

# The Oklahoma Department of Environmental Quality (DEQ) is pleased to present the City of Minco with the Final Remediation Report for the former Minco Armory.



## DEED NOTICE

A Notice of Remediation has been filed in the county courthouse and is included in this report. It summarizes remediation performed at the former Minco Armory and describes continuing operation and maintenance and land use restrictions. This completes the DEQ cleanup of the property. For more detail on the activities described below, see enclosed reports.

## ASBESTOS REMEDIATION

DEQ and its contractors completed the following activities:

- Asbestos inspection, including:
  - Asbestos containing Thermal System Insulation (TSI), floor tile and mastic, and acoustical ceiling texture.
- Asbestos Abatement, including:
  - Removal of TSI, floor tile and mastic, and acoustical ceiling texture

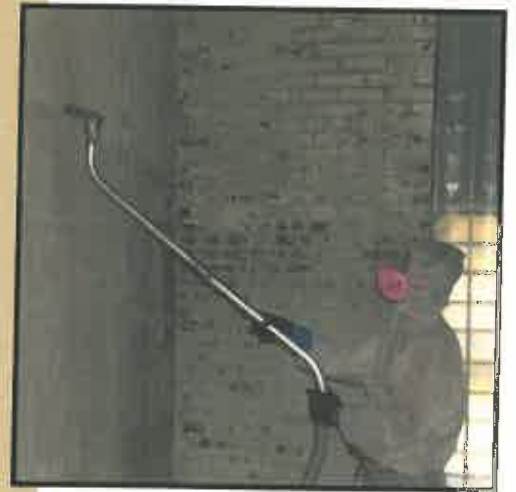
## TARGETED BROWNFIELD ASSESSMENT

In March 2009, DEQ provided a Phase I Targeted Brownfield Assessment to the City of Minco. A copy has not been included in this report.

## LEAD REMEDIATION

DEQ and its contractors completed the following activities:

- Lead-based paint (LBP) inspection
- Lead dust wipe sampling
- Soil sampling outside of firing range vent fan
- LBP abatement, including:
  - Scraping and sealing downspouts, window lintels, over head door frames, walls containing LBP, and handrails
  - Removal and replacement of windows, and doors containing LBP
- Indoor firing range cleanup, including:
  - Lead dust cleanup: high efficiency particulate air (HEPA) vacuuming, wet washing, and sealing with appropriate sealant floors, walls, and ceiling
- HEPA vacuuming and wet washing of floors in the building
- Proper disposal of associated waste



Additional copies of this report can be found at <http://www.deq.state.ok.us/lpdnew/scapIndex.htm> and DEQ Central Records at 707 N Robinson Oklahoma City, Oklahoma 73101.



1	Deeds and Legal Documents
2	Maintenance Plan
3	Inspection Reports
4	Scope of Work
5	Final Abatement Reports

## DEEDS AND LEGAL DOCUMENTS



RECEIVED  
 FEB 04 2009 49  
 LAND PROTECTION DIVISION  
 DEPARTMENT OF ENVIRONMENTAL QUALITY  
**QUITCLAIM DEED**

I-2009-000836 Book 4153 Pg: 440  
 01/22/2009 2:34 pm Pg 0440-0440  
 Fee: \$ 13.00 Doc: \$ 0.00  
 Sharon Shoemaker - Grady County Clerk  
 State of Oklahoma

**KNOW ALL MEN BY THESE PRESENTS:**

**THAT THE STATE OF OKLAHOMA, ACTING THROUGH THE OKLAHOMA MILITARY DEPARTMENT**, by its Adjutant General, Major General Harry M. Wyatt, III, hereinafter referred to as the "Grantor," and in consideration of the sum of Ten and No/100 Dollars (\$10.00) and other valuable consideration in hand paid, the receipt of which is hereby acknowledged, does hereby Quitclaim, Grant, Bargain, Sell and Convey unto the **OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY**, hereinafter referred to as the "Grantee," the following described Real Property, together with any and all improvements thereon and appurtenances thereunto belonging.

**All of Block numbered Five (5), of Amended College Sub-Division of Block numbered Eight (8), of the original townsite of the town of Minco, Grady County, State of Oklahoma, according to the recorded plat thereof**

Grantee to hold said land for the purposes of environmental characterization and remediation thereof as determined to be necessary by the Oklahoma Department of Environmental Quality, and upon the filing of a recordable Notice of Remediation in the land records of Grady County, the described real property shall transfer to the City of Minco, together with any and all improvements thereon and appurtenances thereunto belonging.

**TO HAVE AND TO HOLD** the Real Property unto the Grantee, free, clear and discharged of and from all former grants, charges and other encumbrances of whatsoever nature except for the interest specifically granted to the City of Minco herein and any easements of record.

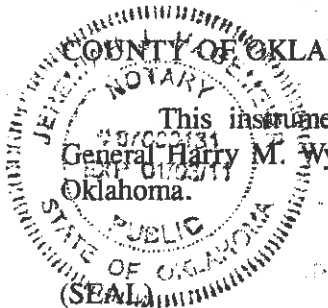
**EXECUTED AND DELIVERED** this 17<sup>th</sup> day of December, 2008.

Mail to:  
 Heather Mallory  
 P.O. Box 1677  
 Oklahoma City, OK 73101

**STATE OF OKLAHOMA**  
 By: [Signature]  
 Major General Harry M. Wyatt, III,  
 Adjutant General of the State of Oklahoma

**This Transaction Is Exempt From Document Stamps, 68 O.S. § 3202(11).**

STATE OF OKLAHOMA )  
 ) SS:  
 COUNTY OF OKLAHOMA )



This instrument was acknowledged before me this 17<sup>th</sup> day of December, 2008, by Major General Harry M. Wyatt, III, as Adjutant General of the State of Oklahoma, on behalf of the State of Oklahoma.

[Signature]  
 Notary Public  
 Commission No. 07000131  
 My Commission Expires: January 3, 2011



**NOTICE OF REMEDIATION AND EASEMENT  
FORMER MINCO ARMORY  
MINCO, OKLAHOMA**

I-2012-000265 Book 4453 Pg: 120  
01/06/2012 10:49 am Pg 0120-0124  
Fee: \$ 21.00 Doc: \$ 0.00  
Sharon Shoemaker - Grady County Clerk  
State of Oklahoma

**LEGAL BASIS FOR NOTICE:** The Oklahoma Department of Environmental Quality ("DEQ") hereby files this Notice of Remediation pursuant to Oklahoma Statutes, 27A § 2-7-123 (C). This Notice does not grant any right to any person not already allowed by law and shall not be construed to authorize or encourage any person or other legal entity to cause or increase pollution, to avoid compliance with State or Federal laws and regulations regarding pollution or to escape responsibility for maintaining environmentally sound operations.

The DEQ may take administrative or civil action to recover costs or to compel compliance with the "Land Use Restrictions" and to prevent damage to or interference with the "Engineering Controls" and "Continuing Operation, Maintenance of said Engineering Controls" herein described.

The Land Use Restrictions, Engineering Controls and Continuing Operation, Maintenance of said Engineering Controls shall apply to the Affected Property and to persons who own and/or use the Affected Property until such time as the DEQ files a subsequent Notice of Remediation that changes or removes one or more of them. Activities that cause or could cause damage to the Remedy or the Engineering Controls or recontamination of soil or groundwater are prohibited.

The owner of the Affected Property has the legal authority to create, and does hereby voluntarily create, an easement granted to the DEQ and its employees and agents, for ingress and egress through, across and onto the parking and other outside areas of the Affected Property as they exist from time to time to assure the ongoing protection of the Remedy, Engineering Controls and Land Use Restrictions. This easement touches and concerns the land and runs with the land, is legally binding on all current and future owners and tenants of the Affected Property, and shall only be removed or modified if and when the DEQ modifies or removes the Land Use Restrictions, Engineering Controls and Continuing Operation, Maintenance of said Engineering Controls.

**REASON FOR NOTICE:** The below described Affected Property was contaminated with materials that required remediation pursuant to State and Federal environmental laws and regulations. Sampling performed by DEQ contractors, conducted on February 23, 2009, indicated that there was asbestos, lead-based paint, and lead dust in the building. Investigation by DEQ personnel indicated that there was a lead contaminated sand trap inside the Indoor Firing Range (IFR). The IFR is located on the West area of the building, in the basement.

**AFFECTED PROPERTY:** The Affected Property is the former Minco Armory located at 407 West Pontotoc Street, Minco, Oklahoma.

The legal description is as follows:

All of Block numbered Five (5), of Amended College Sub-Division of Block numbered Eight (8), of the original townsite of the town of Minco, Grady County, State of Oklahoma, according to the recorded plat thereof.

**REMEDY:** Remediation activities ("Remedy") at the Affected Property included:

The remedy included abatement of lead-based paint and dust, removal of lead contaminated water and sand inside the IFR. The remedy was completed on April 15, 2011.

For more detailed information please refer to *Former National Guard Armory Minco, Oklahoma Remediation Final Report*.

To obtain a copy of the report, contact:

Oklahoma Department of Environmental Quality  
Central Records  
*Mailing Address*  
P.O. Box 1677  
Oklahoma City, Oklahoma 73101

*Physical Address*  
707 N Robinson  
Oklahoma City, OK 73102

*Electronic Address*  
<http://www.deq.state.ok.us/lpdnew/scapIndex.htm>

I-2012-000265 Book 4453 Pg: 121  
01/06/2012 10:49 am Pg 0120-0124  
Fee: \$ 21.00 Doc: \$ 0.00  
Sharon Shoemaker - Grady County Clerk  
State of Oklahoma

## DISCLAIMER

- (A) **Lead:** DEQ did not test every painted surface inside and outside of the building, therefore there is a potential for lead-based paint at the affected property.
- (B) **Asbestos:** DEQ did not test all building materials inside and outside of the building, therefore there is a potential for asbestos at the affected property.

## CONTINUING OPERATION, MAINTENANCE AND MONITORING

- (A) **Asbestos:** DEQ did not test all building materials inside and outside of the building, therefore there is a potential for asbestos at the affected property.

- (B) **Lead-based paint encapsulant:** Lead-based paint encapsulant was applied over lead-based paint on non-friction surfaces. These areas should be periodically inspected and maintained as appropriate.
- (C) **Sealant:** Following cleanup, sealant was applied to the IFR and room floors where lead-based paint abatement was performed. Sealant should be inspected on a periodic basis and maintained as appropriate.

**LAND USE RESTRICTIONS:** The land use restrictions at the above-described Affected Property are:

- a. No residential use of the property by children age 6 or under. Residential use is defined as having a child present at the Affected Property for more than sixteen (16) hours within one twenty four (24) hour period.
- b. The IFR should not be used as a child occupied facility. Child-occupied facilities include, but are not limited to, day-care centers, preschools, and kindergarten classrooms where a child 6 or under spends at least 6 hours per week.

These land use restrictions apply to the entirety of the Affected Property described herein above.

**CHANGING LAND USE RESTRICTIONS:** Changes to land use restrictions must be approved by the Department of Environmental Quality or its successor agency. The person requesting the change in land use must demonstrate to the Department's satisfaction that contamination at the site has reached levels appropriate for the proposed new land uses and that further remediation is not necessary or that additional institutional or engineering controls are adequate to achieve levels protective of human health and the environment for the proposed uses.

The DEQ may require oversight costs, work plans, sampling, reports, and public participation as part of its review of the new information to support the requested change in land use restrictions. The person requesting the change will be required to follow agency procedures effective at the time of the request.

The DEQ at its discretion may determine, based on the new information submitted, that contaminants are present at the Site at levels that will not pose a risk to human health or the environment if the new land use restrictions being requested are allowed. Upon making this determination, the DEQ will file a recordable notice of remediation pursuant to state law in the land records in the in the office of the county clerk where the Site is located designating the new land use restrictions.

This Notice of Remediation and the restrictions and requirements contained herein run with the land and no change of ownership of the Affected Property will change the Land Use Restrictions.

Steven A. Thompson

Steven A. Thompson, Executive Director  
Oklahoma Department of Environmental Quality

10-3-11

Date

I-2012-000265 Book 4453 Pg: 123  
01/06/2012 10:49 am Pg 0120-0124  
Fee: \$ 21.00 Doc: \$ 0.00  
Sharon Shoemaker - Grady County Clerk  
State of Oklahoma

ACKNOWLEDGMENT

STATE OF OKLAHOMA  
COUNTY OF OKLAHOMA

Before me, a Notary Public, in and for said County and State, on this 3rd day of October, 2011, personally appeared Steven A. Thompson to me known to be the identical person who executed the within and foregoing instrument and acknowledged to me that executed the same as free and voluntary act and deed for the uses and purposed therein set forth.

In Testimony Whereof, I have hereunto set my hand and official seal the day and year above written.

My Commission expires:

3-10, 2012.



William Ray  
Notary Public



**MINCO ARMORY EASEMENT**

I hereby certify that I have the legal right to, and do hereby, create an easement and encumber the real property as described in the foregoing Notice of Remediation. I hereby voluntarily grant an easement to the DEQ and its employees and agents, for ingress and egress through, across and onto the Affected Property to assure the ongoing placement, operation and protection of the remedy, engineering controls and land use restrictions described herein above.

Steven A. Thompson  
Steven A. Thompson, Executive Director  
Oklahoma Department of Environmental Quality

10-3-11  
Date

I-2012-000265 Book 4453 Pg: 124  
01/06/2012 10:49 am Pg 0120-0124  
Fee: \$ 21.00 Doc: \$ 0.00  
Sharon Shoemaker - Grady County Clerk  
State of Oklahoma

**ACKNOWLEDGMENT**

STATE OF OKLAHOMA  
COUNTY OF OKLAHOMA

Before me, a Notary Public, in and for said County and State, on this 3rd day of October, 2011, personally appeared Steven A. Thompson to me known to be the identical person who executed the within and foregoing instrument and acknowledged to me that executed the same as free and voluntary act and deed for the uses and purposed therein set forth.

In Testimony Whereof, I have hereunto set my hand and official seal the day and year above written.

My Commission expires:

3-10, 2012.



Deborah Ray  
Notary Public

## MAINTENANCE PLAN

**MAINTENANCE PLAN  
FORMER MINCO ARMORY  
MINCO, OKLAHOMA**

The Armory located at 407 West Pototoc Street, Minco, Oklahoma 73059 was contaminated with materials that required remediation pursuant to State and Federal environmental laws and regulations. Please refer to Attachment 1 for land use restrictions. Sampling performed by DEQ contractors, conducted on February 23<sup>rd</sup>, 2009 indicated that there was asbestos, lead-based paint, and lead dust in the building. Remediation activities at the Affected Property included abatement of asbestos, lead-based paint, and lead dust. The remedy was completed on April 18<sup>th</sup>, 2011. The following maintenance plan is to be completed by the owner of the Affected Property. DEQ recommends inspection of remediated areas every 5 years. During site inspections the owner should note any signs of disrepair or improper maintenance. Continuing operation, maintenance and monitoring should include:

1. Firing Range – Walls, floor and ceiling of indoor firing range were cleaned and sealed with acrylic sealant to remediate surfaces below 40µg/SF for lead. These surfaces need to be resealed if acrylic sealant shows signs of deterioration, damage, or flaking.
2. All window lintels, all window sills, all overhead door frames, and all down spouts were scrapped and encapsulated with lead-based paint encapsulant. These surfaces need to be re-encapsulated if lead-based paint encapsulant shows signs of deterioration, damage, or flaking.
3. The overhead door between the Drill Floor and West Bay, the walls of Room #18, and the walls under the stairs in the front entrance to the building were scrapped and encapsulated with lead-based paint encapsulant. These surfaces need to be re-encapsulated if lead-based paint encapsulant shows signs of deterioration, damage, or flaking. See Attachment 2 for the Minco Armory Floor Plan Map.
4. The floors of Rooms 2 and 9 were cleaned and sealed to remediate surfaces below 40µg/SF for lead. These surfaces need to be resealed if sealant shows signs of deterioration, damage, or flaking. See Attachment 2 for the Minco Armory Floor Plan Map.

*Note – A list of DEQ approved acrylic sealant and elastomeric encapsulants is attached (Attachment 3). DEQ did not test every painted surface and all building materials inside and outside of the building, therefore there is a potential for lead-based paint and asbestos at the affected property.*

If you have any questions or concerns feel free to contact me at (405) 702-5115.

Sincerely,



Dustin Davidson  
Environmental Programs Specialist  
DEQ Land Protection Division  
Site Cleanup Assistance Program

# ATTACHMENT 1

## Land use Restrictions

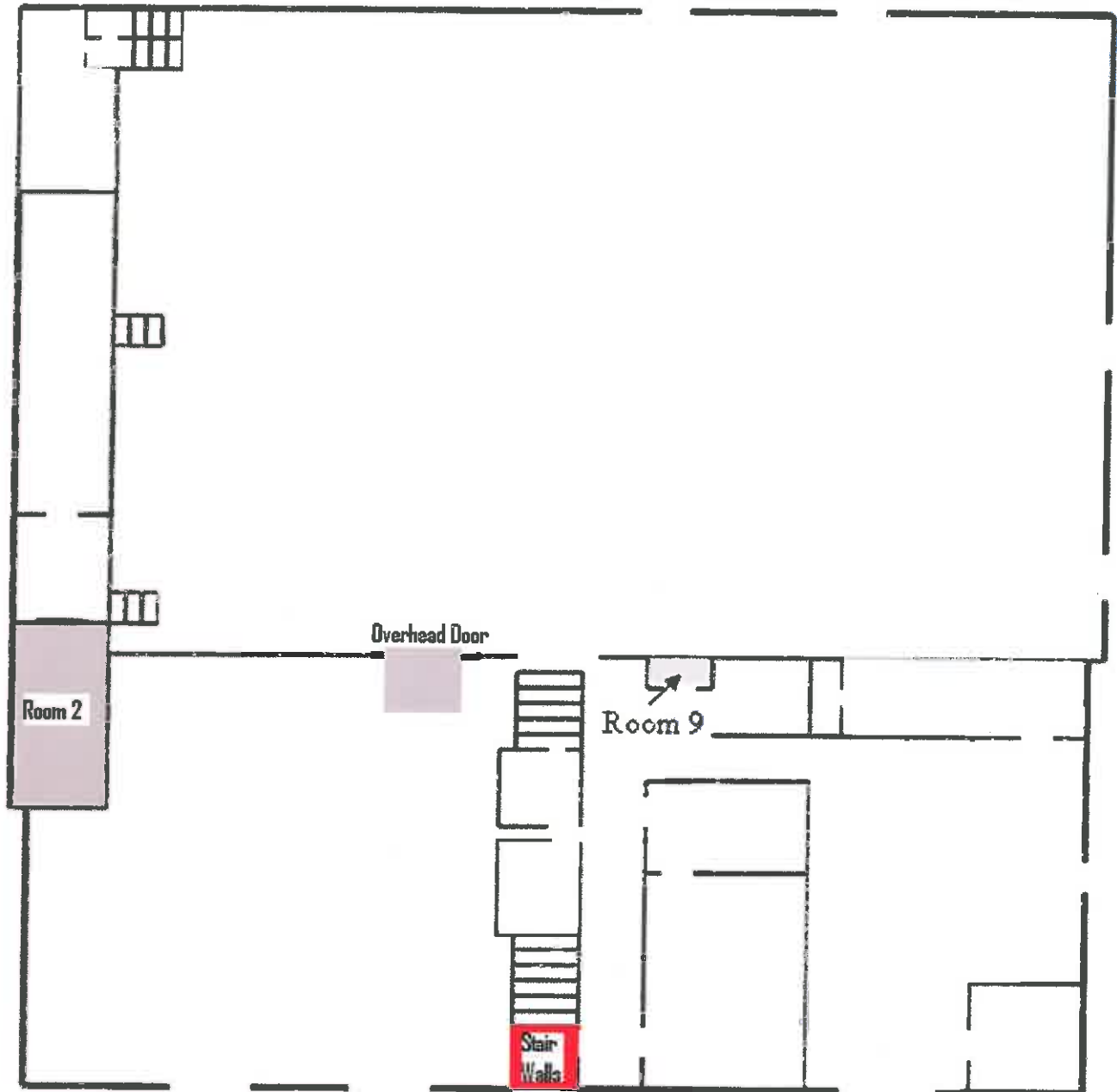
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- b. The indoor firing range should not be used as a child occupied facility. Child occupied facilities include, but are not limited to, day-care centers, preschools, and kindergarten classrooms where a child under 6 spends at least 6 hours per week.

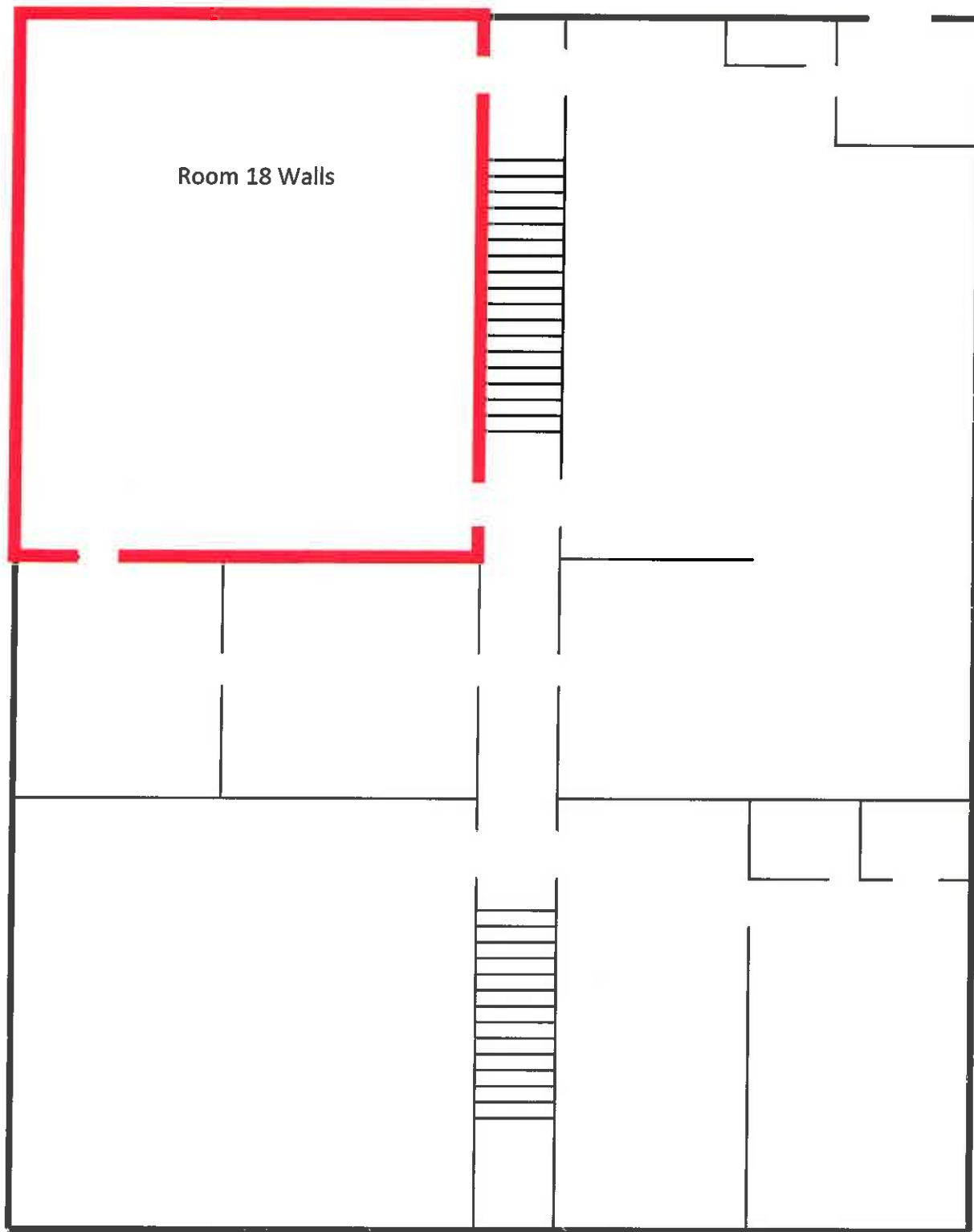
These land use restrictions apply to the entirety of the Affected Property described herein above.

