151
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 22, 2014

Armory
Pontiac, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET													
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434			PROJECT REFERENCE Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: Armory Proj. Manager: Armory Location (City, State): Pontiac MI			For Lab Use Only Project / Report #: 12151 Due Date: 10/16/14 Samples Received Chilled? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (circle one) Water Sample Codes: _____ Turn Around Time Codes: _____ Container Types: P-Plastic, G-Glass, V-VOC Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH STD- Standard 3D- Three Day Rush WH Weekend/Holiday							
Non-Responsive			Lead			Analysis Requested: _____							
						Lab ID #: _____							
ID #	Type ¹	Media ²	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Area (ft ²)	Volume (Liters)	Code ³	Turn Around Time ⁴	Lab ID #
W-1	7	5	9/22/14							144		STD	TH14-73449
W-2										16			73450
W-3										16			73451
W-4										16			73452
W-5										16			73453
W-6										16			73454
W-7										16			73455
W-8										16			73456
W-9										16			73457
W-10										—			✓ 73458
Sample Type Codes 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other						Sample Media Codes 1-Charcoal 2-Matched Weight, 0.2um 3-PVC filter 4-M CE 0.8 um, 37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other						Non-Responsive	
COMMENTS: _____													

¹ Applied to organic and inorganic analysis in cases of an emergency only. ² Applied to inorganic and organic samples. SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Armory in Taylor, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 23, 2014 at the Michigan Army National Guard Armory, located in Taylor, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory did have a firing range that is now closed. The Drill Room and Kitchen are not open to the public.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Ten wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

Two of the ten wipe samples had high levels of lead. The sample collected on a file cabinet in the Mechanical Room had a lead level of 463 ug/ft². A sample collected on top of a garage door in the Drill Room had a lead level of 389 ug/ft².

Recommendations

- Clean the surfaces in the Mechanical Room and Drill Room using high-efficiency particulate air (HEPA) filter vacuums or wet methods. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any further questions, please contact Non-Responsive

Surface Wipe Testing for Lead
Survey Date September 23, 2014

Armory
Taylor, MI

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Ten wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

Two of the ten wipe samples had high levels of lead. The sample collected on a file cabinet in the Mechanical Room had a lead level of 463 ug/ft². A sample collected on top of a garage door in the Drill Room had a lead level of 389 ug/ft².





Recommendations

1. Clean the surfaces in the Mechanical Room and Drill Room using high-efficiency particulate air (HEPA) filter vacuums or wet methods. (RAC 2)

Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Taylor Armory



Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on the floor		<91
W-2 Mechanical room on file cabinet		463
W-3 Kitchen on ice machine		<91
W-4 Men's room on shelf		<91

A-2

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Drill room on top of garage door		389
W-6 Locker room on locker		<91
W-7 Room 147 on mouse pad		<91
W-8 Former firing range		<91

Surface Sample Lead Testing
Survey Date: September 23, 2014

Armory
Taylor, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Fitness room/Former firing range on wooden shelf		<91
W-10 Break room on vending machine		<91
W-11 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention: **Non-Responsive**

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Taylor, MI (Armory)
Sample Media: Ghost Wipe(s)®
Method Reference: OSHA ID-121
Project ID: Project 12162
DFOH Lab Nos.: TM-14-73558 through TM-14-73568
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at **Non-Responsive**

Non-Responsive



Project 12162
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73558	<10	<91
W-2	TM-14-73559	51	463
W-3	TM-14-73560	<10	<91
W-4	TM-14-73561	<10	<91
W-5	TM-14-73562	43	389
W-6	TM-14-73563	<10	<91
W-7	TM-14-73564	<10	<91
W-8	TM-14-73565	<10	<91
W-9	TM-14-73566	<10	<91
W-10	TM-14-73567	<10	<91
W-11**	TM-14-73568	<10	<91

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12162
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 23, 2014