# ATTACHMENT 2

## Floor Plan Map First Floor



# Floor Plan Map Second Floor



## ATTACHMENT 3

### DEQ Approved Sealants and Encapsulants List

#### *Acrylic Sealant approved by DEQ*

KM-669 Acrylic

#### *Lead-Based Paint Encapsulants approved by DEQ*

<b>Encapsulant Manufacturer</b>	<b>Encapsulant Product(s)</b>
Coronado Paint Company	LEAD BLOCK™
Dumond Chemicals	LEAD STOP™
Dynacraft Industries, Inc.	Back to Nature Protect-A-Coat
Encap Systems Corporation	EncapSeal™ I
Encap Systems Corporation	EncapSeal™ II
Fiberlock Technologies, Inc.	Child GUARD interior/exterior
Fiberlock Technologies, Inc.	L-B-C® Type III
Global Encasement, Inc.	LeadLock™
Grace Construction Products	Lead Seal®
Grace Construction Products	Barrier Coat® II
Insl-x Products Corporation	INSL-CAP™
SAFE Encasement Systems	SE-120 Protective Skin
Specification Chemicals, Inc.	NU-WAL® #2500 Coating

# ASBESTOS INSPECTION REPORT



# Asbestos Inspection

**Minco Armory**  
407 West Pontotoc Street  
Minco, Oklahoma

Date of Inspection  
February 23, 2009

***PREPARED FOR:***

Oklahoma Department of Environmental Quality  
Land Protection Division  
707 North Robinson  
Oklahoma City, OK 73102

***PREPARED BY:***

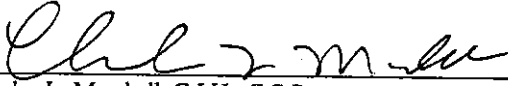
Marshall Environmental Management, Inc.  
1601 Southwest 89<sup>th</sup> Street, Suite A-100  
Oklahoma City, Oklahoma 73159

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## CERTIFICATION

This is to certify, that Marshall Environmental Management, Inc. was contracted by the State of Oklahoma Department of Central Services to conduct an Asbestos Inspection of the Minco Armory, for the State of Oklahoma Department of Environmental Quality, Land Protection Division. The Minco Armory Asbestos Inspection was performed by an Oklahoma Department of Labor Licensed, Asbestos Hazard Emergency Response Act Inspector, Jamie Marshall, of Marshall Environmental Management, Inc, under the direction of Oklahoma Department Of Labor Licensed, Asbestos Hazard Emergency Response Act Management Planner, Dr. Charles L. Marshall, C.I.H., President of Marshall Environmental Management, Inc. The findings and recommendations included in this report are believed to accurately depict the conditions observed on the date this Asbestos Inspection was performed.

  
Dr. Charles L. Marshall, C.I.H., C.S.P. 7/20/09  
Date

Certified Industrial Hygienist - Comprehensive Practice Certification	#4489
Certified Safety Professional - Comprehensive Practice Certification	#9941
Registered Professional Environmental Specialist - State Department of Health	#710
Certified Hazardous Materials Manager, Master Level Certification	#1909
Certified Healthcare Safety Professional, Master Level Certification	#521

EPA AHERA Certifications	#400517 Inspector
	#500396 Management Planner
	#2415 Project Designer

Oklahoma Department of Labor License	#OKMP-0028 Project Designer
	#OKMP-0246 Management Planner
	#OK-150343 Inspector

  
Jamie Marshall, B.S., Industrial Hygiene Associate 7/20/09  
Date

Oklahoma Department of Labor License	#OK-158090 Inspector
--------------------------------------	----------------------

### Laboratory Analysis Performed by

Marshall Environmental Management, Inc. (AIHA/NIOSH PAT Lab ID #102334)  
1601 SW 89<sup>th</sup> Street, A-100  
Oklahoma City, OK. 73159

## EXECUTIVE SUMMARY

Marshall Environmental Management, Inc. (MEM) performed an Asbestos Inspection on February 23, 2009, of the Minco Armory, located at 407 West Pontotoc Street in Minco, Oklahoma, so that a strategy may be prepared for remediation activities, as required by Environmental Protection Agency (EPA) regulations for pre-1980 construction.

The analytical results associated with this Asbestos Inspection identified the presence of asbestos containing floor tile and mastic in Rooms 3, 4, 31, 32 & 33. However, only a trace amount of chrysotile was detected in the 9"x9" beige speckled floor tile located in Room 31. This sample is recommended to undergo point counting analysis in order to determine if the amounts of chrysotile, which were detected, are less than 1 percent (<1%); therefore rendering the samples "non-regulated". Additionally, asbestos containing surfacing material was discovered on the ceiling in Room 2; and, asbestos containing thermal system insulation was identified on plumbing lines in Room 3.

The remainder of this Asbestos Inspection Report includes the Sampling Strategy that was utilized to accomplish this inspection, the Findings, which are a result of this inspection, the Recommendations and Response Actions, the Limitations of the Survey and the Regulatory Review.

## SAMPLING STRATEGY

Each accessible area throughout the Minco Armory was systematically inspected in order to collect samples of building materials suspected of containing asbestos. The sample collection process includes, verifying the type of material suspected of containing asbestos, the location of the material, the condition and the quantity. These procedures are thoroughly documented for the purpose of assisting, if necessary, with the development of appropriate response actions.

The following are examples of the types of building materials that were visually inspected and sampled during this Asbestos Inspection.

- **Surfacing Materials**
  - Examples include: blown on or trowled substrates materials typically observed on ceilings, structural steel, concrete ceilings or metal pan decks.
- **Thermal System Insulation**
  - Examples include: piping, hot and cold water lines, Heating Ventilation and Air Conditioning (HVAC) equipment components, boilers, steam lines or heated thermal processes.
- **Miscellaneous Materials**
  - Examples include: floor tiles, mastics, ceiling tiles, sheet vinyl flooring, wallboard, bedding tapes or joint compounds.

Each sample collected was submitted for analysis in accordance with the Environmental Protection Agency (EPA) authorized Method: 600 49 Code of Federal Regulations (CFR) Part 61 Subpart M, Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) Rules. "Asbestos Containing Materials" are any materials which consist of greater than 1 percent (>1%) asbestos, as defined by the EPA Approved Analytical Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix A, referred to as:

"Interim Method for determination of Asbestos in Bulk Insulation Samples" using Polarized Light Microscopy (PLM), US EPA 600/M4-82-020 1982.

## FINDINGS

The Minco Armory located at 407 West Pontotoc Street in Minco Oklahoma, was constructed in 1936. The analytical results associated with this Asbestos Inspection identified the presence of asbestos in the red 12"x12" floor tile and mastic within Room 3 and 4, the tan speckled, the beige speckled and gray 9"x9" floor tile and mastic within Room 31 and the brown 9"x9" floor tile and mastic in Room 32 and 33. However, only a trace amount of chrysotile was detected in the 9"x9" beige speckled floor tile located in Room 31. Any material to consist of >1% asbestos, as defined by the EPA approved analytical method, referenced in the Sampling Strategy portion of this Report, is considered an "Asbestos Containing Material" (ACM). The analytical method utilized to identify the chrysotile is not proficient in quantifying a trace amount of asbestos. When asbestos is detected in separable layers of building materials in quantities <10%, EPA NESHAP regulations require the material to be treated as an ACM. Therefore, MEM recommends that the floor tile be analyzed by the EPA point count method in order to quantify the amount of chrysotile asbestos fibers that were detected. If the point counting procedure identifies the asbestos content as <1%, the material would be considered "non-regulated." Additional asbestos containing materials were discovered in surfacing material on the ceiling in Room 2; and, in thermal system insulation on plumbing lines in Room 3.

**Table I: Bulk Asbestos**

SAMPLE ID	LOCATION	DESCRIPTION	%/TYPE ASBESTOS	MATERIAL	CONDITION	QTY.
0065-022309-1	Room 2	Ceiling North	4% Chrysotile	Surfacing	Good	276 ft. <sup>2</sup>
0065-022309-2	Room 2	Ceiling Center	4% Chrysotile	Surfacing	Good	
0065-022309-3	Room 2	Ceiling South	4% Chrysotile	Surfacing	Good	
0065-022309-6	Room 3	Plumbing Line Wrap	10% Chrysotile	TSI	Good	1 GB
0065-022309-8	Room 3	Red 12"x12" Floor Tile	3% Chrysotile	Miscellaneous	Good	180 ft. <sup>2</sup>
0065-022309-9	Room 3	Black Mastic	5% Chrysotile	Miscellaneous	Good	180 ft. <sup>2</sup>
0065-022309-10	Room 4	Red 12"x12" Floor Tile	3% Chrysotile	Miscellaneous	Good	675 ft. <sup>2</sup>
0065-022309-12	Room 4	Red 12"x12" Floor Tile	3% Chrysotile	Miscellaneous	Good	
0065-022309-11	Room 4	Black Mastic	5% Chrysotile	Miscellaneous	Good	675 ft. <sup>2</sup>
0065-022309-13	Room 4	Black Mastic	5% Chrysotile	Miscellaneous	Good	
0065-022309-50	Room 31	Brown Spec. 9"x9" Floor Tile	Trace Amount Chrysotile	Miscellaneous	Good	18 ft. <sup>2</sup>
0065-022309-60	Room 31	Brown Spec. 9"x9" Floor Tile	Trace Amount Chrysotile	Miscellaneous	Good	
0065-022309-70	Room 31	Brown Spec. 9"x9" Floor Tile	Trace Amount Chrysotile	Miscellaneous	Good	
0065-022309-51	Room 31	Black Mastic	2% Chrysotile	Miscellaneous	Good	18 ft. <sup>2</sup>
0065-022309-61	Room 31	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-71	Room 31	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-52	Room 32	Brown/Tan 9"x9" Floor Tile (two layers)	2% Chrysotile	Miscellaneous	Good	210 ft. <sup>2</sup>
0065-022309-54	Room 32		2% Chrysotile	Miscellaneous	Good	
0065-022309-56	Room 32		2% Chrysotile	Miscellaneous	Good	
0065-022309-53	Room 32	Black Mastic	2% Chrysotile	Miscellaneous	Good	210 ft. <sup>2</sup>
0065-022309-55	Room 32	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-58	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	144 ft. <sup>2</sup>
0065-022309-62	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	
0065-022309-64	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	
0065-022309-67	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	144 ft. <sup>2</sup>
0065-022309-57	Room 33	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-63	Room 33	Black Mastic	5% Chrysotile	Miscellaneous	Good	
0065-022309-65	Room 33	Black Mastic	5% Chrysotile	Miscellaneous	Good	
0065-022309-68	Room 33	Black Mastic	5% Chrysotile	Miscellaneous	Good	

The Findings pertaining to this Asbestos Inspection correspond with the analytical data provided in the Appendix of this Report. Recommendations and Response Actions, chain of custody forms, specific sampling locations and associated analytical results are provided in subsequent portions of this Report.

## **Historical Overview of Asbestos Activities**

Historical records were not provided for review nor was there evidence or information that would suggest that a prior asbestos inspection occurred.

## **RECOMMENDATIONS AND RESPONSE ACTIONS**

The following recommendations are based on the results of this Asbestos Inspection Report.

1. The trace amount of asbestos that was identified in the floor tile should be quantified by the EPA point count analytical method. AHERA sampling protocols should be followed to collect a representative number of samples to be submitted for point count analysis.
2. If the ACM are to remain in place and be maintained and undisturbed, a Management Plan should be developed.
3. At this time, MEM recommends that the removal and disposal of the building materials, which contain asbestos, be treated as a regulated response action covered by EPA NESHAP regulations. A Project Design would be required for quantities greater than 160 square feet.
4. Activities that would disturb the ACM should only be performed by an ODOL Licensed Asbestos Contractor.

## **LIMITATIONS OF SURVEY**

This Asbestos Inspection was limited to certain aspects of the building construction; these limitations may have restricted or prevented the complete inspection of hidden or inaccessible building materials and substrates. Inaccessible building materials and/or substrates were not inspected. Locations presenting a hazard to bystanders or the Inspector were not assessed.

The findings within this Report are valid as of the date this Asbestos Inspection was performed; however, changes in the conditions of a property may certainly occur with the passage of time; whether due to natural processes or the works of man. Furthermore, changes in applicable or appropriate standards may also occur, possibly resulting from legislation or the expansion of knowledge.

Our Investigation was performed using the degree of care and skill ordinarily exercised under similar circumstances by professional consultants practicing in this or similar localities. Professional services have been performed; results associated with this Asbestos Inspection were obtained and reported in accordance with generally accepted principles and practices. No other representations either expressed or implied are made; thus, Marshall Environmental Management, Inc. is not responsible for independent conclusions, opinions, or recommendations made by others. It should also be noted that as-built plans were not available for review or use in the planning of this asbestos inspection.

## **REGULATORY REVIEW**

Prior to 1980 asbestos was commonly found in various building materials and utilized during construction. In 1994 OSHA required employers to identify ACM in pre-1980 construction as part of its Standard for Occupational Exposure to Asbestos in Construction (29 CFR 1926.1101).

This OSHA standard covers maintenance, repair and removal functions involving ACM or Presumed ACM (PACM). Without Asbestos Inspections, owners and/or operators must treat suspected ACM as asbestos. The ODOL defines ACM as 1% or greater of asbestos content; whereas the EPA definition is greater than 1% of asbestos content.

The ODOL regulates the Hazard Communication requirements for public employees as part of the ODOL Public Employees Occupational Safety and Health (PEOSH) Program. The State of Oklahoma Hazard Communication Standard (HAZCOM), revised as of August 2006, is provided in the Oklahoma Asbestos Control Act (OAC) 380 Chapter 45.

[http://www.ok.gov/odol/documents/Asbestos\\_law\\_rules.pdf](http://www.ok.gov/odol/documents/Asbestos_law_rules.pdf)

Specific provisions of the Standard (OAC: 45-15-1) address an Asbestos Notice and Labeling requirement. The Labeling requirements specify that pipe insulation and various equipment insulation containing asbestos, as well as, room locations where asbestos is present be provided with an Asbestos Warning Label. These labels are to be readily visible and include the following warning:

**DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID BREATHING DUST  
CANCER AND LUNG DISEASE HAZARD**

Section 380:45-15-2 requires a Notice to Employees when ACM are used in acoustical materials on ceilings and walls. This type of ACM is referred to as Surfacing Material.

The U.S. Environmental Protection Agency (EPA) requires inspections in school buildings in grades K through 12, as part of the Asbestos Hazard Emergency Response Act (AHERA), which is authorized in 40 CFR 763.6. These AHERA requirements would only be applicable to the Minco Armory in an instance where the future intentions for the structure would include school activities grades K through 12. The structure would then necessitate an Asbestos Management Plan, required by the Local Educational Authority (LEA). The AHERA inspection protocol requires a thorough sampling of all forms of friable and non-friable asbestos. The types of ACM to be assessed as part of an AHERA Inspection include:

- **Surfacing Materials**
  - Examples include: blown on or trowled substrates materials typically observed on ceilings, structural steel, concrete ceilings or metal pan decks.
- **Thermal System Insulation**
  - Examples include: piping, hot and cold water lines, Heating Ventilation and Air Conditioning (HVAC) equipment components, boilers, steam lines or heated thermal processes.
- **Miscellaneous Materials**
  - Examples include: floor tiles, mastics, ceiling tiles, sheet vinyl flooring, wallboard bedding tapes or joint compounds.

The AHERA sampling protocol addresses the systematic sampling of each type of ACM and the identification of both friable, that which can be rendered to a powder by hand pressure, Category I non-friable ACM, such as floor tiles and mastic, and Category II non-friable ACM, such as cement asbestos tiles. The AHERA Inspection must also evaluate the condition and potential for

the disturbance of the ACM. The condition of the ACM, good, damaged or significantly damaged, must also be determined.

In addition to AHERA, the EPA regulates asbestos removal during renovation and demolition. Land disposal requirements are also regulated by the EPA through State Landfill Permits. These efforts are now administered by the Oklahoma Department of Environmental Quality (DEQ) Air Quality and Land Protection regulations. The DEQ requires the filing of advance notices of any demolition or renovation activities. These notices are referred to as a NESHAP Notice. Both historical and future asbestos abatement response actions track asbestos removal to a DEQ approved landfill on a project by project basis as part of this NESHAP notification process.

A NESHAP Notice is required for Renovation whenever the quantities of ACM are greater than 160 square feet, 260 linear feet or 35 cubic feet. All required NESHAP Notifications must be submitted to the DEQ ten working days prior to any demolition or renovation work where asbestos is present. Instruction of how to file and comply with DEQ and NESHAP Notification Requirements are provided on the DEQ web site at:

<http://www.deq.state.ok.us/aqdnew/asbestos/index.htm>

The ODOL regulates Asbestos Abatement. The ODOL Asbestos Division implements the ODOL Rules governing the abatement for friable asbestos. Under the ODOL asbestos rule, OAC 380:50, only Licensed Contractors can perform asbestos abatement, develop management plans and project designs. All abatement supervisors, abatement workers and asbestos inspectors must also be licensed by the ODOL. It should be noted that the ODOL Asbestos Rules are currently undergoing a review for pending rule change. The ODOL Rules are available at the ODOL web site at: <http://www.ok.gov/odol/>



# **APPENDIX**

## **BULK ASBESTOS SAMPLING CHAIN OF CUSTODY ANALYTICAL RESULTS**

**FLOOR PLAN**

**LICENSES**

**PHOTOGRAPHS**

005-026501-CAM-11-11

1601 SW 89th Street  
Oklahoma City, OK 73159

# Marshall Environmental Management, Inc.

Phone: (405) 616-0401  
Fax: (405) 681-6753

Project Location:		Invoice To:		Report To:						
Job ID #:	0025-AB-22309-JM	Company:	ODEQ	Company:	ODEQ					
Project Name:	Minco Armory	Attention:		Attention:						
Address:	407 West Pontotoc Street Minco, OK	Address:		Address:						
Phone #:	Site Contact:	Phone #:	Mobile #:	Phone #:	Mobile #:					
Date Sampled	Job #	Sample #	Sample Location/Description	Sample Type	Matrix	Media	Time Out/RT	Calibration Proof	Volunt/ Area	Analyst/ Parameters
2/2-2/09	0025-AB-22309-JM	B1	Room 2 ceiling Surfacing Mat North	Bulk	N/A	N/A	N/A	N/A	N/A	Asbestos PLM
		B2	Room 2 ceiling Surfacing Mat North Center							
		B3	Room 2 ceiling Surfacing Mat North South							
		B4	Room 3 ceiling tile West							
		B5	Room 3 ceiling tile center							
		B6	Room 3 green line wrap							
		B7	Room 3 compressor drain pipe							
		B8	Room 3 12x12 Red							
		B9	Room 3 black mastic under Red Floor tile							
		B10	Room 4 Red 12x12 tile North							
Collected By: (print)	Julie Marshall			Sample Notes:	N/A		Method of Shipment:			
Collected By: (signature)	<i>Julie Marshall</i>					Condition Upon Reception:				
Relinquished By:						ACCEPTABLE				
Relinquished By:										
Relinquished By:										

1601 SW 89th Street  
Oklahoma City, OK 73159

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Fax: (405) 681-6753

Project Location:			Invoice To:			Report To:			
Job ID #:	0025-AB-22309-JM		Company:			Company:			
Project Name:	Minco Armory		Attention:			Attention:			
Address:	407 West Pontotoc Street Minco, OK		Address:			Address:			
Phone #:	Site Contact:	Sample #	Phone #:	Mobile #:	Sample Type	Matrix	Media	Time On/Off	
								Calibration Fwd/Rev	
								Volume/ Area	
								Analysis Parameters	
2/22/04	0025	B11			Bulk	N/A	N/A	N/A	PLM Asbest
		B12							
		B13							
		B14							
		B15							
		B16							
		B17							
		B18							
		B19							
		B20							
Collected By: (print)	Jamie Marshall		Sample Notes:			Method of Shipment:			
Collected By: (signature)	<i>J. Marshall</i>					Condition Upon Reception:			
Relinquished By:			Date:		Received By:		Date:		
Relinquished By:			Time:		Received By:		Time:		
Relinquished By:			Date:		Received By:		Date:		
			Time:				Time:		
			Date:				Date:		
			Time:				Time:		

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Oklahoma City, OK 73159

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Phone: (405) 616-0401  
Fax: (405) 681-6753

Job ID #:		Project Location:		Invoice To:		Report To:						
0025-AB-22309-JM		Minco Armory		Company:		Company:						
407 West Pontotoc Street		Minco, OK		Attention:		Attention:						
Minco, OK		Site Contact:		Address:		Address:						
Date Sampled	Job #	Sample #	Sample Location/Description	Phone #	Mobile #	Sample Type	Matrix	Media	Time On/Off	Calibration Pref/Post	Volume/Area	Analysis/Parameters
2/23/09	0025	B21	Rm 7 ceiling Battling North			Bulk	N/A	N/A	N/A	N/A	N/A	PLM Asbestos
		B22	Rm 7 ceiling Battling Center									
		B23	Rm 7 ceiling tile									
		B24	Rm 7 cover base									
		B25	Rm 7 ceiling tile									
		B26	Rm 7 dry wall									
		B27	Rm 8 ceiling tile North									
		B28	Rm 8 ceiling tile center									
		B29	Room 8 Dry wall									
		B30	Room 8 ceiling tile									
Collected By:	Jamie Marshall			Sample Notes:		Method of Shipment:		Condition Upon Reception:		Date: Time:		
Collected By:	[Signature]									Date: Time:		
Relinquished By:										Date: Time:		
Relinquished By:										Date: Time:		
Relinquished By:										Date: Time:		

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Project Location:				Invoice To:				Report To:				
Job ID #:	Project Name:	Address:	Phone #:	Sample Location/Description	Sample #	Job #	Site Contact:	Company:	Attention:	Address:	Phone #:	
0025-AB-22309-JM	Minco Armory	407 West Pontotoc Street Minco, OK		Rm 12 window Caulk	B31	0025						
				Rm 12 Red Rock 12x12	B32							
				Rm 12 Mastic	B33							
				Rm 12 Red Rock 12x12	B34							
				Rm 12 Mastic	B35							
				Rm 14 window Caulk	B36							
				R 14 ceiling texture	B37							
				R 14 Bed tape	B38							
				R 14 MND	B39							
				R 14 Dry wall	B40							
Collected By: (print)	Junie Marshall							Method of Shipment:				
Collected By: (signature)								Condition Upon Reception:				
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Method of Shipment:						
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Condition Upon Reception:						
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Method of Shipment:						
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Condition Upon Reception:						

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Oklahoma City, OK 73159

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Phone: (405) 616-0401  
Fax: (405) 681-6753

Project Location:				Invoice To:				Report To:						
Job ID #:	0025-AB-27309-JM			Company:				Company:						
Project Name:	Minco Armory			Attention:				Attention:						
Address:	407 West Pantotoc Street Minco, OK			Address:				Address:						
Phone #:	Site Contact:	Job #	Sample #	Phone #:	Mobile #:	Sample Location/Description	Phone #:	Mobile #:	Matrix	Media	Time On/Off	Calibration Pref/Post	Volume/ Area	Analysis/ Parameters
2/25/09		0025	B41			Rm 16 Dry wall			N/A	N/A	N/A	N/A	N/A	PLM Asbestos
			B42			Rm 16 Blue 12x12								
			B43			Rm 17 Dry wall								
			B44			Rm 18 Beige speckled 12x12								
			B45			Rm 18 yellow mastic								
			B46			Rm 18 Beige speckled 12x12								
			B47			Rm 18 yellow mastic								
			B48			Rm 18 dry wall								
			B49			Rm 19 Pink / orange window cowl								
			B50			Rm 31 Brown speckled 9x9								
Collected By: (print)	Jamie Marshall			Sample Notes:				Method of Shipment:						
Collected By: (signature)	<i>Jamie Marshall</i>							Condition Upon Reception:						
Relinquished By:				Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:														
Relinquished By:														

1601 SW 89th Street  
Oklahoma City, OK 73159

# Marshall Environmental Management, Inc.

Phone: (405) 616-0401  
Fax: (405) 681-6753

Project Location:		Invoice To:		Report To:	
Job ID #:	0025-AB-22309-JM	Company:		Company:	
Project Name:	Minsco Armory	Attention:		Attention:	
Address:	407 West Pontotoc Street Minsco, OK	Address:		Address:	
Phone #:		Phone #:		Phone #:	
Date Sampled	Job #	Sample #	Sample Location/Description	Mobile #:	Mobile #:
2/23/04	0025	B51	Black mastic Rm B31	N/A	N/A
		B52	Rm 32 9x9 tile Brown/Tan		
		B53	Rm 32 Black Mastic		
		B54	Rm 32 9x9 tile Brown/Tan		
		B55	Rm 32 Black Mastic		
		B56	Rm 32 9x9 tile Brown/Tan		
		B57	Rm 33 9x9 tile Black mastic		
		B58	Rm <del>33</del> 33 Black <del>mastic</del> tile		
		B59	Rm 33 ceiling Plaster		
		B60	Rm B31 Brown speckled 9x9		
Collected By:	Jamie Marshall		Method of Shipment:		
Collected By:	<i>(Signature)</i>		Condition Upon Receipt:		
Relinquished By:		Received By:	Date:		
Relinquished By:		Received By:	Time:		
Relinquished By:		Received By:	Date:		
Relinquished By:		Received By:	Time:		
Relinquished By:		Received By:	Date:		
Relinquished By:		Received By:	Time:		

1601 SW 89th Street  
Oklahoma City, OK 73159

# Marshall Environmental Management, Inc.

Phone: (405) 616-0401  
Fax: (405) 681-5753

Project Location:				Invoice To:				Report To:								
Job ID #:	0025-AB-22309-JM			Company:				Company:								
Project Name:	Minco Armory			Attention:				Attention:								
Address:	407 West Fortotoc Street Minco, OK			Address:				Address:								
Phone #:	Site Contact:	Mobile #:	Phone #:	Mobile #:	Phone #:	Mobile #:	Phone #:	Mobile #:	Volume/ Area	Calibration Yrs/Prot	Time On/Off	Media	Matrix	Sample Type	Mark	Analyst/Parameter
2/23/09	0025	B61	Rm 31	Black mastic	Bulk	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PLM Asbestos
		B62	Rm 33	Brown 9x9												
		B63	Rm 33	Black mastic												
		B64	Rm 33	Brown 9x9												
		B65	Rm 33	Black mastic												
		B66	Rm 33	ceiling Plaster												
		B67	Rm 33	Brown 9x9												
		B68	Rm 33	Black mastic												
		B69	Rm 33	ceiling Plaster												
		B70	Rm 31	Brown Specled 9x9												
Collected By: (print)	Jamie Marshall															
Collected By: (signature)																
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Method of Shipment:										
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Condition Upon Reception:										
Relinquished By:	Date:	Time:	Received By:	Date:	Time:											

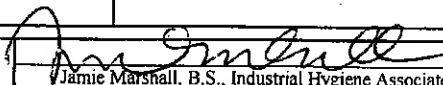




**Marshall Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		10% Asbestos Detected	
		Room 3	Color	White	10%	Chrysotile
		Plumbing Line Wrap	Condition	Good		5% Silica Beads
			Type	Thermal System Insulation		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		No Asbestos Detected	
		Room 3	Color	White		5% Calcareous Material
		Evaporator Drain Tape	Condition	Good		95% Cellulose
			Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		3% Asbestos Detected	
		Room 3	Color	Red	3%	Chrysotile
		12"x12" Floor Tile	Condition	Good		
			Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		5% Asbestos Detected	
		Room 3	Color	Black	5%	Chrysotile
		Mastic	Condition	Good		
		under red floor tile	Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		3% Asbestos Detected	
		Room 4	Color	Red	3%	Chrysotile
		12"x12" Floor Tile	Condition	Good		
		North	Type	Miscellaneous		
			Note			

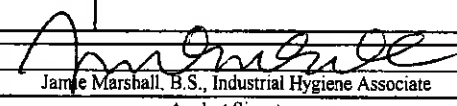
Analyst Name (Print)	Analyst Signature	Date Analyzed
Jamie Marshall	 Jamie Marshall, B.S., Industrial Hygiene Associate	March 6, 2009

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
---	---

**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location		Sample Description		5% Asbestos Detected	
0065-022309-CJM-PLM-11	February 23, 2009	Room 4		Color	Black	5%	Chrysotile
		Mastic		Condition	Good		97% Tar
		North		Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-12	February 23, 2009	Room 4		Color	Red	3%	Chrysotile
		12"x12" Floor Tile		Condition	Good		97% Vinyl Aggregate
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-13	February 23, 2009	Room 4		Color	Black	5%	Chrysotile
		Mastic		Condition	Good		97% Tar
		under floor tile		Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-14	February 23, 2009	Room 5		Color	Beige		100% Vinyl Aggregate
		12"x12" Floor Tile		Condition	Good		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-15	February 23, 2009	Room 5		Color	Yellow		100% Adhesive
		Mastic		Condition	Good		
				Type	Miscellaneous		
				Note			

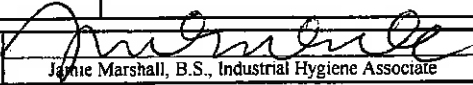
Jamie Marshall Analyst Name (Print)	 Jamie Marshall, B.S., Industrial Hygiene Associate Analyst Signature	March 6, 2009 Date Analyzed
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Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		No Asbestos Detected	
			Color	Condition		
0065-022309-CJM-PLM-16	February 23, 2009	Room 5	Black		100%	Cellulose
		Debris on Floor	Significantly Damaged			
		Paper	Miscellaneous			
			Note			
0065-022309-CJM-PLM-17	February 23, 2009	Room 5	Black		100%	Tar
		Debris on Floor	Significantly Damaged			
		Paper	Miscellaneous			
			Note			
0065-022309-CJM-PLM-18	February 23, 2009	Room 7	Blue		100%	Vinyl Aggregate
		12"x12" Floor Tile	Good			
			Miscellaneous			
			Note			
0065-022309-CJM-PLM-19	February 23, 2009	Room 7	Yellow		100%	Adhesive
		Mastic	Good			
			Miscellaneous			
			Note			
0065-022309-CJM-PLM-20	February 23, 2009	Room 7	White		100%	Styrofoam
		Ceiling tile	Good			
			Miscellaneous			
			Note			

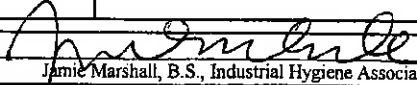
Jamie Marshall Analyst Name (Print)	 Jamie Marshall, B.S., Industrial Hygiene Associate Analyst Signature	March 6, 2009 Date Analyzed
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Test Method: 40 CFR Chapter I, Part 763, Subpart F. Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' All Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location		Sample Description		No Asbestos Detected	
0065-022309-CJM-PLM-21	February 23, 2009	Room 7		Color	Yellow		
		Ceiling Batting		Condition	Good		100% Fibrous Glass
		North		Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-22	February 23, 2009	Room 7		Color	Yellow		
		Ceiling Batting		Condition	Good		100% Fibrous Glass
		Center		Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-23	February 23, 2009	Room 7		Color	Gray		
		Ceiling Tile		Condition	Good		40% Cellulose
				Type	Miscellaneous		30% Fibrous Glass
				Note			30% Silica
0065-022309-CJM-PLM-24	February 23, 2009	Room 7		Color	Black		
		Cove Base		Condition	Good		100% Vinyl
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-25	February 23, 2009	Room 7		Color	Gray		
		Ceiling tile		Condition	Good		40% Cellulose
				Type	Miscellaneous		30% Fibrous Glass
				Note			30% Silica

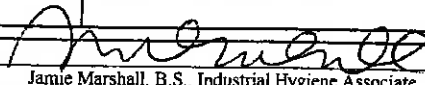
Jamie Marshall Analyst Name (Print)	 Jamie Marshall, B.S., Industrial Hygiene Associate Analyst Signature	March 6, 2009 Date Analyzed
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Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		No Asbestos Detected	
0065-022309-CJM-PLM-26	February 23, 2009	Room 7	Color	White		98% Calcareous Material 2% Cellulose
		Drywall	Condition	Good		
			Type	Miscellaneous		
			Note			
0065-022309-CJM-PLM-27	February 23, 2009	Room 8	Color	White		100% Styrofoam
		Ceiling Tile	Condition	Good		
		North	Type	Miscellaneous		
			Note			
0065-022309-CJM-PLM-28	February 23, 2009	Room 8	Color	White		100% Styrofoam
		Ceiling Tile	Condition	Good		
		Center	Type	Miscellaneous		
			Note			
0065-022309-CJM-PLM-29	February 23, 2009	Room 8	Color	White		98% Calcareous Material 2% Cellulose
		Drywall	Condition	Good		
			Type	Miscellaneous		
			Note			
0065-022309-CJM-PLM-30	February 23, 2009	Room 8	Color	Gray		40% Cellulose 30% Fibrous Glass 30% Silica
		Ceiling Tile	Condition	Good		
			Type	Miscellaneous		
			Note			

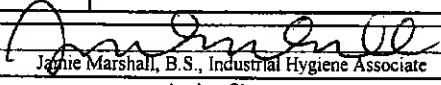
Analyst Name (Print)	 Jamie Marshall, B.S., Industrial Hygiene Associate	Date Analyzed	March 6, 2009
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Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix A Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location		Sample Description		No Asbestos Detected	
0065-022309-CJM-PLM-31	February 23, 2009	Room 12		Color	Gray		100% Calcareous Material
		Window Caulk		Condition	Damaged		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-32	February 23, 2009	Room 12		Color	Red		100% Vinyl Aggregate
		Rock 12"x12"		Condition	Good		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-33	February 23, 2009	Room 12		Color	Gray		100% Adhesive
		Mastic		Condition	Good		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-34	February 23, 2009	Room 12		Color	Red		100% Vinyl Aggregate
		Rock 12"x12"		Condition	Good		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-35	February 23, 2009	Room 12		Color	Gray		100% Vinyl Aggregate
		Mastic		Condition	Good		
				Type	Miscellaneous		
				Note			

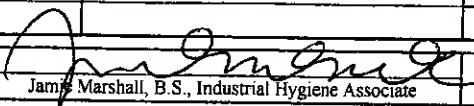
Jamie Marshall		March 6, 2009
Analyst Name (Print)	Jamie Marshall, B.S., Industrial Hygiene Associate	Date Analyzed

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		No Asbestos Detected	
0065-022309-CJM-PLM-36	February 23, 2009	Room 14	Color	Gray		
		Window Caulk	Condition	Damaged		100% Calcareous Material
			Type	Miscellaneous		
			Note			
0065-022309-CJM-PLM-37	February 23, 2009	Room 14	Color	White		95% Calcareous Material
		Ceiling Texture	Condition	Good		5% Silica
			Type	Surfacing		
			Note			
0065-022309-CJM-PLM-38	February 23, 2009	Room 14	Color	White		100% Cellulose
		Bed Tape	Condition	Good		
			Type	Miscellaneous		
			Note			
0065-022309-CJM-PLM-39	February 23, 2009	Room 14	Color	White		95% Calcareous Material
		Mud	Condition	Good		5% Silica
			Type	Surfacing		
			Note			
0065-022309-CJM-PLM-40	February 23, 2009	Room 14	Color	White		98% Calcareous Material
		Drywall	Condition	Good		2% Cellulose
			Type	Miscellaneous		
			Note			

Analyst Name (Print)	Analyst Signature	Date Analyzed
Jamie Marshall	 Jamie Marshall, B.S., Industrial Hygiene Associate	March 6, 2009

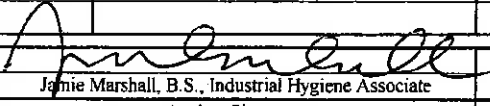
Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		No Asbestos Detected		
			Color	Condition			
0065-022309-CJM-PLM-41	February 23, 2009	Room 16	White	Good	98%	Calcareous Material	
		Drywall			2%	Cellulose	
			Miscellaneous				
0065-022309-CJM-PLM-42	February 23, 2009	Room 16	Blue	Good	100%	Vinyl Aggregate	
		12"x12" Floor Tile					
			Miscellaneous				
0065-022309-CJM-PLM-43	February 23, 2009	Room 17	White	Good	98%	Calcareous Material	
		Drywall			2%	Cellulose	
			Miscellaneous				
0065-022309-CJM-PLM-44	February 23, 2009	Room 18	Beige Speckled	Good	100%	Vinyl	
		12"x12" Floor Tile					
			Miscellaneous				
0065-022309-CJM-PLM-45	February 23, 2009	Room 18	Yellow	Good	100%	Adhesive	
		Mastic					
			Miscellaneous				

Analyst Name (Print)	Analyst Signature	Date Analyzed
Jamie Marshall		March 6, 2009
	Jamie Marshall, B.S., Industrial Hygiene Associate	

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix A Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location		Sample Description		No Asbestos Detected	
0065-022309-CJM-PLM-46	February 23, 2009	Room 18		Color	Beige Speckled		100% Vinyl
		12"x12" Floor Tile		Condition	Good		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-47	February 23, 2009	Room 18		Color	Yellow		100% Adhesive
		Mastic		Condition	Good		
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-48	February 23, 2009	Room 18		Color	White		98% Calcareous Material
		Drywall		Condition	Good		2% Cellulose
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-49	February 23, 2009	Room 19		Color	Pink/Orange		98% Calcareous Material
		Window Caulk		Condition	Damaged		2% Cellulose
				Type	Miscellaneous		
				Note			
0065-022309-CJM-PLM-50	February 23, 2009	Room 31		Color	Brown Speckled	Trace	Chrysotile
		9"x9" Floor Tile		Condition	Good		99% Vinyl Aggregate
				Type	Miscellaneous		
				Note			


Jamie Marshall		March 6, 2009
Analyst Name (Print)	Jamie Marshall, B.S., Industrial Hygiene Associate	Date Analyzed

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location		Sample Description		2% Asbestos Detected		
		Room	Material	Color	Condition	%	Material	
0065-022309-CJM-PLM-51	February 23, 2009	Room 31	Mastic	Black	Good	2%	Chrysotile	
					Miscellaneous		98% Adhesive	
0065-022309-CJM-PLM-52	February 23, 2009	Room 32	9"x9" Floor Tile	Brown/Tan	Good	2%	Chrysotile	
					Miscellaneous		98% Vinyl Aggregate	
0065-022309-CJM-PLM-53	February 23, 2009	Room 32	Mastic	Black	Good	2%	Chrysotile	
					Miscellaneous		6% Aggregate Material	
							2% Cellulose	90% Tar
0065-022309-CJM-PLM-54	February 23, 2009	Room 32	9"x9" Floor Tile	Brown/Tan	Good	2%	Chrysotile	
					Miscellaneous		98% Vinyl Aggregate	
0065-022309-CJM-PLM-55	February 23, 2009	Room 32	Mastic	Black	Good	2%	Chrysotile	
					Miscellaneous		6% Aggregate Material	
							2% Cellulose	90% Tar

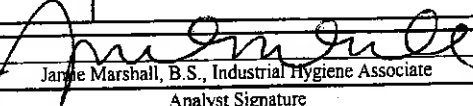
Analyst Name (Print)	Analyst Signature	Date Analyzed
Jamie Marshall	 Jamie Marshall, B.S., Industrial Hygiene Associate	March 6, 2009

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Marshall Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		2% Asbestos Detected		
			Color	Condition			
0065-022309-CJM-PLM-56	February 21, 2009	Room 32	Brown/Tan	Good	2% Chrysotile	98% Vinyl Aggregate	
		9"x9" Floor Tile		Miscellaneous			
0065-022309-CJM-PLM-57	February 21, 2009	Room 33	Black	Good	2% Chrysotile	6% Aggregate Material	
		Mastic under 9"x9" floor tile		Miscellaneous		2% Cellulose	
						90% Tar	
0065-022309-CJM-PLM-58	February 21, 2009	Room 33	Brown	Good	5% Chrysotile	95% Aggregate Material	
		9"x9" Floor Tile		Miscellaneous			
0065-022309-CJM-PLM-59	February 23, 2009	Room 33	White	Good	No Asbestos Detected	20% Aggregate Material	
		Ceiling Plaster		Miscellaneous		15% Cellulose	
						65% Cementous Material	
0065-022309-CJM-PLM-60	February 23, 2009	Room 31	Brown Speckled	Good	Trace Chrysotile	99% Vinyl Aggregate	
		9"x9" Floor Tile		Miscellaneous			

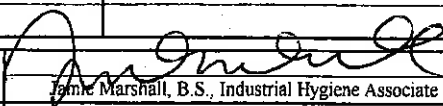
Jamie Marshall Analyst Name (Print)	 Jamie Marshall, B.S., Industrial Hygiene Associate Analyst Signature	March 6, 2009 Date Analyzed
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Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location	Sample Description		2% Asbestos Detected	
0065-022309-CJM-PLM-61	February 23, 2009	Room 31	Color	Black	2% Chrysotile	95% Adhesive
		Mastic	Condition	Good		3% Cellulose
			Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		5% Asbestos Detected	
0065-022309-CJM-PLM-62	February 23, 2009	Room 33	Color	Brown	5% Chrysotile	95% Aggregate Material
		9"x9" Floor Tile	Condition	Good		
			Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		5% Asbestos Detected	
0065-022309-CJM-PLM-63	February 23, 2009	Room 33	Color	Black	5% Chrysotile	95% Asphalt/Tar
		Mastic	Condition	Good		
			Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		5% Asbestos Detected	
0065-022309-CJM-PLM-64	February 23, 2009	Room 33	Color	Brown	5% Chrysotile	95% Aggregate Material
		9"x9" Floor Tile	Condition	Good		
			Type	Miscellaneous		
			Note			
Lab Log Number	Date of Sampling	Sample Location	Sample Description		5% Asbestos Detected	
0065-022309-CJM-PLM-65	February 23, 2009	Room 33	Color	Black	5% Chrysotile	95% Asphalt/Tar
		Mastic	Condition	Good		
			Type	Miscellaneous		
			Note			


Analyst Name (Print)	Analyst Signature	Date Analyzed
Jamie Marshall		March 6, 2009
	Jamie Marshall, B.S., Industrial Hygiene Associate	

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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**Mars' Environmental Management, Inc.**  
**Polarized Light Microscopy Asbestos Analysis**

Project Location		Invoice To		Report To	
Job Id.	0025-AB-022309-JM	Company	ODEQ	Company	ODEQ
Project	AB Inspection Minco Armory	Attention		Attention	
Address	407 West Pontotoc Street Minco, Oklahoma	Address		Address	
Site Contact	Dustin Davidson	Phone #		Phone #	
Phone #		Fax #		Fax #	
Cell #		Cell #		Cell #	
email		email		email	