Armory
Taylor, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET																					
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434			PROJECT REFERENCE Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: Armory Proj. Manager: Location (City, State): Taylor MI			For Lab Use Only Project / Report #: 12162 Due Date: 10/16/14 Samples Received Chilled? YES (circle one) Water Sample Codes: Turn Around Time Codes: Analysis Requested: Container Types: STD- Standard P-Plastic, G-Glass, V-VOC 3D- Three Day Rush* WH Weekend/Holiday* Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH			Conditions on Receipt with Name & Date Lead												
<div style="background-color: black; color: red; padding: 5px; display: inline-block;">Non-Responsive</div>																					
ID #	Type*	Media*	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Area (ft ²)	Volume (Liters)	Code*	Turn Around Time*	Lab ID #								
W-1	7	5	9/23					16				STD	PM-M. 73558								
W-2								16					73559								
W-3								16					73560								
W-4								16					73561								
W-5								16					73562								
W-6								16					73563								
W-7								16					73564								
W-8								16					73565								
W-9								16					73566								
W-10								16					73567								
W-11								1					✓73568								
Sample Type Codes 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other												Sample Media Codes 1-Charcoal 2-Matched Weight, 0.8um 3-PVC filter 4-M CE 0.8 um, .37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other		Relinquished By <div style="background-color: black; color: red; padding: 5px; display: inline-block;">Non-Responsive</div>		Date & Time 		Received By 		Date & Time 	
COMMENTS:																					

* Applied to organic and inorganic analysis in cases of an emergency only. † Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Grand Valley Armory in Wyoming, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 18, 2014 at the Michigan Army National Guard Armory, located in Wyoming, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Thirteen wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

Four of the thirteen wipe samples had high levels of lead. The sample collected on the soda machine in the Drill Room had a lead level of 698 ug/ft². Three samples collected in the former firing range had high lead levels. A sample collected on the metal backstop at the target end of the range had a lead level of 400,455 ug/ft².

Recommendations

- Clean the surfaces in the former firing range and the Drill Room using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any

Surface Wipe Testing for Lead
Survey Date September 18, 2014

Grand Valley Armory
Wyoming, MI

further questions, please contact **Non-Responsive**

██████.

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Thirteen wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).


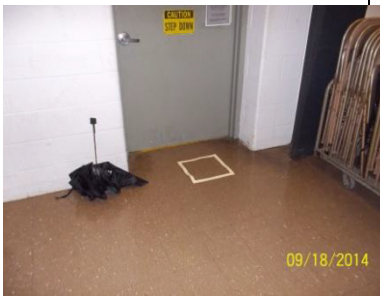


The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

Four of the thirteen wipe samples had high levels of lead. The sample collected on the soda machine in the Drill Room had a lead level of 698 ug/ft². Three samples collected in the former firing range had high lead levels. A sample collected on the metal backstop at the target end of the range had a lead level of 400,455 ug/ft².





Recommendations





1. Clean the surfaces in the former firing range and Drill Room using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Wyoming Armory

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on floor		<10
W-2 Drill room on floor by FMS door		<10
W-3 Drill room on soda machine		698
W-4 Former firing range on metal back stop		400,455


A-2

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Former firing range in crawl space		1,445
W-6 Former firing range on floor near target		1,062
W-7 Former firing range on locker		<91
W-8 Former firing range on compressor		<91

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Former firing range on floor at shooting position		<91
W-10 Blank		ND
W-11 Former firing range on wall		<91
W-12 Former firing range on floor at top of stairs		<91
W-13 Kitchen on ice machine		<91

Surface Sample Lead Testing
Survey Date: September 18, 2014

Grand Valley Armory
Wyoming, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-14 Family Assistance Center on mouse pad		<91

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention: **Non-Responsive**

Submitted By:

Reference Data: Lead
Sampling Site: NGB: Wyoming, MI (Armory)
Sample Media: Ghost Wipe(s)[®]
Method Reference: OSHA ID-121
Project ID: Project 12099
DFOH Lab Nos.: TM-14-72861 through TM-14-72874
Date Received: 09/22/14
Data Analyzed: 09/25/14 – 09/26/14
Date Issued: 09/29/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame and/or Perkin Elmer 600 furnace atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at **Non-Responsive**

Non-Responsive



Project 12099
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft²)
W-1	TM-14-72861	<10	<10
W-2	TM-14-72862	<10	<10
W-3	TM-14-72863	77	698
W-4	TM-14-72864	44050	400455
W-5	TM-14-72865	159	1445
W-6	TM-14-72866	117	1062
W-7	TM-14-72867	<10	<91
W-8	TM-14-72868	<10	<91
W-9	TM-14-72869	<10	<91
W-10**	TM-14-72870	<10	<91
W-11	TM-14-72871	<10	<91
W-12	TM-14-72872	<10	<91
W-13	TM-14-72873	<10	<91
W-14	TM-14-72874	<10	<91

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft²	250 µg/ft²	400 µg/ft²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft²	10 µg/ft²

Non-Responsive



Project 12099
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 18, 2014

Grand Valley Armory
Wyoming, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET													
Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434				Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: ARNG Proj. Manager: Armory Location (City, State): Wyoming MI		For Lab Use Only Project / Report #: 12099 Due Date: 9/30/14 Samples Received Chilled? Yes (circle one) Water Sample Codes: (Turn Around Time Codes) Container Types: STD- Standard P-Plastic, G-Glass, V-VOC Preservatives: WH Weekend/Holiday* A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH				Conditions on Receipt with Name & Date Lead			
ID #	Type*	Media*	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Wipe Area (sq ft)	Water Volume (Liters)	Code*	Turn Around Time*	Lab ID #
W-1	7	5	Sept 18						144		STD		72861
W-2									144				72862
W-3									144				72863
W-4									16				72864
W-5									16				72865
W-6									16				72866
W-7									16				72867
W-8									16				72868
W-9									16				72869
W-10					blank				—				72870
W-11									16				72871
W-12									16				72872
W-13									16				72873
Sample Media Codes: 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other						Sample Media Codes: 1-Charcoal 2-Matched Weight, 0.8um 3-PVC filter 4-M CE 0.8 um, 37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other						Non-Responsive	
COMMENTS: W-14 16 72874													

* Applied to organic and inorganic analysis in cases of an emergency only. * Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.

National Guard Bureau
Mid-West Regional Industrial Hygiene Office
301-IH Old Bay Lane
Havre de Grace, MD 21078

ARNG-CSG-P

February 6, 2015

MEMORANDUM FOR: The Adjutant General for Michigan

SUBJECT: Surface Wipe Testing for Lead at the Armory in Ypsilanti, Michigan

National Guard Bureau (NGB) Mid-West Regional Industrial Hygiene (IH) Office field personnel conducted a survey on September 24, 2014 at the Michigan Army National Guard Armory, located in Ypsilanti, Michigan. This survey included a walkthrough of the facility and surface wipe sampling for lead contamination. The armory has an indoor firing range that is now closed. The Drill Room and the Kitchen are not open to the public. The armory is in the process of renovation.

Occupational health risk assessment codes (RACs) are assigned to quantify health risks to personnel IAW DOD Letter of Instruction 6055.1, *DOD Safety and Occupational Health Program*. Risk assessment is an expression of health hazard severity and mishap probability, described in terms of route of exposure, actual exposure, exposure limit standards, potential health effects, duration of exposure, and number of exposed personnel. Guidance for RAC determination is attached to this memorandum.

Surface Wipe Sampling: Nine wipe samples were collected on representative surfaces in the facility and analyzed for lead. For purposes of this report, any results that exceed the guidelines adopted by the NGB Mid-West Regional IH Office are considered significant.

One of the nine wipe samples had a high level of lead. The sample collected on a metal shelf in the storage room had a lead level of 1,033 ug/ft².