Lab Log Number	Date of Sampling	Sample Location		Sample Description		No Asbestos Detected	
		Room	Material	Color	Condition	Asbestos Type	Percentage
0065-022309-CJM-PLM-66	February 23, 2009	Room 33	Ceiling Plaster	White	Good		20% Aggregate Material
							15% Cellulose
							65% Cementous Material
0065-022309-CJM-PLM-67	February 23, 2009	Room 33	9"x9" Floor Tile	Brown/Tan	Good	5% Chrysotile	95% Aggregate Material
0065-022309-CJM-PLM-68	February 23, 2009	Room 33	Mastic	Black	Good	5% Chrysotile	95% Asphalt/Tar
0065-022309-CJM-PLM-69	February 23, 2009	Room 33	Ceiling Plaster	White	Good		20% Aggregate Material
							15% Cellulose
							65% Cementous Material
0065-022309-CJM-PLM-70	February 23, 2009	Room 31	9"x9" Floor Tile	Brown Speckled	Good	Trace Chrysotile	99% Vinyl Aggregate

Jamie Marshall		March 6, 2009
Analyst Name (Print)	Jamie Marshall, B.S., Industrial Hygiene Associate	Date Analyzed

Test Method: 40 CFR Chapter I, Part 763, Subpart F, Appendix An Interim Method for Determination of Asbestos in Bulk Insulation Samples and/or Current EPA Method for the Analysis of Asbestos in Building Materials by Polarized Light Microscopy.	Lab Accreditation: AIHA PAT ID# 102334
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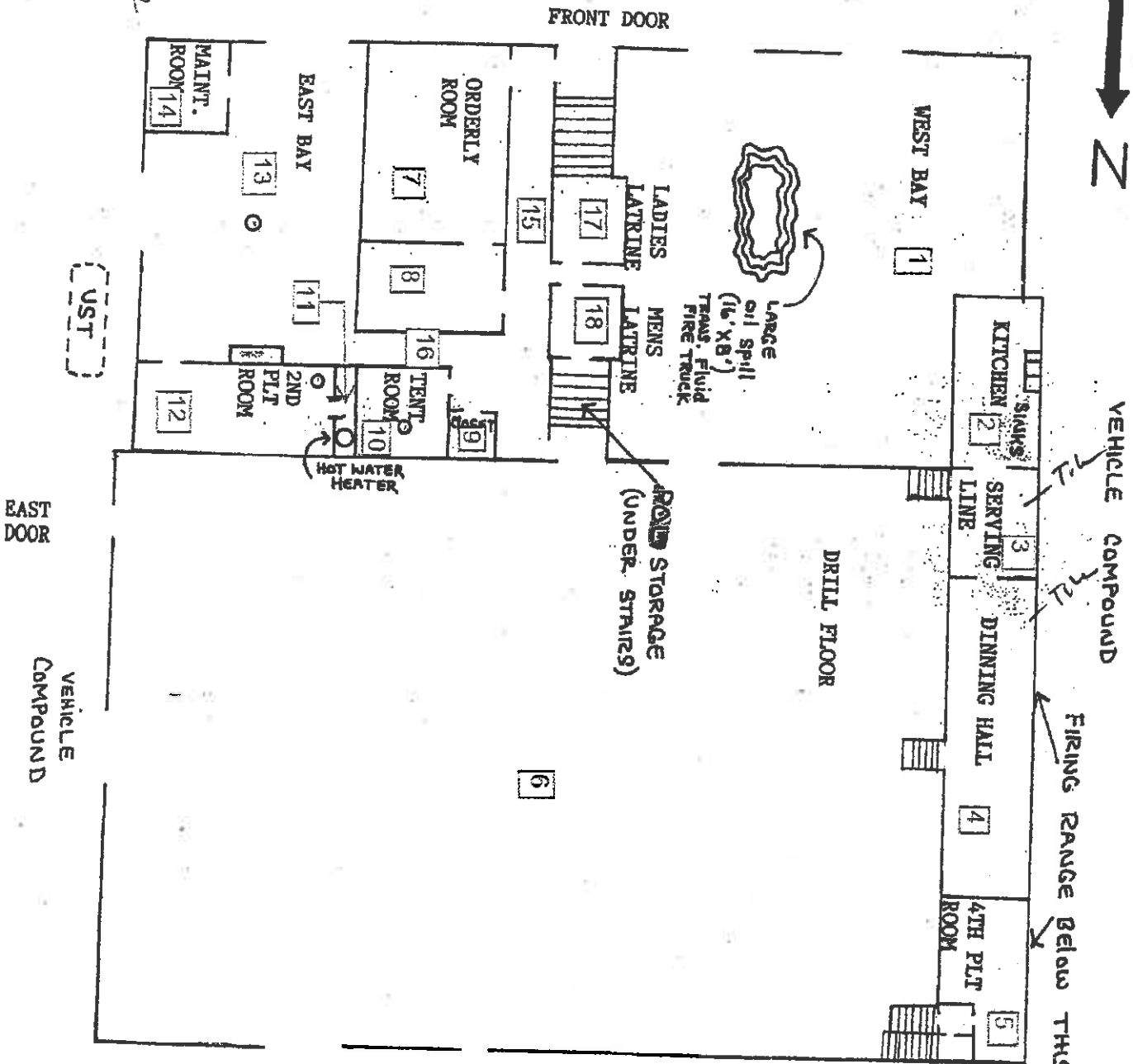
407 W Pentate  
MINCO, OKLAHOMA

# MINCO ARMORY

BUILT 1936

BOTTOM FLOOR

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)



NOT SCALE  
FIRE EXTINGUISHER POINTS

- FLOOR DRAIN
- ▭ FLAMMABLE MATERIALS STORAGE CABINET

VISIT: OCT. 17, 1995



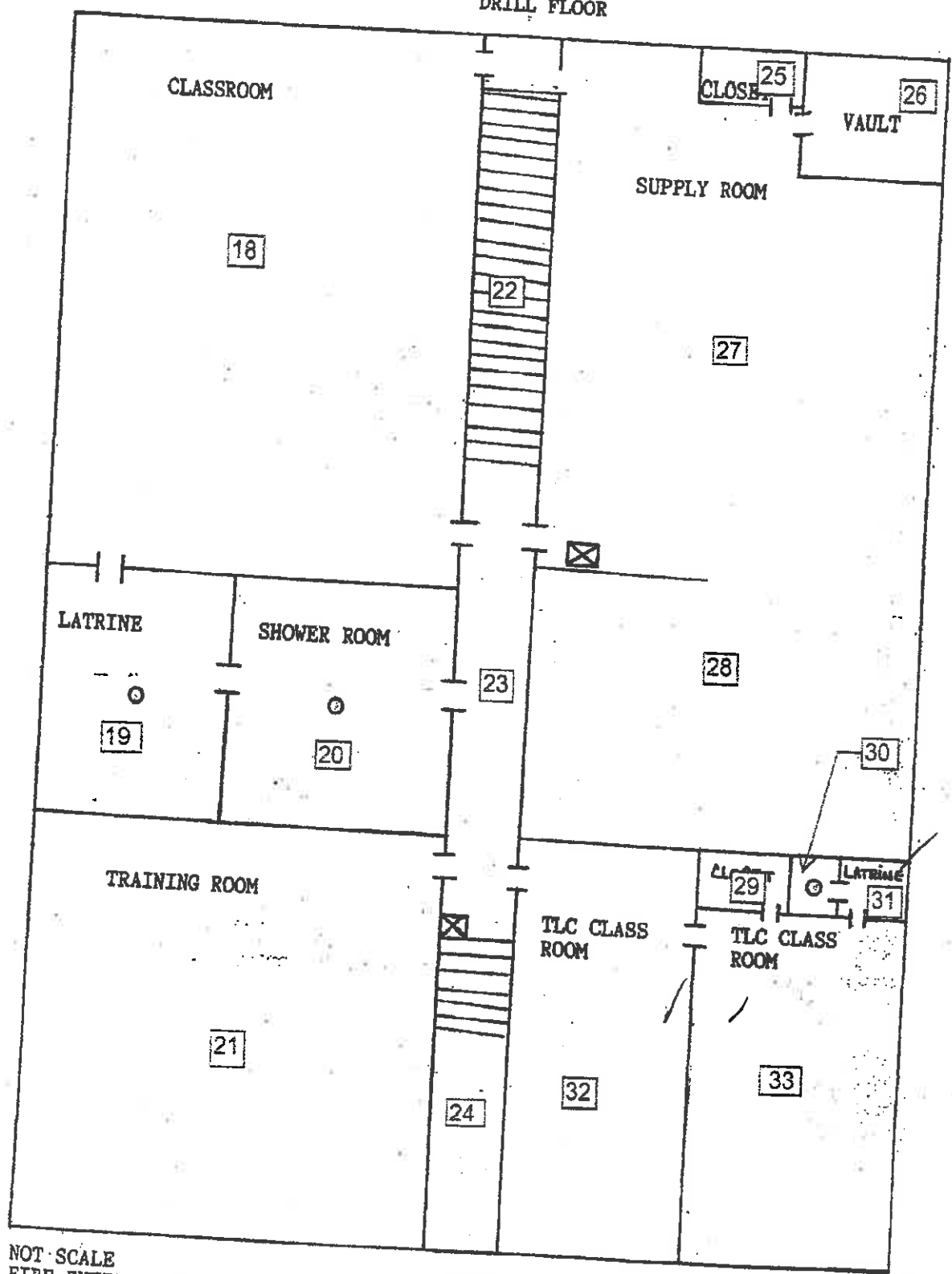
# MINCO ARMORY

BUILT 1936  
WPA

TOP FLOOR

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)

DRILL FLOOR



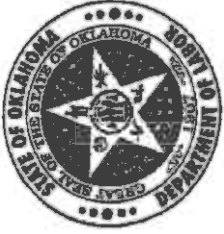
NOT SCALE  
FIRE EXTINGUISHER POINTS X

FRONT DOOR

O FLOOR DRAIN ICAS  
VISIT: OCT. 17, 95

FEE: \$500.00

Oklahoma Department of Labor



**Charles Marshall**

has filed in the office of the Commissioner of Labor of the State of Oklahoma an application for a Limited Asbestos Contractor's license for

**AHERA MANAGEMENT PLANNER**

Now, therefore, The Commissioner of Labor of the State of Oklahoma, by virtue of the power vested in him by law hereby issues to the applicant license No. OK-MP130246.

*Lloyd L. Fields*

LLOYD L. FIELDS  
Commissioner of Labor

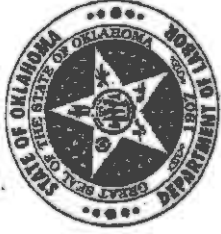
July 17, 2008

*Date of Issuance*

**EXPIRES: July 02, 2009**

FEE: \$25.00

Oklahoma Department of Labor



**Jamie Marshall**

has filed in the office of the Commissioner of Labor of the State of Oklahoma  
an application for a Limited Asbestos Contractor's license for

**AHERA INSPECTOR**

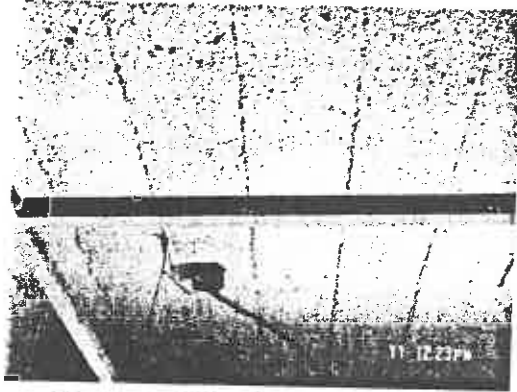
Now, therefore, The Commissioner of Labor of the State of Oklahoma, by virtue of  
the power vested in him by law hereby issues to the  
applicant license No. OK158090.

LLOYD L. FIELDS  
Commissioner of Labor

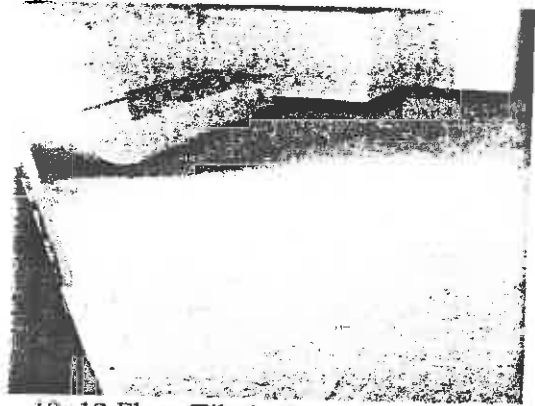
June 05, 2008

Date of Issuance

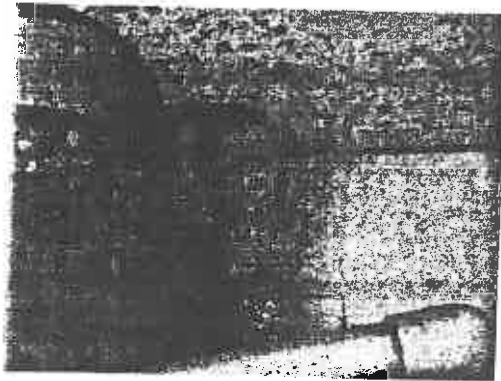
**EXPIRES: June 04, 2009**



Surfacing Material in Room #2



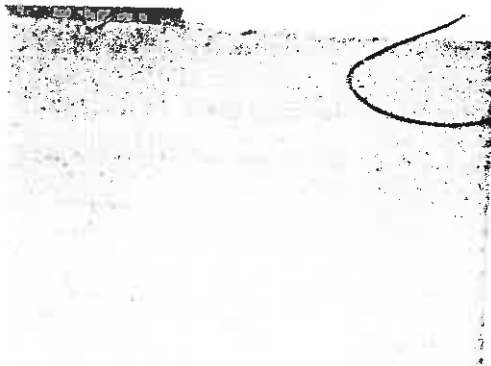
12x12 Floor Tile In Room #3 and #4



TSI Wrap On Pipe In Room #3



9x9 Floor Tile In Room #33



9x9 Floor Tile In Room 32



9x9 Floor Tile in Room 31

Project Design Review Form

Oklahoma Department of Labor  
 Asbestos Division  
 4001 N. Lincoln Blvd., Oklahoma City, OK 73105  
 Phone - (405) 528-1500 Fax - (405) 524-6793

Project Name: Elk City Armory  
 Project No.: 09-5911 Date: 06/26/09  
 Project Designer: Charles Marshall

Approved   
 Disapproved

ITEM NO.	ITEM	ACCEPT-ABLE	NOT ACCEPT-ABLE	COMMENTS
1.	A statement that DCL Abatement of Friable Asbestos Materials Rules apply.	X		This project to be performed abiding by the Oklahoma Rules for Abatement of Friable Asbestos Materials, OAC 380:50.
2.	Sequencing and phasing of work.	X		Two phases. 1.= Glovebagging of TSI. 2.=Negative Pressure Containment removal of ceiling boards, tape and bed mud in hallway.
3.	Identification of means of egress and a fire protection plan.	X		Workers briefed on emergency egress procedures. One 10# ABC fire extinguisher placed inside each work area and one placed outside decon.
4.	The quantity, type, and location of asbestos materials to be abated.	X		Approximately 172 LF of TSI on piping containing 10% chrysotile and 15% amosite. Also, approximately 800 SF of ceiling board with tape and bed mud containing 2% chrysotile.
5.	Abatement methods, and techniques, and numbers of glovebags or mini-containment.	X		Phase I = Glovebagging. Phase II = Neg. pressure gross removal.
6.	Numbers of area air monitoring pumps.	X		Three backgrounds, Neg. press. containments= 25% personnel, glovebags= 100% personnel, inside work area, 30 min. excursion, one outside adjacent to Drill Floor Area, outside clean room JOE/OUT. CLEARANCE: 3 PCM FOR 6 HOURS OR 6 FOR 3 HOURS.
7.	Numbers, capacities, location, and discharge points, if any, of negative air machines.	X		For neg. pressure containment, 4 air changes per hour at -0.02 inches pressure. For glovebags, neg. air at dirty room of decon.
8.	Details of the project containment(s).	X		Glovebagging= Criticals, drop cloths, centralized decon. Neg. Pressure Containment= criticals, 2-layers of 6-mil poly on floor and walls, attached decon and bootout.
9.	Details of the decontamination system(s).	X		Glovebagging= Centralized three-stage decon. Neg. pressure containment= attached 3-stage decon.
10.	The extent to which asbestos-contaminated soils, if any, must be removed, and the sampling methods of determining the efficacy of such removal.	N/A		
11.	Special materials or methods required to protect objects in the work area should be defined, (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds and falling material).	N/A		
12.	Any variances from the Abatement of Friable Asbestos Materials Rules.	X		1.Granted: Request to begin glovebagging in FF-APR. 2. Granted: Request to begin casing removal in FF-APR.

The Department of Labor reserves the right to require additional engineering or environmental controls consistent with the Abatement of Friable Asbestos Materials Rules which may be necessary because of discrepancies between this project design and field conditions or from unanticipated changes in field conditions.

REVIEWED BY: *Charles Marshall* DATE: 6-26-09  
 REVIEWED BY: *Charles Marshall* DATE: 6/26/09

**Oklahoma Department of Labor**

FEE: \$0.00



**Charles Marshall**

has filed in the office of the Commissioner of Labor of the State of Oklahoma  
an application for a Limited Asbestos Contractor's license for

**AHERA PROJECT DESIGNER**

Now, therefore, The Commissioner of Labor of the State of Oklahoma, by virtue of  
the power vested in him by law hereby issues to the  
applicant license No. **OK-PD140028**.

*Lloyd L. Fields*

LLOYD L. FIELDS  
Commissioner of Labor

April 09, 2009

Date of Issuance

**EXPIRES: April 03, 2010**

## LEAD-BASED PAINT INSPECTION REPORT

**RECEIVED**

JUN 02 2009

LB

LAND PROTECTION DIVISION  
DEPARTMENT OF ENVIRONMENTAL QUALITY

**Lead-Based Paint Inspection  
And  
Settled Dust Sampling**

**Minco Armory**  
407 West Pontotoc Street  
Minco, Oklahoma

February 23, 2009

**DCS Contract NO.: ID009139-4**

***PROVIDED FOR***

Oklahoma Department of Environmental Quality  
Land Protection Division  
707 North Robinson  
Oklahoma City, OK 73102

***PROVIDED BY***

**Marshall Environmental Management, Inc.**  
1601 Southwest 89<sup>th</sup> Street, Suite 100-A  
Oklahoma City, OK 73159



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**CERTIFICATION**

This is to certify, that Marshall Environmental Management, Inc. was contracted by the State of Oklahoma Department of Central Services to conduct a Lead-Based Paint Inspection and Settled Dust Sampling of the Minco Armory, for the State of Oklahoma Department of Environmental Quality, Land Protection Division. The Minco Armory Lead-Based Paint Inspection and Settled Dust Sampling was performed by an Oklahoma Department of Environmental Quality Certified, Lead-Based Paint Inspector/Risk Assessor, Jamie Marshall of Marshall Environmental Management, Inc., under the direction of Dr. Charles L. Marshall, C.I.H., President of Marshall Environmental Management, Inc. The analytical results associated with this Lead-Based Paint Inspection and Settled Dust Sampling are believed to accurately reflect the locations and concentrations of paint and dust containing lead.

**Current Owner Information**

State of Oklahoma

**Certified Lead Based Paint Risk Assessor/Inspector**



5/27/09

Jamie Marshall, B.S., Industrial Hygiene Associate

Date

Oklahoma Department of Environmental Quality Certification Number: OKRASR13418

**Certified Lead-Based Paint Firm**

**Marshall Environmental Management, Inc.**

1601 SW 89<sup>th</sup> Street, Suite A-100

Oklahoma City, OK 73159

(405) 616-0401

Oklahoma Department of Environmental Quality Certification Number: OKFIRM11160

**XRF Information**


Niton XLp Spectrum Analyzer

Model #XLp 300A

Serial #12585

Source: 40 mCi

**Information Reviewed & Approved By:**



Dr. Charles L. Marshall, C.I.H., C.S.P.

Date

## **EXECUTIVE SUMMARY**

Marshall Environmental Management, Inc. conducted a Lead-Based Paint Inspection of the Minco Armory on February 23, 2009, in order to evaluate the locations, condition and content of suspected lead-based paint and lead laden settled dust, which may be present.

The Minco Armory was constructed in 1936 and is located at 407 West Pontotoc Street in Minco, Oklahoma. The Minco Armory is a two-story structure, comprised of a brick exterior, a conventional foundation and a combination pitched and flat roof.

The analytical results associated with this Lead-Based Paint Inspection did identify lead-based paint on various windows, doors, doorjambs and other miscellaneous surfaces throughout the Minco Armory. Additionally, various floor surface areas within the Armory were identified as positive for lead-laden dust.

The remainder of this Report includes the Sampling Methodology, the Findings, the Disclosure Statement and Owners Legal Obligation and information regarding lead-based paint. Specific sampling locations and the analytical data correlating with this Inspection and Sampling Event are included in the Appendix of this Report.

## **SAMPLING METHODOLOGY**

Painted surfaces and various floor surfaces within the Armory were sampled and analyzed for lead content in accordance with the United States Department of Housing and Urban Development (HUD) Guidelines, "*HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*" and the United States Environmental Protection Agency (EPA) proposed regulations, 40 Code of Federal Regulations (CFR) part 745. The south side (street side) of the Armory was labeled Side A and going in a clockwise direction, the remaining sides were categorized as Side B, Side C and Side D, respectively. Each room within the Armory was numbered and noted on a floor plan that is provided in the Appendix of this Report.

### **Lead Sampling**

#### **Paint**

Lead concentrations were sampled and analyzed on all applicable painted surfaces by utilizing an x-ray fluorescence (XRF), direct reading, data logging instrument. Lead concentrations identified as greater than or equal to 1-milligram per square centimeter ( $\text{mg}/\text{cm}^2$ ) are characterized as "Lead-Based Paint."

#### **Settled Dust**

The collection of settled dust was accomplished by selecting a specific surface area and a known dimension; utilizing a particular template and wipe, the surface area was wiped in a specified pattern. Analytical results determine if the area is contaminated with lead laden dust. Concentrations of lead greater than or equal to 40-micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) are considered contaminated with lead, in accordance with HUD and EPA guidelines.

## FINDINGS

The analytical results associated with this Lead-Based Paint Inspection and Settled Dust Sampling did discover lead-based paint and lead-laden dust on various surfaces throughout the Minco Armory. The following tables list and categorize the paint and surfaces, which were identified as "Positive" for lead-based paint and/or lead-laden dust.

**Table I: Painted Windows**

Window #	Result	Dimensions
1	Positive	2' 2 1/2" x 9' 3"
2	Positive	3'2"x6'2"
3	Positive	3'2"x6'2"
4	Positive	3'2"x6'2"
5	Positive	3'2"x6'2"
6	Positive	3'2"x9'3"
7	Positive	3'2"x9'3"
8	Positive	3'2"x9'3"
9	Positive	3'2"x9'3"
10	Positive	3'2"x9'3"
11	Positive	3'2"x9'3"
12	Positive	3'2"x6'2"
13	Positive	3'2"x9'3"
14	Positive	3'2"x9'3"
15	Positive	3'2"x9'3"
16	Positive	3'2"x6'2"
17	Positive	3'2"x6'2"
18	Positive	3'2"x9'3"
19	Positive	3'2"x9'3"
20	Positive	3'2"x9'3"
21	Positive	3'2"x9'3"
22	Positive	3' 3 1/2"x1'8"
23	Positive	3' 2 1/2"x7' 8 1/2"
24	Positive	3' 2 1/2"x7' 8 1/2"
25	Positive	3'2"x6'2"
26	Positive	3'2"x6'2"
27	Positive	3'2"x6'2" (Inside wall built over window)
28	Positive	3'2"x6'2"
29	Positive	3'2"x6'2"
30	Positive	2' 2 1/2"x9'3"
31	Positive	3'2"x6'2"
32	Positive	3'2"x6'2"
33	Positive	1'x6'7"
34	Positive	1' 6 3/4"x6'7"
35	Positive	1'x6'7"
36	Positive	3'2"x6'2"
37	Positive	3'2"x6'2"
38	Positive	3'2"x6'2"
39	Positive	11 1/2"x4'3"
40	Positive	3'2"x6'2"
41	Positive	3'2"x6'2"
42	Positive	3'2"x6'2"
43	Positive	3'2"x6'2"
44	Positive	3'2"x6'2"
45	Positive	3'2"x6'2"
46	Positive	Remove do not Replace

**Table II: Painted Doors & Doorjamb**

Door Location	Door Results	Door Frame Results	Dimensions
Door #01	Negative	Positive (Existing Outer Frame)	N/A
Door #02	No Door	Positive	N/A
Door #03	No Paint/Stain	No Paint/Stain	N/A
Door #04	Negative	Negative	N/A
Door #05	No Paint/Stain	No Paint/Stain	N/A
Door #06	Negative	Negative	N/A
Door #07	Negative	Negative	N/A
Door #08	Positive	No Jamb	36" X 84"
Door #09	Positive	Positive	60" X 84"
Door #10	Positive	Positive	36"X84"
Door #11	Positive	Positive	36"X84"
Door #12	Positive	Negative	36"X84"
Door #13	Positive	Positive	36"X84"
Door #14	No Door	Negative	N/A
Door #15	Positive	Positive	36"X84"
Door #16	Positive	Positive	36"X84"
Door #17	Positive	Positive	36"X84"
Door #18	Positive	Positive	36"X84"
Door #19	No Door	Negative	N/A
Door #20	Positive	Positive	36"X84"
Door #21	Negative	Positive	29"X78"
Door #22	Negative	Negative	N/A
Door #23	Negative	Positive	N/A
Door #24	Negative	Positive	N/A
Door #25	Negative	Positive	N/A
Door #26	Negative	Positive	N/A
Door #27	Negative	Positive	48"X84"
Door #28	Positive	Positive	36"X84"
Door #29	No Door	Positive	N/A
Door #30	Positive	Positive	36"X84"
Door #31	Positive	Positive	36"X84"
Door #32	Negative	Positive	60"X84"
Door #33	Positive (Vault)	Positive (Vault)	35"X84"
Door #34	Positive	Positive	32"X84"
Door #35	Positive	Positive	36"X84"
Door #36	Negative	Positive (Metal)	28"X85"
Door #37	Positive	Positive	36"X84"
Door #38	Positive	Positive	28"X84"
Door #39	Positive	Positive	28"X84"
Door #40	No Door	Positive	N/A

**Table III: Painted Miscellaneous**

Location	Result
Room #24 Gray Cabinet (Under Stairs)	Positive
Room #24 Black Banister	Positive
Room #6 Wall Trim	Positive
Room #2 Floor	Positive
Room #18 Wall	Positive
Room #20 Trim	Positive
Outside Gutter	Positive
Outside Gutter	Positive
Outside Gutter	Positive

**Table IV: Floor Surfaces**

<b>Location</b>	<b>Area (in<sup>2</sup>)</b>	<b>Concentration (µg/ft<sup>2</sup>)</b>
Room #1	108	98.27
Room #2	108	53.42
Room #3	108	154.14
Room #4	108	43.18
Room #5	108	305.85
Room #6	108	126.07
Room #6 Center	144	66.53
Room #6 Northwest	144	277.23
Room # 6 South	144	140.82
Room #7	108	<21.33
Room #8	108	<21.33
Room #9	144	416.60
Room #10	108	119.00
Room #11	144	1256.55
Room #12	108	1462.00
Room #13	108	206.05
Room #14	108	366.58
Room #15	108	33.79
Room #16	108	127.11
Room #17	108	52.63
Room #18A	108	26.88
Room #18B	108	229.48
Room #19	108	547.23
Room #20	108	171.97
Room #21	108	176.72
Room #22	108	155.79
Room #23	108	125.34
Room #24	108	160.29
Room #25	144	321.56
Room #26	108	102.78
Room #27	108	122.54
Room #29	144	145.46
Room #30	144	570.12
Room #31	144	284.34
Room #32	108	474.53
Room #33	108	119.39

Please note that the following surfaces were not analyzed for lead content at the time this Lead-Based Paint Inspection was performed:

- Non-fixed Items on the property
- Factory Painted Substrates

## DISCLOSURE STATEMENT AND OWNERS LEGAL OBLIGATION

Federal law requires, to the extent this facility would be covered by HUD and EPA guidelines, that the analytical results associated with lead-based paint inspections and/or risk assessments be disclosed to prospective renters, lessees and/or tenants entering into or renewing a lease and to prospective purchasers, prior to obligation under a sales contract, if lead-based paint is found. If the inspection finds that lead-based paint is not present in certain multifamily dwelling units, which are to be leased, the dwelling unit(s) is exempt from disclosure requirements. However, for dwelling units, which are being sold, not leased, the owner still has certain legal responsibilities to fulfill under Federal law **even if no lead-based paint is identified**. Property owners and sellers are also required to distribute an educational pamphlet and include standard warning language in their leases or sales contracts to ensure that information is provided in order to protect children from lead-based paint hazards.

Information regarding the legal obligation to disclose results associated with lead-based paint inspections and/or risk assessments to tenants and/or purchasers can be obtained from the National Lead Information Center Clearinghouse (1-800-424-LEAD). This information is specified in 24 CFR, part 35 and 40 CFR, part 745 (published in the *Federal Register*, Volume 61, Number 45, April 6, 1996, beginning on p. 9064).

## LEAD-BASED PAINT INFORMATION

You may contact the National Lead Information Center Clearinghouse (1-800-424-LEAD) to obtain HUD and EPA brochures, question and answer booklets, the regulations mentioned in this report and other information regarding lead-based paint disclosure.

# **APPENDIX**

## **SURFACE WIPES CHAIN OF CUSTODY ANALYTICAL DATA**

**XRF DATA**

**CERTIFICATES**

**LABELED FLOOR PLAN**



Marshall Environmental Management, Inc.  
 1601 Southwest 89th Street, Suite 100-A  
 Oklahoma City, Oklahoma 73159  
 Phone: (405) 616-0401 Fax: (405) 681-6753

176327

Project Information			Invoiced For			Report For		
Client	Project Name	Address	City/State	Phone	Fax	Client Name	Address	Phone
0026-LBP-022309-JM		Marshall Environmental Management, Inc.	Same					
		Jamie Marshall						
		11601 SW 89th Street Suite 100-A						
		Oklahoma City, OK 73159		(405) 681-6753				
Job No.	Job Name	Job Description	Area	Surface Type	Area	Depth	Area	Notes
2/23/09	0026	1 Room #1	Room #1	Surface wipe	Surface wipe		105sqm <sup>2</sup>	Pb
		2 Room #2	Room #2					
		3 Room #3	Room #3					
		4 Room #4	Room #4					
		5 Room #5	Room #5					
		6 Room #6	Room #6					
		7 Room #6 Center	Room #6 Center					
		8 Room #6 Northwest	Room #6 Northwest					
		9 Room #6 South	Room #6 South					
		10 Room #7	Room #7					
Client Name: Jamie Marshall Client Address: (P) Jamie Marshall Client Phone: Rhia K... Job No: 0312109 Job Name: 1730 Job Description: Quantum Drop Box Area: 5 10m x 10m TAT Date: 03/09/09 Time: 1730 Time: 3:30 PM Time: 8:00 AM								

Marshall Environmental Management, Inc.  
 1601 Southwest 89th Street, Suite 100-A  
 Oklahoma City, Oklahoma 73159  
 Phone: (405) 616-0401 Fax: (405) 681-6753

170327

Project Executive				Invoicing P/c				Reporting P/c			
Client	Address	City/State	Zip	Client	Address	City/State	Zip	Client	Address	City/State	Zip
same				same				same			
02/23/09	0026	11	Room #8								
		12	Room #9								
		13	Room #10								
		14	Room #11								
		15	Room #12								
		16	Room #13								
		17	Room #14								
		18	Room #15								
		19	Room #16								
		20	Room #17								
Jamie Marshall											
Checked By: (Name)				Checked By: (Name)				Checked By: (Name)			
Date: 3/3/09											







2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**QuanTEM Set ID:** 170327  
**Date Received:** 03/03/09  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** EC  
**Date of Report:** 3/9/2009

**Client:** Marshall Environmental Management, Inc.  
 1601 SW 89th Street, Ste. A-100  
 Oklahoma City, OK 73159

**Acct. No.:** A331

**Project:** N/A

**Location:** N/A

**Project No.:** 0026-LBP-022309-JM

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	0026-1	Wipe	Lead	98.27	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
002	0026-2	Wipe	Lead	53.42	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
003	0026-3	Wipe	Lead	154.14	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
004	0026-4	Wipe	Lead	43.18	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
005	0026-5	Wipe	Lead	305.85	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
006	0026-6	Wipe	Lead	126.07	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
007	0026-7	Wipe	Lead	66.53	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
008	0026-8	Wipe	Lead	277.23	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
009	0026-9	Wipe	Lead	140.82	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
010	0026-10	Wipe	Lead	<21.33	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
011	0026-11	Wipe	Lead	<21.33	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuanTEM Set ID: 170327  
Date Received: 03/03/09  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: EC  
Date of Report: 3/9/2009

Client: Marshall Environmental Management, Inc.  
1601 SW 89th Street, Ste. A-100  
Oklahoma City, OK 73159  
Acct. No.: A331  
Project: N/A  
Location: N/A  
Project No.: 0026-LBP-022309-JM

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
012	0026-12	Wipe	Lead	416.60	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
013	0026-13	Wipe	Lead	119.22	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
014	0026-14	Wipe	Lead	1256.55	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
015	0026-15	Wipe	Lead	1462.00	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
016	0026-16	Wipe	Lead	206.05	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
017	0026-17	Wipe	Lead	366.58	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
018	0026-18	Wipe	Lead	33.79	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
019	0026-19	Wipe	Lead	127.11	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
020	0026-20	Wipe	Lead	52.63	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
021	0026-21	Wipe	Lead	26.88	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
022	0026-22	Wipe	Lead	229.48	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2068

## Environmental Chemistry Analysis Report

QuantEM Set ID: 170327  
Date Received: 03/03/09  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: EC  
Date of Report: 3/9/2009

Client: Marshall Environmental Management, Inc.  
1601 SW 89th Street, Ste. A-100  
Oklahoma City, OK 73159

Acct. No.: A331  
Project: N/A  
Location: N/A  
Project No.: 0026-LBP-022309-JM

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
023	0026-23	Wipe	Lead	547.23	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
024	0026-24	Wipe	Lead	171.97	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
025	0026-25	Wipe	Lead	176.72	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
026	0026-26	Wipe	Lead	155.79	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
027	0026-27	Wipe	Lead	125.34	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
028	0026-28	Wipe	Lead	160.29	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
029	0026-29	Wipe	Lead	321.56	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
030	0026-30	Wipe	Lead	102.78	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
031	0026-31	Wipe	Lead	122.54	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
032	0026-32	Wipe	Lead	145.46	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
033	0026-33	Wipe	Lead	570.12	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**QuantEM Set ID:** 170327  
**Date Received:** 03/03/09  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** EC  
**Date of Report:** 3/9/2009

**Client:** Marshall Environmental Management, Inc.  
1601 SW 89th Street, Ste. A-100  
Oklahoma City, OK 73159

**Acct. No.:** A331

**Project:** N/A

**Location:** N/A

**Project No.:** 0026-LBP-022309-JM

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
034	0026-34	Wipe	Lead	284.34	16.00	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
035	0026-35	Wipe	Lead	474.53	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100
036	0026-36	Wipe	Lead	119.39	21.33	ug/sq. Ft.	03/09/09 13:25	EPA 3051 / NIOSH 9100

Authorized Signature: \_\_\_\_\_

Eric Caves, Analyst

Note: Sample results have not been corrected for blank values.

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Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.



## Supplemental Report QAQC Results

QA ID: 6656  
Test: Lead

Date: 3/9/2009  
Matrix: Wipe

Lab Number: 170327  
Approved By: Eric Caves  
Date Approved: 3/9/2009

**Notes:**

**Blank Data:**

Type of Blank	Blank Value
Initial	0
Continuing	0
Final	0

**Standards Data:**

Standard	Low Limit	Obtained	High Limit
FCV	225	254	275
CCV	225	251	275
ICV	22.5	24.6	27.5
RLVS	12.8	15.5	19.2

**Duplicate Data:**

**Recovery Data:**

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
MSW 4	0.000	5369.000	5661.000	105.4	5079.000	94.6	10.8
MSW 3	0.000	5369.000	5721.000	106.6	5398.000	100.5	5.8
MSW 69	0.000	5369.000	5213.000	97.1	5403.000	100.6	3.6

Authorized Signature: \_\_\_\_\_

  
Eric Caves, Analyst

Units	Component	Substrate	Side	Condition	Color	Results	Pb/C	Pb/L	Pb/K
mg / cm ^2			CALIBR.			Negative	0.90 ± 0.10	0.90 ± 0.10	< LOD : 0.75
mg / cm ^2			CALIBR.			Positive	1.10 ± 0.10	1.10 ± 0.10	< LOD : 0.60
mg / cm ^2			CALIBR.			Null	1.10 ± 0.10	1.10 ± 0.10	< LOD : 0.75
mg / cm ^2			CALIBR.			Null	1.00 ± 0.60	1.00 ± 0.60	< LOD : 4.35
mg / cm ^2	ROOM 7 WALL	DRYWALL	A	INTACT	WHITE	Positive	1.10 ± 0.19	1.10 ± 0.19	< LOD : 0.60
mg / cm ^2	ROOM 7 WALL	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.11	< LOD : 0.11	< LOD : 2.04
mg / cm ^2	ROOM 8 WALL	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.41
mg / cm ^2	ROOM 7 AND 8 DOOR	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.11
mg / cm ^2	ROOM 15 STEP	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.54
mg / cm ^2	ROOM 15 17 DOOR	CONCRETE	A	INTACT	GREY	Negative	< LOD : 0.18	< LOD : 0.18	< LOD : 2.53
mg / cm ^2	ROOM 17 DOOR	METAL	A	INTACT	BLACK	Positive	< LOD : 3.90	< LOD : 3.90	< LOD : 8.25
mg / cm ^2	ROOM 17 DOOR/JAMB	METAL	A	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.26
mg / cm ^2	ROOM 17 DOOR/JAMB	METAL	A	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.60
mg / cm ^2	ROOM 17 GUTTER DOOR JAMB	METAL	A	INTACT	BLACK	Positive	3.10 ± 2.00	3.10 ± 2.00	< LOD : 4.35
mg / cm ^2	ROOM 17 GREY BRICK	BRICK	A	INTACT	GREY	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.04
mg / cm ^2	ROOM 17 GREY BRICK	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.07	< LOD : 0.07	< LOD : 2.46
mg / cm ^2	ROOM 17 GREY CABINET UNDER STAIR	BRICK	A	INTACT	WHITE	Positive	2.70 ± 1.60	2.70 ± 1.60	< LOD : 3.39
mg / cm ^2	ROOM 17 BLACK BANISTER	WOOD	A	INTACT	BLACK	Positive	< LOD : 3.90	< LOD : 3.90	< LOD : 3.90
mg / cm ^2	ROOM 17 STAIRS	CONCRETE	A	INTACT	GREY	Negative	< LOD : 0.29	< LOD : 0.29	< LOD : 2.05
mg / cm ^2	ROOM 17 BLACK TRIM WOOD	WOOD	A	INTACT	BLACK	Negative	< LOD : 0.08	< LOD : 0.08	< LOD : 1.83
mg / cm ^2	ROOM 17 WHITE WINDOWS	METAL	A	PEELING	WHITE	Positive	1.70 ± 0.60	1.70 ± 0.60	< LOD : 4.59
mg / cm ^2	ROOM 17 WHITE WINDOW BARS	METAL	A	PEELING	WHITE	Positive	1.70 ± 0.60	1.70 ± 0.60	< LOD : 3.90
mg / cm ^2	ROOM 17 WHITE WINDOW SILL	METAL	A	PEELING	WHITE	Negative	< LOD : 0.19	< LOD : 0.19	< LOD : 2.90
mg / cm ^2	ROOM 17 GREY BENCH	CONCRETE	A	PEELING	WHITE	Negative	< LOD : 0.35	< LOD : 0.35	< LOD : 2.26
mg / cm ^2	ROOM 17 BLUE STALL	WOOD	A	PEELING	GREY	Negative	< LOD : 0.14	< LOD : 0.14	< LOD : 2.64
mg / cm ^2	ROOM 17A STAINED DOOR	WOOD	B	INTACT	BLUE	Negative	< LOD : 0.14	< LOD : 0.14	< LOD : 2.64
mg / cm ^2	ROOM 17A STAINED DOOR JAMB	WOOD	C	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.55
mg / cm ^2	ROOM 18 STAINED DOOR JAMB	WOOD	C	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.25
mg / cm ^2	ROOM 18 STAINED DOORB	WOOD	C	INTACT	BROWN	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 2.18
mg / cm ^2	ROOM 18 BLUE STALL	WOOD	C	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.34
mg / cm ^2	ROOM 18 BROWN STORAGE CLOSET DOOR	WOOD	C	INTACT	BLUE	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 2.51
mg / cm ^2	ROOM 18 BROWN STORAGE CLOSET DOOR	WOOD	C	INTACT	BROWN	Positive	< LOD : 6.30	< LOD : 6.30	< LOD : 13.50
mg / cm ^2	ROOM 18 STORAGE CLOSET DOOR	WOOD	C	INTACT	BROWN	Positive	3.90 ± 2.40	3.90 ± 2.40	< LOD : 10.80
mg / cm ^2	ROOM 16 FLOOR	CONCRETE	C	INTACT	GREY	Negative	< LOD : 0.09	< LOD : 0.09	< LOD : 2.66
mg / cm ^2	ROOM 16 FLOOR	CONCRETE	C	INTACT	GREY	Negative	< LOD : 0.07	< LOD : 0.07	< LOD : 2.42
mg / cm ^2	ROOM 16 WALL	CONCRETEBRICK	C	INTACT	GREY	Negative	< LOD : 0.15	< LOD : 0.15	< LOD : 1.25
mg / cm ^2	ROOM 16 WALL	CONCRETEBRICK	C	INTACT	GREY	Negative	< LOD : 0.12	< LOD : 0.12	< LOD : 2.24
mg / cm ^2	ROOM 16 WALL	WOOD	A	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 1.74
mg / cm ^2	ROOM 14 WALL	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.24
mg / cm ^2	ROOM 14 WALL	BRICK	A	INTACT	WHITE	Negative	< LOD : 0.08	< LOD : 0.08	< LOD : 3.42
mg / cm ^2	ROOM 14 FLOOR	CONCRETE	A	INTACT	GREY	Negative	< LOD : 0.22	< LOD : 0.22	< LOD : 2.49