Recommendations

- Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

The NGB conducted this survey in the interest of preventing employee illness and to meet legal obligations where applicable. Results and recommendations are based on information provided by site personnel, field measurements, and conditions observed during the survey. For any

Surface Wipe Testing for Lead
Survey Date September 24, 2014

Armory
Ypsilanti, MI

further questions, please contact **Non-Responsive**

Non-Responsive

Non-Responsive

Non-Responsive

Regional Industrial Hygienist

Appendix	Title	Status
A.	Lead	Attached



Appendix A Lead

Surface Wipe Sampling

Nine wipe samples were collected from representative areas of the facility using Environmental Express Ghost™ Wipes and templates IAW the OSHA wipe sampling method (OSHA Technical Manual, Appendix II, 2-1). The samples were analyzed for lead by OSHA Method ID-121. The results and photos are contained in Table A-1.

Although OSHA does not have published exposure standards for metal surface contamination, 29 CFR 1910 requires that all surfaces must be kept as free as practicable of accumulations of toxic metal dusts. In addition, DOD has instituted a policy to minimize surface contamination levels of heavy metals (*Control and Management of Surface Accumulations from Lead, Hexavalent Chromium, and Cadmium Operations*, DTM 12-003, 18 April 2012).





The NGB Mid-West Regional IH Office has adopted the guidelines for metal dust published in NG Pam 420-15, *Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges* and the Department of Energy (DOE)/Brookhaven National Laboratory *Surface Wipe Sampling Procedure* (IH75190). Any results that exceed these guidelines shown in Table A-1 are considered significant.

One of the nine wipe samples had a high level of lead. The sample collected on a metal shelf in the storage room had a lead level of 1,033 ug/ft².





Recommendations

1. Clean all surfaces with elevated lead levels using high-efficiency particulate air (HEPA) filter vacuums or wet methods to avoid the spread of lead dust to other areas of the armory. (RAC 2)

Table A-1
Surface Wipe Sampling Results for Lead
Michigan Army National Guard
Ypsilanti Armory


Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-1 Drill room on floor		<10
W-2 Drill room on soda machine		<91
W-3 Fitness room on pipe		140
W-4 Storage room on metal shelf		1,033

A-2

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-5 Kitchen food storage shelf		<91
W-6 Drill room upper rafters		161
W-7 Locker room/former firing range on the floor next to target end		<91
W-8 Locker room/former firing range on locker		<91

Surface Sample Lead Testing
Survey Date: September 24, 2014

Armory
Ypsilanti, MI

Sample No. Location	Photo	Lead ($\mu\text{g}/\text{ft}^2$)
Surface Guidelines For areas open to the public, Break rooms, and kitchens		40
Surface Guidelines All other areas of the building		200
W-9 Locker room/former firing range on pipe insulation		<91
W-10 blank		ND

Notes: 1) $\mu\text{g} / \text{ft}^2$ = micrograms per square foot of surface area. 2) ND = none detected. 3) "<" means less than the reporting limit for the analytical method.

Laboratory Result Reports and Chain of Custody Sheets



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60606 PHONE: (312) 886-0413 FAX: (312) 886-0434

ANALYTICAL REPORT

Submitted To: USPHS / Federal Occupational Health
Denver Federal Center
Denver, CO 80225

Attention:

Non-Responsive

Submitted By:

Reference Data:

Sampling Site: NGB: Ypsilanti, MI (Armory)
Sample Media: Ghost Wipe(s)[®]
Method Reference: OSHA ID-121
Project ID: Project 12159
DFOH Lab Nos.: TM-14-73532 through TM-14-73541
Date Received: 09/26/14
Data Analyzed: 10/10/14 – 10/14/14
Date Issued: 10/16/14

The wipe samples were hot plate digested. The samples were run on a Perkin Elmer 200 flame atomic absorption spectrophotometer (AA).

General Lab Comments:

All quality control criteria have been met.

* All samples received in condition acceptable for analysis unless otherwise noted.