Units	Component	Substrate	Side	Condition	Color	Results	Pb/C	Pb/L	Pb/K
mg / cm ^2	ROOM 14 WINDOW	METAL	D	INTACT	WHITE	Null	0.90 ± 0.10	0.90 ± 0.10	1.00 ± 0.60
mg / cm ^2	ROOM 14 WINDOW	METAL	D	INTACT	WHITE	Negative	0.80 ± 0.10	0.80 ± 0.10	<LOD: 1.20
mg / cm ^2	ROOM 14 WINDOW BAFF	METAL	D	INTACT	WHITE	Negative	<LOD: 0.21	<LOD: 0.21	<LOD: 3.73
mg / cm ^2	ROOM 14 DOOR	WOOD	B	INTACT	BROWN	Positive	3.40 ± 2.20	3.40 ± 2.20	<LOD: 5.65
mg / cm ^2	ROOM 14 DOOR JAMB	METAL	E	INTACT	BROWN	Positive	3.50 ± 2.20	3.50 ± 2.20	<LOD: 8.10
mg / cm ^2	ROOM 13 OVERHEAD DOOR	METAL	A	INTACT	BROWN	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 1.99
mg / cm ^2	ROOM 13 GREEN BRICK AROUND DOOR	METAL	A	INTACT	BROWN	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 2.32
mg / cm ^2	ROOM 13 WALL	WOOD	B	INTACT	WHITE	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 2.25
mg / cm ^2	ROOM 13 YELLOW STRIPES ON FLOOR	CONCRETE	B	INTACT	YELLOW	Negative	0.60 ± 0.10	0.60 ± 0.10	<LOD: 1.20
mg / cm ^2	ROOM 13 WINDOW	METAL	D	INTACT	WHITE	Positive	4.10 ± 2.60	4.10 ± 2.60	<LOD: 16.50
mg / cm ^2	ROOM 13 WINDOW BARS	METAL	D	INTACT	WHITE	Negative	<LOD: 0.05	<LOD: 0.05	<LOD: 3.31
mg / cm ^2	ROOM 13 RED FIRE EXTINGUISHER P	BRICK	C	INTACT	RED	Negative	0.28 ± 0.11	0.28 ± 0.11	<LOD: 2.17
mg / cm ^2	ROOM 13 WALL	BRICK	C	INTACT	WHITE	Negative	<LOD: 0.10	<LOD: 0.10	<LOD: 2.00
mg / cm ^2	ROOM 12 WALL	BRICK	C	INTACT	WHITE	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 2.23
mg / cm ^2	ROOM 12 WALL	BRICK	C	INTACT	WHITE	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 2.33
mg / cm ^2	ROOM 12 DELING	BRICK	C	INTACT	RED	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 2.04
mg / cm ^2	ROOM 12 TRIM	BRICK	C	INTACT	WHITE	Negative	<LOD: 0.11	<LOD: 0.11	<LOD: 2.15
mg / cm ^2	ROOM 12 PIPE	BRICK	A	INTACT	BLACK	Negative	<LOD: 0.07	<LOD: 0.07	<LOD: 0.91
mg / cm ^2	ROOM 12 PIPE	WOOD	A	INTACT	RED	Negative	<LOD: 0.91	<LOD: 0.56	<LOD: 2.37
mg / cm ^2	ROOM 12 COUNTER	WOOD	B	INTACT	BLUE	Negative	<LOD: 0.11	<LOD: 0.11	<LOD: 3.75
mg / cm ^2	ROOM 12 WINDOW	WOOD	E	INTACT	WHITE	Positive	1.70 ± 0.50	1.70 ± 0.50	<LOD: 9.60
mg / cm ^2	ROOM 12 DOOR	WOOD	E	INTACT	WHITE	Positive	<LOD: 6.90	<LOD: 6.90	<LOD: 7.65
mg / cm ^2	ROOM 12 DOOR JAMB	WOOD	E	INTACT	WHITE	Positive	2.40 ± 1.20	2.40 ± 1.20	<LOD: 3.71
mg / cm ^2	ROOM 12 BIG DRAIN PIPE	METAL	B	INTACT	BLACK	Negative	<LOD: 0.06	<LOD: 0.06	<LOD: 3.62
mg / cm ^2	ROOM 12 BIG DRAIN PIPE	METAL	C	INTACT	RED	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 3.90
mg / cm ^2	ROOM 12 BIG DRAIN PIPE	METAL	C	INTACT	WHITE	Negative	<LOD: 1.08	<LOD: 1.08	<LOD: 3.60
mg / cm ^2	ROOM 11 DOOR	METAL	C	INTACT	BLACK	Positive	2.70 ± 1.50	2.70 ± 1.50	<LOD: 1.55
mg / cm ^2	ROOM 11 DOOR JAMB	WOOD	A	INTACT	BLACK	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 8.85
mg / cm ^2	ROOM 10 DOOR JAMB	WOOD	A	INTACT	BLACK	Positive	2.90 ± 1.80	2.90 ± 1.80	<LOD: 3.60
mg / cm ^2	ROOM 10 DOOR	WOOD	B	INTACT	BLACK	Positive	2.50 ± 1.50	2.50 ± 1.50	<LOD: 1.35
mg / cm ^2	ROOM 10 FLOOR	CONCRETE	B	INTACT	BLACK	Positive	<LOD: 0.19	<LOD: 0.19	<LOD: 2.25
mg / cm ^2	ROOM 10 FLOOR	CONCRETE	B	INTACT	GREY	Negative	<LOD: 0.07	<LOD: 0.07	<LOD: 2.70
mg / cm ^2	ROOM 10 WALL	BRICK	B	INTACT	WHITE	Negative	<LOD: 0.07	<LOD: 0.07	<LOD: 2.30
mg / cm ^2	ROOM 9 FLOOR	WOOD	B	INTACT	RED	Negative	<LOD: 0.60	<LOD: 0.60	<LOD: 1.80
mg / cm ^2	ROOM 9 WALL RED BOARD	WOOD	B	INTACT	RED	Negative	<LOD: 0.26	<LOD: 0.26	<LOD: 16.50
mg / cm ^2	ROOM 9 WALL BOARD	WOOD	B	INTACT	RED	Negative	<LOD: 0.45	<LOD: 0.45	<LOD: 10.50
mg / cm ^2	ROOM 9 DOOR JAMB	WOOD	B	INTACT	WHITE	Negative	2.70 ± 1.50	2.70 ± 1.50	<LOD: 6.45
mg / cm ^2	ROOM 9 DOOR	WOOD	B	INTACT	BROWN	Positive	<LOD: 4.05	<LOD: 4.05	<LOD: 11.85
mg / cm ^2	ROOM 9 DOOR	WOOD	B	INTACT	BROWN	Positive	<LOD: 5.40	<LOD: 5.40	<LOD: 3.39
mg / cm ^2	DOOR#15 JAMB	WOOD	F	INTACT	BROWN	Positive	<LOD: 6.45	<LOD: 6.45	<LOD: 0.03
mg / cm ^2	DOOR#15 JAMB	WOOD	F	INTACT	BROWN	Positive	<LOD: 0.03	<LOD: 0.03	<LOD: 0.03
mg / cm ^2	DOOR#14 JAMB	WOOD	B	INTACT	BROWN	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 3.29
mg / cm ^2	DOOR#14 JAMB	WOOD	B	INTACT	BROWN	Negative	<LOD: 0.03	<LOD: 0.03	<LOD: 3.29

Units	Component	Substrate	Side	Condition	Color	Results	PinC	PinL	PinK
mg / cm ^2	ROOM#6 FLOOR	CONCRETE	A	INTACT	GREY	Negative	< LOD : 0.07	< LOD : 0.07	< LOD : 2.75
mg / cm ^2	ROOM#6 FLOOR	CONCRETE	A	INTACT	YELLOW	Null	< LOD : 1.20	< LOD : 1.20	< LOD : 8.65
mg / cm ^2	ROOM#6 FLOOR	CONCRETE	A	INTACT	YELLOW	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.70
mg / cm ^2	ROOM#6 WALL	CONCRETE	A	INTACT	WHITE	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 2.15
mg / cm ^2	ROOM#6 WALL TRIM	WOOD	A	INTACT	WHITE	Positive	< LOD : 5.25	< LOD : 5.25	< LOD : 8.55
mg / cm ^2	ROOM#5 WINDOW	WOOD	D	INTACT	WHITE	Positive	1.30 ± 0.30	1.30 ± 0.30	< LOD : 2.10
mg / cm ^2	ROOM#6 WINDOW	WOOD	C	INTACT	WHITE	Positive	2.69 ± 1.00	2.69 ± 1.00	< LOD : 7.05
mg / cm ^2	ROOM#6 OVERHEAD DOOR	METAL	C	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.38
mg / cm ^2	ROOM #6 WAL	BRICK	B	INTACT	WHITE	Negative	< LOD : 0.07	< LOD : 0.07	< LOD : 2.05
mg / cm ^2	ROOM #6 WAL	WOOD	A	INTACT	WHITE	Negative	< LOD : 0.17	< LOD : 0.17	< LOD : 1.66
mg / cm ^2	ECOR #16	WOOD	D	INTACT	BROWN	Positive	< LOD : 4.35	< LOD : 4.35	< LOD : 6.90
mg / cm ^2	DOOR #16 JAMB	WOOD	D	INTACT	BROWN	Positive	< LOD : 3.75	< LOD : 3.75	< LOD : 9.30
mg / cm ^2	DOOR #17 JAMB	WOOD	D	INTACT	BROWN	Positive	< LOD : 3.00	< LOD : 3.00	< LOD : 8.40
mg / cm ^2	DOOR #17	WOOD	D	INTACT	BROWN	Positive	3.00 ± 1.70	3.00 ± 1.70	< LOD : 7.05
mg / cm ^2	DOOR #18 JAMB	WOOD	D	INTACT	BROWN	Positive	3.22 ± 1.90	3.22 ± 1.90	< LOD : 8.40
mg / cm ^2	DOOR #19 JAMB	WOOD	D	INTACT	BROWN	Positive	4.20 ± 2.70	4.20 ± 2.70	< LOD : 11.55
mg / cm ^2	DOOR #19 J	WOOD	D	INTACT	BROWN	Null	< LOD : 0.14	< LOD : 0.14	< LOD : 5.12
mg / cm ^2	DOOR #22	WOOD	D	INTACT	BROWN	Negative	< LOD : 0.06	< LOD : 0.06	< LOD : 3.10
mg / cm ^2	DOOR #22 JAMB	WOOD	D	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.49
mg / cm ^2	DOOR #21 JAMB	WOOD	D	INTACT	WHITE	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 1.49
mg / cm ^2	DOOR #21	WOOD	D	INTACT	BROWN	Positive	3.70 ± 2.40	3.70 ± 2.40	< LOD : 7.35
mg / cm ^2	DOOR #20	WOOD	D	INTACT	WHITE	Negative	< LOD : 0.48	< LOD : 0.48	< LOD : 1.95
mg / cm ^2	DOOR #20	WOOD	D	INTACT	BROWN	Null	< LOD : 6.30	< LOD : 6.30	< LOD : 10.20
mg / cm ^2	DOOR #26	WOOD	D	INTACT	BROWN	Positive	3.69 ± 2.20	3.69 ± 2.20	< LOD : 8.85
mg / cm ^2	DOOR #20 JAMB	WOOD	D	INTACT	BROWN	Positive	3.20 ± 1.90	3.20 ± 1.90	< LOD : 10.05
mg / cm ^2	DOOR #23 JAMB	WOOD	D	INTACT	BROWN	Positive	2.60 ± 1.20	2.60 ± 1.20	< LOD : 4.65
mg / cm ^2	DOOR #23	WOOD	D	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.57
mg / cm ^2	DOOR #24	WOOD	D	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.27
mg / cm ^2	DOOR #24 JAMB	WOOD	D	INTACT	BROWN	Positive	3.70 ± 1.80	3.70 ± 1.80	< LOD : 4.80
mg / cm ^2	DOOR #25 JAMB	WOOD	D	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.78
mg / cm ^2	DOOR #25 JAMB	WOOD	D	INTACT	BROWN	Positive	2.70 ± 1.70	2.70 ± 1.70	< LOD : 4.35
mg / cm ^2	DOOR #25	WOOD	D	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 3.86
mg / cm ^2	DOOR #26	WOOD	D	INTACT	BROWN	Null	< LOD : 8.10	< LOD : 8.10	< LOD : 3.27
mg / cm ^2	DOOR #26 JAMB	WOOD	D	INTACT	BROWN	Positive	2.79 ± 1.70	2.79 ± 1.70	< LOD : 9.60
mg / cm ^2	DOOR #26 JAMB	WOOD	D	INTACT	BEIGE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.12
mg / cm ^2	ROOM 5 WALL	BRICK	D	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.43
mg / cm ^2	ROOM 5 WALL	BRICK	D	INTACT	WHITE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.93
mg / cm ^2	ROOM 4 WALL	BRICK	D	INTACT	WHITE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.46
mg / cm ^2	ROOM 4 HVAC DUCT	METAL	D	INTACT	WHITE	Negative	< LOD : 0.33	< LOD : 0.33	< LOD : 2.46
mg / cm ^2	ROOM 3 HVAC DUCT	METAL	D	INTACT	WHITE	Negative	< LOD : 0.38	< LOD : 0.38	< LOD : 2.56

Units	Component	Substrate	Side	Condition	Color	Results	Pb/C	Pb/L	Pb/S
mg / cm <sup>2</sup>	ROOM 3 EWINDW	METAL	D	INTACT	WHITE	Positive	1.90 ± 0.00	1.90 ± 0.60	< LOD : 4.05
mg / cm <sup>2</sup>	ROOM 3 WALL	BRICK	D	INTACT	WHITE	Negative	< LOD : 0.12	< LOD : 0.12	< LOD : 2.30
mg / cm <sup>2</sup>	ROOM 3 WALL	BRICK	D	INTACT	BEIGE	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 3.10
mg / cm <sup>2</sup>	ROOM 2 WINDOW	METAL	B	INTACT	WHITE	Positive	1.60 ± 0.50	1.60 ± 0.50	< LOD : 2.25
mg / cm <sup>2</sup>	ROOM 2 WINDOW	METAL	B	INTACT	WHITE	Negative	< LOD : 0.19	< LOD : 0.19	< LOD : 4.20
mg / cm <sup>2</sup>	ROOM 2 OVERHEAD DOOR	METAL	A	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.52
mg / cm <sup>2</sup>	ROOM 2 FLOOR	METAL	A	INTACT	YELLOW	Positive	1.50 ± 0.50	1.50 ± 0.50	< LOD : 4.05
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	C	INTACT	BEIGE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	C	INTACT	BROWN	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 1.05
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	C	INTACT	GREEN	Negative	0.17 ± 0.09	0.17 ± 0.09	< LOD : 1.95
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	C	INTACT	BLACK	Null	< LOD : 0.06	< LOD : 0.06	< LOD : 2.40
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	C	INTACT	BLACK	Negative	< LOD : 0.08	< LOD : 0.08	< LOD : 2.32
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	C	INTACT	BLUE	Positive	1.50 ± 0.50	1.50 ± 0.50	< LOD : 2.55
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	B	INTACT	BLUE	Negative	< LOD : 0.75	< LOD : 0.75	< LOD : 0.90
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	A	INTACT	BLUE	Negative	< LOD : 0.90	< LOD : 0.90	< LOD : 2.12
mg / cm <sup>2</sup>	ROOM 18WALL	METAL	D	INTACT	BLUE	Negative	< LOD : 0.28	< LOD : 0.28	< LOD : 3.45
mg / cm <sup>2</sup>	ROOM 19WALL	METAL	C	INTACT	BLUE	Positive	1.80 ± 0.70	1.80 ± 0.70	< LOD : 2.34
mg / cm <sup>2</sup>	ROOM 19WALL	METAL	B	INTACT	BEIGE	Negative	< LOD : 0.41	< LOD : 0.41	< LOD : 2.12
mg / cm <sup>2</sup>	ROOM 19WALL	METAL	B	INTACT	WHITE	Negative	< LOD : 0.06	< LOD : 0.06	< LOD : 10.50
mg / cm <sup>2</sup>	ROOM 19 WINDOW BARS	METAL	B	INTACT	WHITE	Positive	3.20 ± 1.90	3.20 ± 1.90	< LOD : 10.35
mg / cm <sup>2</sup>	ROOM 20 WALL	METAL	B	INTACT	WHITE	Positive	3.00 ± 1.90	3.00 ± 1.90	< LOD : 2.02
mg / cm <sup>2</sup>	ROOM 20 TRIM	DRYWALL	B	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 1.56
mg / cm <sup>2</sup>	ROOM 21 TRIM	DRYWALL	B	INTACT	WHITE	Positive	2.50 ± 1.40	2.50 ± 1.40	< LOD : 1.73
mg / cm <sup>2</sup>	ROOM 21 CARINATE	DRYWALL	B	INTACT	BLACK	Negative	< LOD : 0.11	< LOD : 0.11	< LOD : 10.65
mg / cm <sup>2</sup>	ROOM 21 WINDOW	WOOD	B	INTACT	BROWN	Negative	< LOD : 0.12	< LOD : 0.12	< LOD : 10.20
mg / cm <sup>2</sup>	ROOM 21 WINDOWBARS	WOOD	A	INTACT	WHITE	Positive	2.30 ± 1.39	2.30 ± 1.30	< LOD : 2.19
mg / cm <sup>2</sup>	ROOM 21 WINDOW TRIM	METAL	A	INTACT	WHITE	Positive	2.80 ± 1.60	2.80 ± 1.50	< LOD : 2.85
mg / cm <sup>2</sup>	ROOM 25 FLOOR	WOOD	A	INTACT	BLACK	Negative	< LOD : 0.17	< LOD : 0.17	< LOD : 2.29
mg / cm <sup>2</sup>	ROOM 25 WALL	WOOD	A	INTACT	RED	Negative	< LOD : 0.60	< LOD : 0.60	< LOD : 3.60
mg / cm <sup>2</sup>	ROOM 20 YELLOW THRESH HOLD	BRICK	A	INTACT	RED	Negative	< LOD : 0.06	< LOD : 0.06	< LOD : 1.20
mg / cm <sup>2</sup>	ROOM 20 YELLOW THRESH HOLD	CONCRETE	D	INTACT	YELLOW	Null	< LOD : 0.90	< LOD : 0.90	< LOD : 2.16
mg / cm <sup>2</sup>	ROOM 25 FLOOR	CONCRETE	D	INTACT	YELLOW	Negative	0.30 ± 0.11	0.30 ± 0.11	< LOD : 1.20
mg / cm <sup>2</sup>	ROOM 25 WALL	CONCRETE	D	INTACT	BLUE	Negative	< LOD : 0.13	< LOD : 0.13	< LOD : 2.03
mg / cm <sup>2</sup>	ROOM 25 WALL	CONCRETE	D	INTACT	BLUE	Negative	< LOD : 0.09	< LOD : 0.09	< LOD : 2.06
mg / cm <sup>2</sup>	ROOM 25 CEILING	CONCRETE	D	INTACT	WHITE	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 2.23
mg / cm <sup>2</sup>	ROOM 26 CEILING	CONCRETE	D	INTACT	WHITE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.51
mg / cm <sup>2</sup>	ROOM 26 WALL	CONCRETE	D	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 9.07
mg / cm <sup>2</sup>	ROOM 26 WALL	CONCRETE	D	INTACT	WHITE	Null	< LOD : 0.09	< LOD : 0.09	< LOD : 9.07
mg / cm <sup>2</sup>	ROOM 26 WALL	CONCRETE	D	INTACT	WHITE	Null	< LOD : 0.71	< LOD : 0.71	< LOD : 9.07

Units	Component	Substrate	Site	Condition	Color	Results	PhC	PHL	PHK
mg / cm ^2	ROOM 26 WALL	CONCRETE	D	INTACT	WHITE	Negative	< LOD : 0.07	< LOD : 0.07	< LOD : 2.20
mg / cm ^2	ROOM 26 FLOOR	CONCRETE	D	INTACT	WHITE	Negative	< LOD : 0.05	< LOD : 0.05	< LOD : 2.09
mg / cm ^2	ROOM 27 FLOOR	BRICK	D	INTACT	WHITE	Negative	< LOD : 0.10	< LOD : 0.10	< LOD : 2.23
mg / cm ^2	ROOM 27 FLOOR	BRICK	D	INTACT	BLUE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 1.20
mg / cm ^2	ROOM 27 WENLOW	BRICK	D	INTACT	BLUE	Positive	2.50 ± 1.50	2.50 ± 1.50	< LOD : 7.95
mg / cm ^2	ROOM 27 WINDOW BARS	BRICK	D	INTACT	BLUE	Positive	2.90 ± 1.70	2.90 ± 1.70	< LOD : 10.05
mg / cm ^2	ROOM 27 RACK	BRICK	C	INTACT	BLUE	Null	< LOD : 0.07	< LOD : 0.07	< LOD : 5.15
mg / cm ^2	ROOM 27 RACK	BRICK	C	INTACT	BLUE	Negative	< LOD : 0.32	< LOD : 0.32	< LOD : 2.49
mg / cm ^2	ROOM 27 RACK	BRICK	C	INTACT	WHITE	Negative	< LOD : 0.26	< LOD : 0.26	< LOD : 2.28
mg / cm ^2	ROOM 27 CABINATE	BRICK	C	INTACT	WHITE	Negative	< LOD : 0.34	< LOD : 0.34	< LOD : 2.62
mg / cm ^2	ROOM 32 WALL	PLASTER	B	INTACT	WHITE	Negative	< LOD : 0.65	< LOD : 0.65	< LOD : 2.51
mg / cm ^2	ROOM 32 WALL	WOOD	C	INTACT	WHITE	Negative	< LOD : 0.04	< LOD : 0.04	< LOD : 2.55
mg / cm ^2	ROOM 32 WALL	PLASTER	C	INTACT	WHITE	Null	< LOD : 0.22	< LOD : 0.22	< LOD : 1.79
mg / cm ^2	ROOM 32 WALL	PLASTER	C	INTACT	WHITE	Null	< LOD : 0.18	< LOD : 0.18	< LOD : 1.95
mg / cm ^2	ROOM 32 WALL	PLASTER	C	INTACT	WHITE	Null	< LOD : 0.09	< LOD : 0.09	< LOD : 2.85
mg / cm ^2	ROOM 32 WALL	PLASTER	C	INTACT	WHITE	Negative	0.05 ± 0.03	0.05 ± 0.03	< LOD : 0.90
mg / cm ^2	ROOM 32 WALL	PLASTER	C	INTACT	BLACK	Null	< LOD : 0.05	< LOD : 0.05	< LOD : 3.17
mg / cm ^2	ROOM 32 WALL	PLASTER	D	INTACT	BLACK	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.02
mg / cm ^2	ROOM 32 WALL	PLASTER	D	INTACT	BLUE	Negative	< LOD : 0.08	< LOD : 0.08	< LOD : 2.19
mg / cm ^2	ROOM 32 WINDOW SILL	WOOD	D	INTACT	WHITE	Positive	1.90 ± 0.99	1.90 ± 0.99	< LOD : 3.90
mg / cm ^2	ROOM 32 WINDOW	WOOD	D	INTACT	WHITE	Positive	3.50 ± 2.30	3.50 ± 2.30	< LOD : 16.80
mg / cm ^2	ROOM 32 WINDOW BARS	WOOD	D	INTACT	RED	Negative	< LOD : 0.08	< LOD : 0.08	< LOD : 1.80
mg / cm ^2	ROOM 32 FIREPLACERS	WOOD	D	INTACT	BLACK	Negative	0.07 ± 0.03	0.07 ± 0.03	< LOD : 1.05
mg / cm ^2	ROOM 32 FIREPLACERS	WOOD	D	INTACT	BLACK	Negative	< LOD : 0.18	< LOD : 0.18	< LOD : 2.00
mg / cm ^2	ROOM 31 WALL	PLASTER	D	INTACT	BEIGE	Negative	< LOD : 0.46	< LOD : 0.46	< LOD : 2.01
mg / cm ^2	ROOM 31 WALL	PLASTER	D	INTACT	WHITE	Negative	< LOD : 0.17	< LOD : 0.17	< LOD : 1.80
mg / cm ^2	ROOM 31 WALL	PLASTER	B	INTACT	WHITE	Negative	< LOD : 0.16	< LOD : 0.16	< LOD : 2.62
mg / cm ^2	ROOM 31 SHOWER FLOOR	PLASTER	B	INTACT	WHITE	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 2.73
mg / cm ^2	ROOM 31 SHOWER FRESH HOLD	PLASTER	B	INTACT	YELLOW	Negative	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
mg / cm ^2	ROOM 29 WALL	PLASTER	A	INTACT	BEIGE	Positive	< LOD : 4.50	< LOD : 4.50	< LOD : 9.75
mg / cm ^2	DOOR #40 JAMB	PLASTER	A	INTACT	WHITE	Positive	2.60 ± 1.10	2.60 ± 1.10	< LOD : 4.56
mg / cm ^2	DOOR #40 JAMB	PLASTER	A	INTACT	WHITE	Positive	< LOD : 4.05	< LOD : 4.05	< LOD : 8.85
mg / cm ^2	DOOR #39 JAMB	PLASTER	A	INTACT	BROWN	Positive	< LOD : 5.55	< LOD : 5.55	< LOD : 8.46
mg / cm ^2	DOOR #39	PLASTER	A	INTACT	BROWN	Positive	2.10 ± 1.10	2.10 ± 1.10	< LOD : 4.80
mg / cm ^2	DOOR #38	PLASTER	A	INTACT	BROWN	Positive	3.80 ± 2.40	3.80 ± 2.40	< LOD : 10.35
mg / cm ^2	DOOR #38 JAMB	WOOD	A	INTACT	BROWN	Positive	< LOD : 4.05	< LOD : 4.05	< LOD : 7.20
mg / cm ^2	DOOR #37 JAMB	WOOD	A	INTACT	BROWN	Positive	< LOD : 3.75	< LOD : 3.75	< LOD : 6.15
mg / cm ^2	DOOR #37	WOOD	A	INTACT	BROWN	Null	< LOD : 3.60	< LOD : 3.60	< LOD : 3.60
mg / cm ^2	DOOR #30	WOOD	A	INTACT	BROWN	Positive	2.90 ± 1.70	2.90 ± 1.70	< LOD : 3.30
mg / cm ^2	DOOR #30	WOOD	A	INTACT	BROWN	Positive	< LOD : 5.70	< LOD : 5.70	< LOD : 10.35
mg / cm ^2	DOOR #30 JAMB	WOOD	A	INTACT	BROWN	Positive			

Units	Component	Substrate	Site	Condition	Color	Results	PhC	PhL	PhK
mg / cm ^2	DOOR #31 JAMB	WOOD	A	INTACT	BROWN	Positive	1.90 ± 0.70	1.90 ± 0.70	< LOD: 4.50
mg / cm ^2	DOOR #31	WOOD	A	INTACT	BROWN	Positive	< LOD: 4.80	< LOD: 4.80	< LOD: 6.45
mg / cm ^2	DOOR #29 JAMB	WOOD	A	INTACT	BROWN	Positive	2.90 ± 1.80	2.90 ± 1.80	< LOD: 4.95
mg / cm ^2	DOOR #36 WOOD JAMB	WOOD	A	INTACT	BROWN	Negative	< LOD: 0.23	< LOD: 0.23	< LOD: 2.40
mg / cm ^2	DOOR #36 METAL JAMB	WOOD	A	INTACT	BROWN	Positive	2.20 ± 1.00	2.20 ± 1.00	< LOD: 4.50
mg / cm ^2	DOOR #36	WOOD	A	INTACT	BROWN	Negative	< LOD: 0.04	< LOD: 0.04	< LOD: 2.69
mg / cm ^2	DOOR #35	WOOD	A	INTACT	BROWN	Positive	< LOD: 4.50	< LOD: 4.50	< LOD: 6.45
mg / cm ^2	DOOR #35 JAMB	WOOD	A	INTACT	BROWN	Positive	2.80 ± 1.70	2.80 ± 1.70	< LOD: 4.55
mg / cm ^2	DOOR #34 JAMB	WOOD	A	INTACT	BROWN	Positive	3.20 ± 2.00	3.20 ± 2.00	< LOD: 10.05
mg / cm ^2	DOOR #34	WOOD	A	INTACT	BROWN	Positive	2.10 ± 0.70	2.10 ± 0.70	< LOD: 3.75
mg / cm ^2	DOOR #28	WOOD	A	INTACT	BROWN	Positive	4.30 ± 2.60	4.30 ± 2.60	< LOD: 4.35
mg / cm ^2	DOOR #28 JAMB	WOOD	A	INTACT	BROWN	Positive	2.20 ± 1.10	2.20 ± 1.10	< LOD: 4.65
mg / cm ^2	DOOR #27 JAMB	WOOD	A	INTACT	BROWN	Positive	< LOD: 4.20	< LOD: 4.20	< LOD: 10.65
mg / cm ^2	DOOR #27	WOOD	A	INTACT	BROWN	Negative	< LOD: 0.11	< LOD: 0.11	< LOD: 3.60
mg / cm ^2	DOOR #32	WOOD	A	INTACT	BROWN	Negative	0.70 ± 0.30	0.70 ± 0.30	1.20 ± 0.60
mg / cm ^2	DOOR #32 JAMB	WOOD	A	INTACT	BROWN	Positive	1.50 ± 0.40	1.50 ± 0.40	< LOD: 2.70
mg / cm ^2	DOOR #33 JAMB	WOOD	A	INTACT	BROWN	Positive	1.50 ± 0.50	1.50 ± 0.50	< LOD: 2.85
mg / cm ^2	DOOR #33 VAULT	WOOD	A	INTACT	BROWN	Negative	< LOD: 0.06	< LOD: 0.06	< LOD: 3.45
mg / cm ^2	DOOR #33 VAULT	WOOD	A	INTACT	BROWN	Positive	2.80 ± 1.00	2.80 ± 1.00	< LOD: 3.15
mg / cm ^2	DOOR #2 VAULT	WOOD	A	INTACT	BROWN	Positive	3.40 ± 1.80	3.40 ± 1.80	3.50 ± 2.30
mg / cm ^2	ROOM 22 STAIRS	CONCRETE	A	INTACT	BLUE	Negative	0.50 ± 0.10	0.50 ± 0.10	< LOD: 1.35
mg / cm ^2	ROOM 22 WALL	BRICK	A	INTACT	BLUE	Negative	< LOD: 0.03	< LOD: 0.03	< LOD: 2.15
mg / cm ^2	ROOM 22 WALL	BRICK	A	INTACT	WHITE	Negative	< LOD: 0.03	< LOD: 0.03	< LOD: 2.16
mg / cm ^2	OUTSIDE STONE	BRICK	A	INTACT	BLACK	Negative	< LOD: 0.15	< LOD: 0.15	< LOD: 1.95
mg / cm ^2	OUTSIDE OVERHEAD DOOR FRAME	BRICK	A	INTACT	BROWN	Negative	< LOD: 0.03	< LOD: 0.03	< LOD: 3.75
mg / cm ^2	OUTSIDE OVERHEAD DOOR FRAME	BRICK	A	INTACT	BROWN	Negative	< LOD: 0.03	< LOD: 0.03	< LOD: 3.93
mg / cm ^2	OUTSIDE GUTTER	BRICK	B	INTACT	BROWN	Positive	< LOD: 6.06	< LOD: 2.55	< LOD: 6.00
mg / cm ^2	OUTSIDE DUCT	BRICK	B	INTACT	BROWN	Negative	< LOD: 0.17	< LOD: 0.17	< LOD: 2.64
mg / cm ^2	OUTSIDE GUTER	METAL	C	INTACT	BROWN	Positive	7.00 ± 4.30	< LOD: 9.30	7.00 ± 4.30
mg / cm ^2	OUTSIDE OERHEAD DOOR FRAME	METAL	C	INTACT	BROWN	Negative	< LOD: 0.03	< LOD: 0.03	< LOD: 3.70
mg / cm ^2	OUTSIDE OERHEAD DOOR FRAME	METAL	D	INTACT	BROWN	Negative	< LOD: 0.03	< LOD: 0.03	< LOD: 3.69
mg / cm ^2	OUTSIDE GUTTER	METAL	D	INTACT	BROWN	Positive	< LOD: 9.45	< LOD: 4.80	< LOD: 9.45
mg / cm ^2		CALIBR				Positive	1.10 ± 0.10	1.10 ± 0.10	0.80 ± 0.40
mg / cm ^2		CALIBR				Positive	1.20 ± 0.10	1.20 ± 0.10	< LOD: 0.90
mg / cm ^2		CALIBR				Positive	1.10 ± 0.10	1.10 ± 0.10	0.70 ± 0.40

# Department of Environmental Quality

This is to Certify That

**CHARLES MARSHALL**

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Painter

**INSPECTOR/RISK ASSESSOR**

Certification #: OKRASR13418

This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: 10/30/2008

Expires on: 3/31/2009



Division Director  
Air Quality Division



Environmental Programs Manager  
Air Quality Division





# Department of Environmental Quality

## MARSHALL ENVIRONMENTAL MANAGEMENT

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

**FIRM**

Certification #: OKFIRM1160

This certificate is valid from the date of issuance and expires as noted below.  
Issued on: 4/11/2008 Expires on: 3/31/2009

*A. Todd*

Division Director  
Air Quality Division

*Randall L. Ward*

Environmental Programs Manager  
Air Quality Division

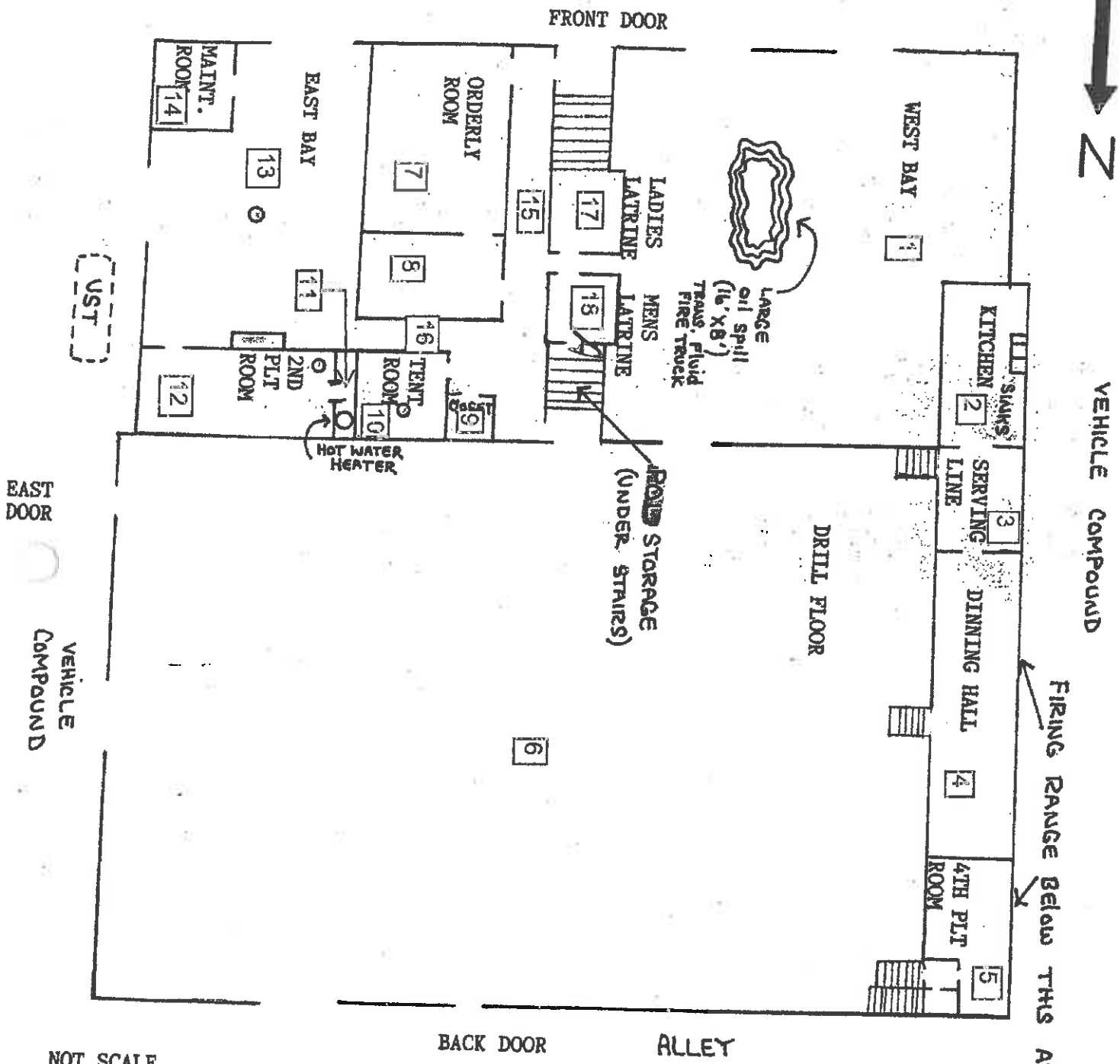


# MINCO ARMORY

BUILT 1936

BOTTOM FLOOR

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)



NOT SCALE  
FIRE EXTINGUISHER POINTS

- FLOOR DRAIN
- ▭ FIAMMABLE MATERIALS STORAGE CABINET

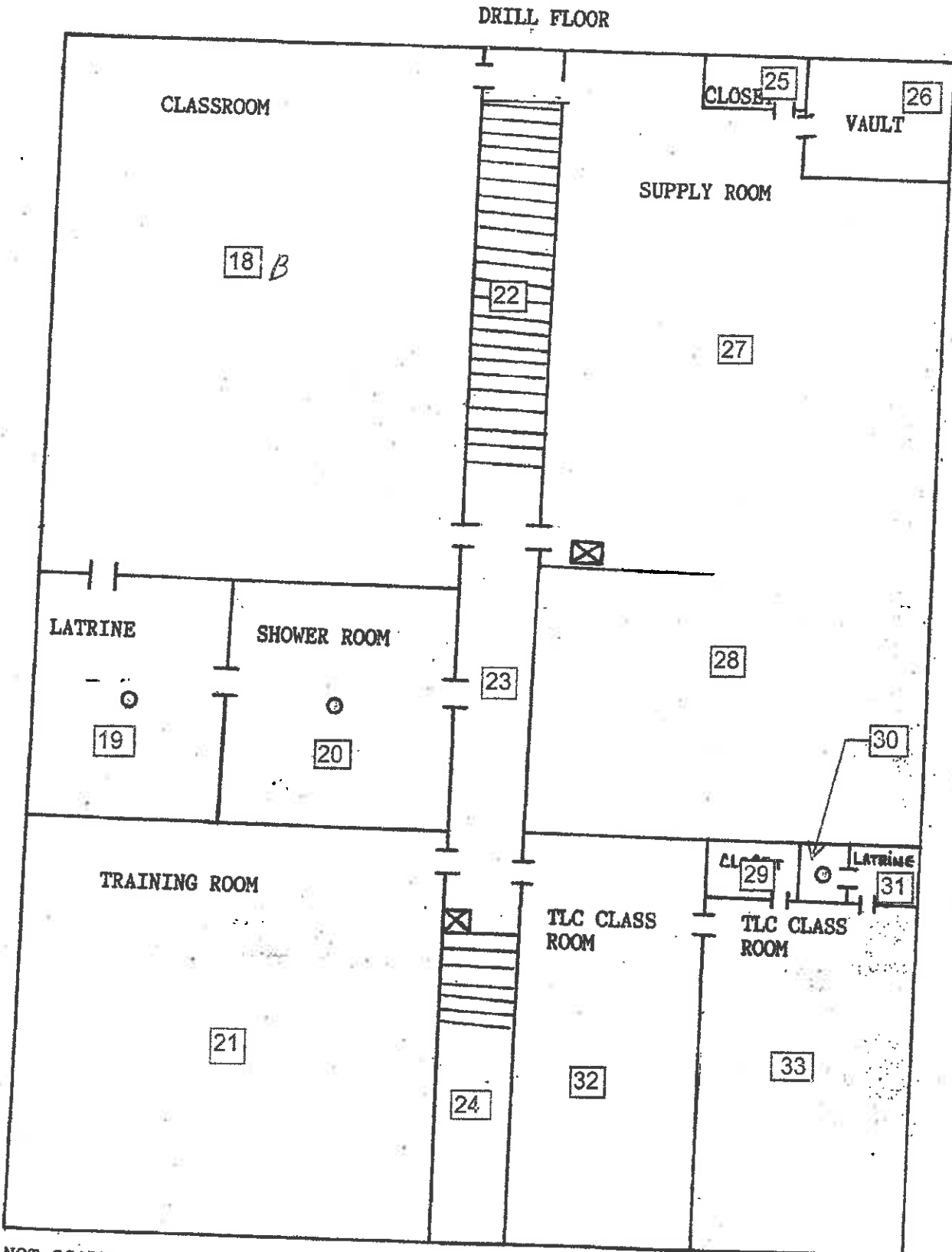
VISIT: OCT. 17, 1995

# MINCO ARMORY

BUILT 1936


TOP FLOOR WPA

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)