** Sample results have not been corrected for contamination based on the field blank or other analytical blank unless otherwise noted.

Analytical results are given on the enclosed tables. Results relate only to items tested. If you have any questions about these results, feel free to phone the Laboratory at (Non-Responsive)

Non-Responsive



Project 12159
Page 1 of 2



FOH ENVIRONMENTAL LABORATORY

536 S. CLARK STREET CHICAGO, IL 60605 PHONE: (312) 886-0413 FAX: (312) 886-0434

LEAD on WIPE RESULTS

SAMPLE NUMBER*	LABORATORY NUMBER	CONCENTRATION (µg)	CONCENTRATION (µg/ft ²)
W-1	TM-14-73532	<10	<10
W-2	TM-14-73533	<10	<91
W-3	TM-14-73534	15	140
W-4	TM-14-73535	114	1033
W-5	TM-14-73536	<10	<91
W-6	TM-14-73537	18	161
W-7	TM-14-73538	<10	<91
W-8	TM-14-73539	<10	<91
W-9	TM-14-73540	<10	<91
W-10**	TM-14-73541	<10	

AGENCY	FLOORS	INTERIOR WINDOW SILLS	WINDOW TROUGHS
EPA	40 µg/ft ²	250 µg/ft ²	400 µg/ft ²

Metals in Wipe Limits (based on one ft² sampled area)

Analyte	Analytical Method	Method Detection Limit	Minimum Reporting Limit
Lead - Flame AA	OSHA ID-121	5.0 µg/ft ²	10 µg/ft ²

Non-Responsive



Project 12159
Page 2 of 2

Surface Sample Lead Testing
Survey Date: September 24, 2014

Armory
Ypsilanti, MI

US PUBLIC HEALTH SERVICE, FEDERAL OCCUPATIONAL HEALTH CHAIN-OF-CUSTODY / FIELD DATA SHEET

Environmental Laboratory 536 S. Clark Street South, Suite 714 Chicago, IL 60605-1521 Tel: (312)-886-0413 Fax: (312)-886-0434		PROJECT REFERENCE Agreement No.: A 106644 Statement of Work No.: S 180648 Project No.: P 180649 Agency: Armory Proj. Manager: Ypsilanti Location (City, State): MI		For Lab Use Only Project/Report #: 12159 Due Date: 10/16/14 Samples Received Chilled? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> (circle one) Water Sample Codes: Container Types: STD- Standard P-Plastic, G-Glass, V-VOC SD- Three Day Rush WH Weekend/Holiday Preservatives: A-None, B-H ₂ SO ₄ , C-HNO ₃ , D-NaOH Analysis Requested: Lead		Conditions on Receipt with Name & Date Rev: 01/20/10							
Non-Responsive													
ID #	Type ¹	Media ²	Collected Date	Time	Sample Location / Description	Flow (LPM)	Time (Min.)	Volume (Liters)	Wipe Area (ft ²)	Water Volume (Liters)	Code ³	Turn Around Time ⁴	Lab ID #
W-1	7	5	9/24	24				144				STD	TM-14-7352
W-2								16					73533
W-3								16					73534
W-4								16					73535
W-5								16					73536
W-6								16					73537
W-7								16					73538
W-8								16					73539
W-9								16					73540
W-10					blank			—					73541
Sample Type Codes: 1-Air 2-Water 3-Paint 4-Soil 5-Dust 6-Bulk 7-Wipe 8-Other													
Sample Media Codes: 1-Charcoal 2-Matched Weight, 0.8um 3-PVC filter 4-M CE 0.8 um, 37 mm 5-Ghost Wipes™ 6-Passive badge 7-Other													
Relinquished By: Non-Responsive Date & Time: Received By: Date & Time:													
COMMENTS:													

* Applied to organic and inorganic analysis in cases of an emergency only. * Applied to inorganic and organic samples, SD: Applied to organic and inorganic samples 7-10 business days.