NOT SCALE  
FIRE EXTINGUISHER POINTS 

FRONT DOOR

 FLOOR DRAIN ICAS  
VISIT: OCT. 17, '95

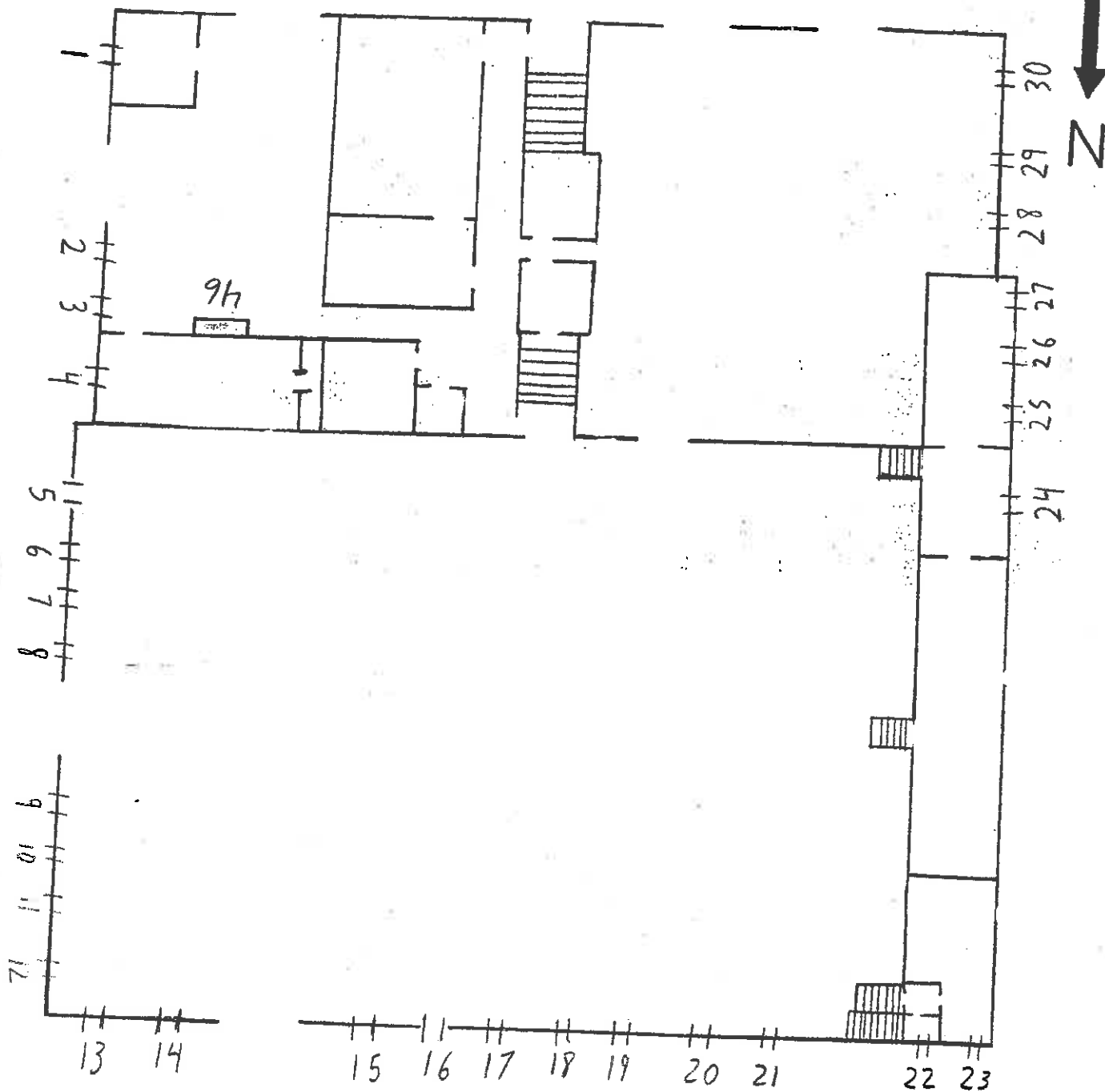
# MINCO ARMORY

BUILT 1936

BOTTOM FLOOR

MINCO, OKLAHOMA

WINDOW NUMBERING



# MINCO ARMORY

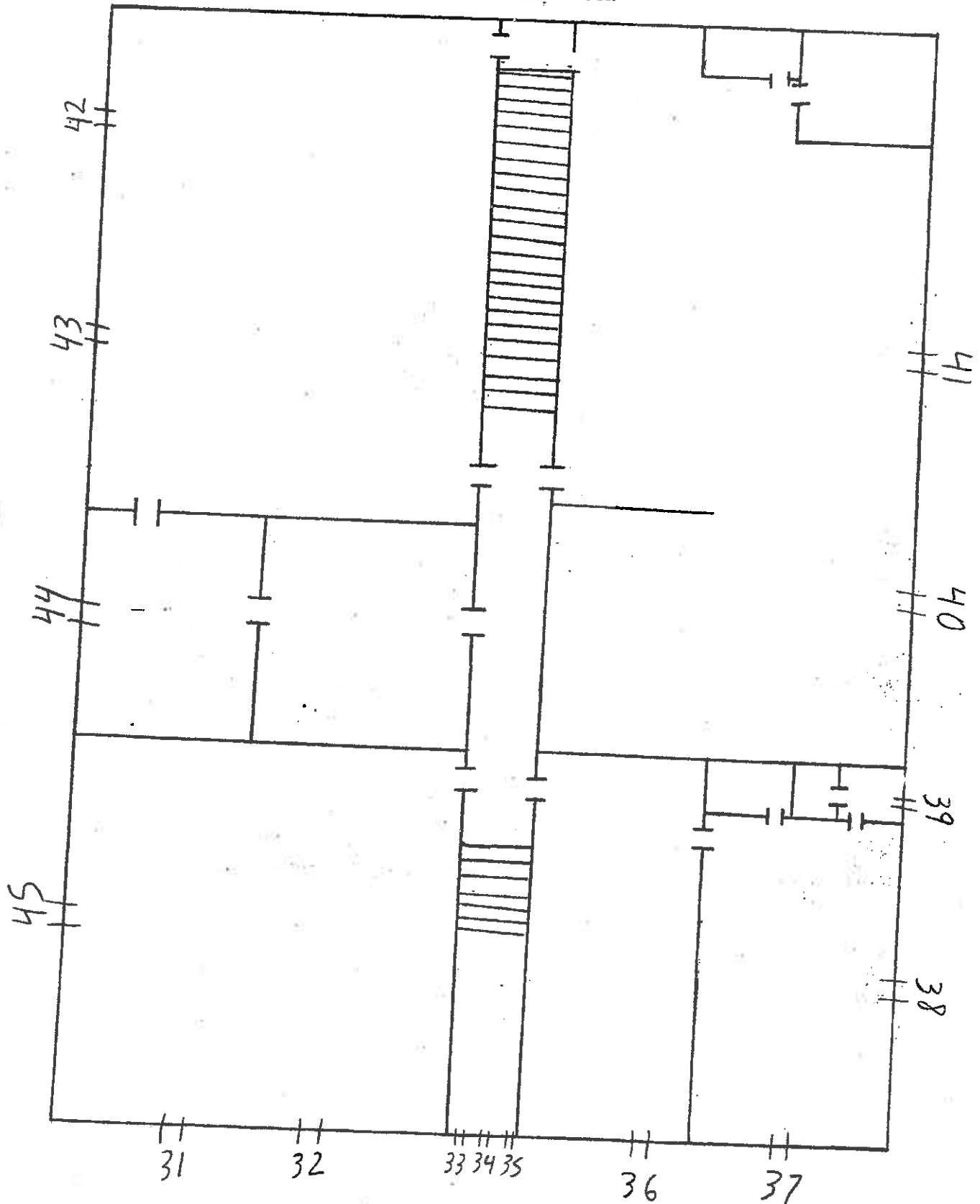
BUILT 1936

TOP FLOOR WPA

MINCO, OKLAHOMA

WINDOW NUMBERING

DRILL FLOOR



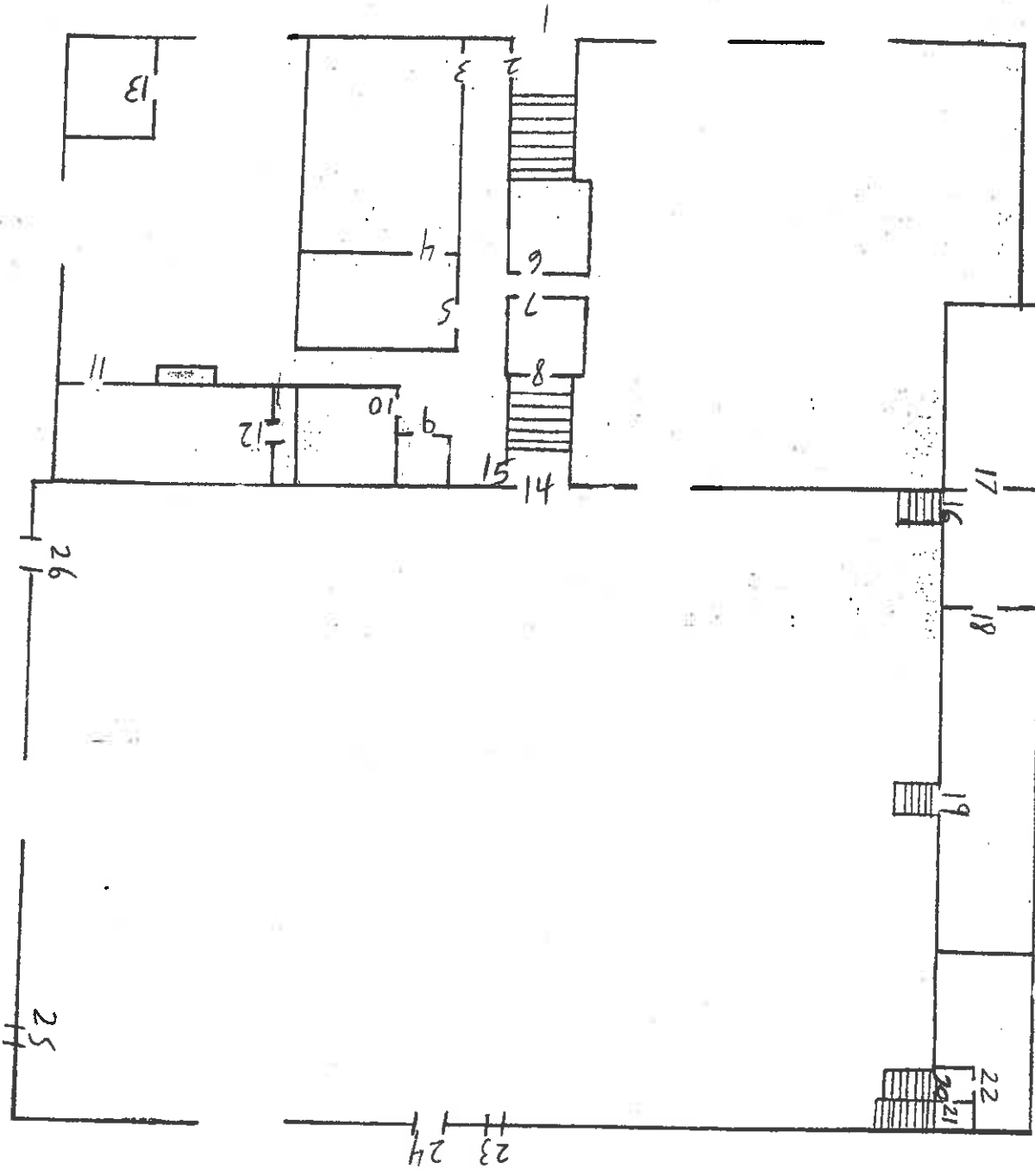
# MINCO ARMORY

BUILT 1936

BOTTOM FLOOR

MINCO, OKLAHOMA

DOOR NUMBERING



# MINCO ARMORY

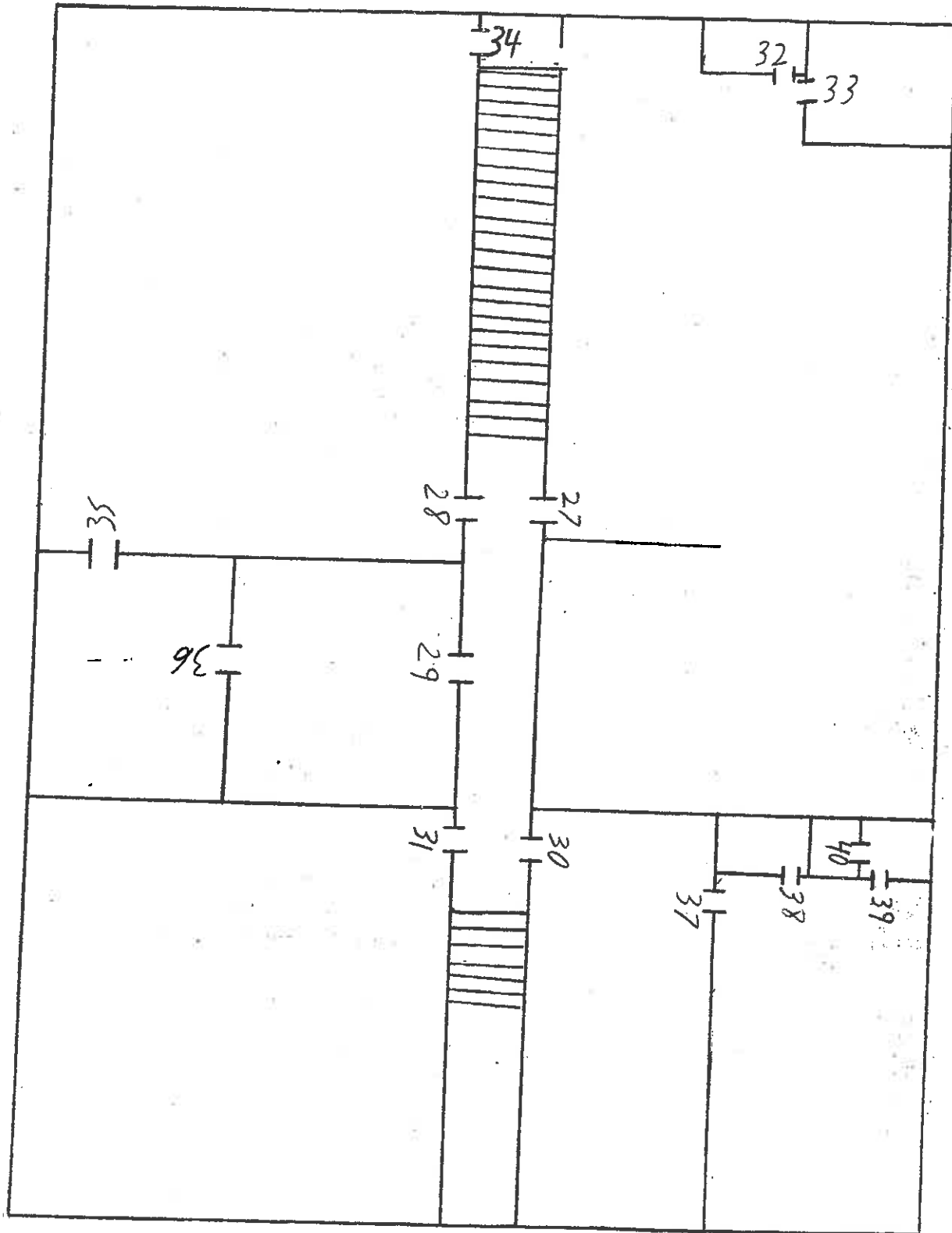
BUILT 1936

TOP FLOOR WPA

MINCO, OKLAHOMA

DOOR NUMBERING

DRILL FLOOR



**ASBESTOS SCOPE OF WORK**



**Scope of Work  
For  
Abatement of Non-Friable Asbestos at  
The Former Elk City and Minco National Guard Armories**

The Oklahoma Department of Environmental Quality (DEQ) is requesting bids from licensed asbestos abatement contractors for asbestos remediation services at the former Elk City and Minco National Guard Armories. Qualified bidders shall follow all appropriate OSHA requirements. This scope of work (SOW) describes the non-friable and/or non-regulated asbestos containing materials (ACM) that will either be removed or left in place. The ACM to be removed shall be included in your bid.

- Friable and regulated ACM shall be removed as described in the attached project designs.
- Non-friable and / or non-regulated ACM shall be removed or left in place as described below.

**Minco Armory**

- **Remove** floor tile and mastic from room numbers 3, 4, 31, 32 and 33.

**Elk City Armory**

- **Remove** mastic from under carpet in room numbers 13 and 15;
- **Remove** sheetrock from walls of room numbers 25, 24, 18, and the Hallway # 19;
- **Remove** residual tar in room number 19;
- **Do Not Remove** exterior caulk from around windows;
- **Do Not Remove** cement asbestos roofing panels or cement asbestos exhaust flue's.

**ASBESTOS PROJECT DESIGN  
AND  
SCOPE OF WORK  
RELATED TO THE  
ASBESTOS ABATEMENT  
AT THE  
DEQ OKLAHOMA ARMORY RESTORATION PROJECTS**

**DCS Project 10052**

**ODOL Project # \_\_\_\_\_**

**Minco Armory**

**June 24, 2009  
(Version 1.0)**

**Services Provide For:**

***Oklahoma Department of Environmental Quality  
Land Protection Division  
707 N. Robinson Ave.  
Oklahoma City, OK 73102***

**Asbestos Inspection Services Provided By:**

***Marshall Environmental Management, Inc.  
1601 SW 89<sup>th</sup> Street Suite A100  
Oklahoma City, Oklahoma 73159  
(405) 616-0401***

Project Design Review Form

Oklahoma Department of Labor  
Asbestos Division

4001 N. Lincoln Blvd., Oklahoma City, OK 73105

Phone - (405) 528-1500 Fax - (405) 524-8793

Approved

Disapproved

Project Name: Minco Armory

Project No.: 09-5810 Date: 06/26/2009

Project Designer: Charles Marshall

Jun. 29. 2009 9:49 AM

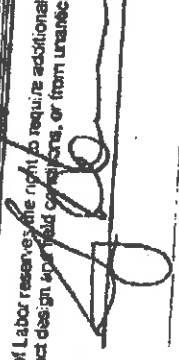
ASBESTOS


MARSHALL ENV

No. 5292 P. 2

ITEM NO.	ITEM	ACCEPT-ABLE	NOT ACCEPT-ABLE	COMMENTS
1.	A statement that: DO, Abatement of Friable Asbestos Materials Rules apply.	✓		The work to be conducted for the asbestos abatement work at this armory involves the removal of friable asbestos. Therefore, the OSHA rules that govern the removal of friable asbestos containing materials shall apply to this project.
2.	Sequencing and phasing of work.	✓		Two phases.
3.	Identification of means of egress and a fire protection plan.	✓		A minimum of three 10-ABC fire extinguishers will be on site at all times. All exits from the armory will be marked with red arrows and emergency lighting. Page 23
4.	The quantity, type, and location of asbestos materials to be abated.	✓		Three linear feet or less of TSI pipe insulation containing 10% chrysotile will be removed from room #3. 300 square feet of ceiling texture containing 4% chrysotile will be removed from room #2.
5.	Abatement methods, and techniques, and numbers of glovebags or mini-containment.	✓		Glove bag method room #3. Gross removal in full negative pressure containment room #2. All removal will be wet method. Page 17
6.	Numbers of area air monitoring pumps.	✓		Five area air monitors. Minimum of three PCM clearance samples will be collected for a minimum of six hours and 3,000 liters per work area. Page 20-21.
7.	Numbers, capacities, location, and discharge points, if any, of negative air machines.	✓		Minimum of two negative air units to provide negative pressure of -.02 inches water column. These units must vent to the outside to accomplish -.02. Page 17
8.	Details of the project containment(s).	✓		Room #3 will consist of Critical barriers, two layers of 6-mil for floors and walls, .02 inches water column. Glove bag removal in room #2 will consist of critical barriers, drop cloths and pop up change room.
9.	Details of the decontamination system(s).	✓		A decontamination unit will be attached to the ceiling texture removal area. This de-con must meet the requirements of OAC 38050-15-12
10.	The extent to which asbestos-contaminated soils, if any, must be removed, and the sampling methods of determining the efficacy of such removal.	✓		This project does not require the removal of any soils contaminated with ACM. Page 24
11.	Special materials or methods required to protect objects in the work area should be detailed, (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds and falling material).	✓		No special materials or methods for accomplishing the removal are anticipated. Page 24
12.	Any variances from the Abatement of Friable Asbestos Materials Rules.	✓		Variances is accepted to start in FFAPR. Page 23

The Department of Labor reserves the right to require additional engineering or environmental controls consistent with the Abatement of Friable Asbestos Materials Rules, which may be necessary because of discrepancies between this project design and field conditions.

REVIEWED BY:  DATE: 6/24/09

REVIEWED BY:  DATE: 6/29/09

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### Appendix

Armory Floor Plan Diagrams

Armory Containment Area Diagram

Armory Estimated Quantities of ACM

Asbestos Inspection Report and Bulk Asbestos Test Results

Project Designer License

## I. Scope of Work

This Project Design has been prepared to allow for the safe and economical removal of friable Asbestos Containing Material (ACM) as part of the Oklahoma Department of Environmental Quality (DEQ), Land Protection Division's (LPD), Oklahoma Armory Restoration Projects. This Asbestos Abatement Project will receive a Project Number that is to be assigned by the Oklahoma Department of Labor (ODOL).

This Project Design will be used to address the removal of friable ACM from the Armory. The scheduled for abatement will be determined by the DEQ LPD. The Project Design includes the Scope of Work for the Abatement of Friable Asbestos and the approximate locations and quantities of friable ACM to be abated at the Armory. Once hired, an ODOL Licensed Asbestos Abatement Contractor will file the individual notifications required by ODOL and DEQ (NESHAP). The information on the Armory floor plan and the estimated quantities and types of ACM is provided in the Appendix.

The work to be conducted for the asbestos abatement work at this Armory involves the removal of friable asbestos. Therefore, the ODOL rules that govern the removal of friable asbestos containing materials shall apply to this Project.

The identified friable ACM present in this Armory consists of Thermal System Insulation (TSI) located on one plumbing line in Room #3 and friable asbestos that is present in the acoustical ceiling texture (referred to as surfacing material in the inspection report) in Room #2. The locations of the ACM are identified in the Table provided in the Appendix of this Project Design.

The Licensed Asbestos Contactor will also be authorized by the DEQ LPD to conduct the removal of non-friable asbestos floor tile and mastic, and potentially cement asbestos (transite) exhaust flues. The removal of non-friable ACM is not to be considered a part of the Project Design for ODOL notification purposes. The estimated quantities of non-friable ACM to be removed are identified in the Table provided in the Appendix of this Project Design. The Licensed Asbestos Contactor shall indicate the quantity of non-friable ACM to be abated on the Project's NESHAP Notice. The abatement of non-friable floor tile and mastic shall be consistent with the requirements of the Occupational Safety and Health Administration regulations 29 CFR 1910.1101 and the recommendations of the Resilient Floor Tile Institute.

The methods used for work area preparation, cleaning, and abatement of the friable ACM shall be consistent with the requirements of the Oklahoma Rules for Abatement of Friable Asbestos Materials, OAC 380:50 (ODOL Rules).

Upon completion of the asbestos removal work, the Asbestos Contractor shall complete any required re-insulation work for TSI (plumbing pipe re-insulation) as specified in the Oklahoma State Department of Central Services (DCS) Bid Packet.

**II. Responsible Parties and Consultants:**

Licensed Contractor: An ODOL Licensed Asbestos Contractor is to be selected based on a successfully bid submittal. The Oklahoma Department of Central Services (DCS) Construction and Properties Division will oversee the bidding and the Award of the Contract. The DEQ LPD will be the Project's Contracting Officer.

Licensed Project Designer: Marshall Environmental Management, Inc.  
1601 SW 89<sup>th</sup> Street Suite A100  
Oklahoma City, Oklahoma 73159  
(405) 616-0401 (Office)  
(405) 820-1656 (Mobile)  
(405) 681-6753 (Fax)  
E-Mail: [marshenv@swbell.net](mailto:marshenv@swbell.net)



Charles L. Marshall, Ph.D., C.I.H., OKPD-140028

Owner's Representative: Dustin Davidson, Environmental Programs Specialist  
Oklahoma Department of Environmental Quality  
Land Protection Division  
707 N. Robinson  
Oklahoma City, OK 73102  
(405) 702-5115 (Office)  
(405) 702-5101 (Fax)  
E-Mail: [dustin.davidson@deq.ok.gov](mailto:dustin.davidson@deq.ok.gov)

Department of Central Services: DCS Project Manager  
To be identified by DCS in the Bid Packet.

### III. Location, Types of ACM and Estimated Quantities

The Appendix to the Project Design contains the documentation on the location and estimated quantities for the type of ACM identified in the Armory.

The types of the response actions to be taken, methods for removal, quantities, dates and responsible parties performing the abatement, air monitoring and waste disposal landfill locations shall be indicated on the Licensed Asbestos Contractor's NESHAPS Notice and Notification of Asbestos Abatement that are to be filed with DEQ and ODOL, respectively.

The ODOL Asbestos Division will assign this Armory Project. The ODOL will utilize the approved Project Design, and any subsequent Project Design Amendments, as a basis to assess the Project's required scope of work, sequence of events, abatement procedures, air monitoring, clearance sampling and any other related requirements of ODOL Rules.

The asbestos abatement will include removal of all asbestos containing TSI on plumbing lines in Room #3 at the Armory. All the TSI on plumbing line is to be abated by the Licensed Asbestos Contractor. The quantity of plumbing line containing TSI is approximately 3 feet or less and should consist of one (1) glovebag. The type of ACM includes 10% Chrysotile.

The asbestos abatement work will also include removal of all asbestos containing ceiling texture from the ceiling of Room #2 (see Armory Floor Plan for location). The ceiling texture contains an ACM with 4% Chrysotile applied to the ceiling. All the surfacing materials will be removed as part of the abatement work. The quantity of surfacing material is estimated at 300 ft<sup>2</sup>. All of the surfacing materials are to be abated by the Licensed Asbestos Contractor.

The Asbestos Abatement Contractor shall remove all non-friable asbestos containing floor tiles and mastics and any of the non-friable cement asbestos exhaust flues identified for removal by the DEQ. These response actions are not governed by the ODOL rules but will require a negative exposure assessment and clearance monitoring to be evaluated by the DEQ and the Project Designers Representative.

The amounts and types of ACM are provided as an Appendix to this Project Design. Questions regarding the Scope of Work shall be addressed in writing to the DCS Constructions and Properties Division (DCS) Representative.

#### IV. Sequence of Events, Projected Dates and Duration of Project

The Abatement Contractor will follow the following sequence of events.

1. The Licensed Asbestos Contractor shall file required ODOL and NESHAP Notification NESHAPS notifications. **Note:** Copies of the notifications are to be provided to DEQ LPD and the Licensed Project Designer.
2. Licensed Asbestos Contractor will mobilize to begin prep work based upon DEQ LPD approval after coordination is confirmed with any appropriate authorities (e.g. armory occupants) for work dates and times of work at each specific Armory.
3. The Air Monitoring Firm shall conduct background air monitoring prior to prep inspection.
4. As part of the preparation for abatement, the Licensed Asbestos Contractor shall isolate adjacent areas and install critical barriers.
5. Establish GFI circuits and a Decon for use throughout prep.
6. Establish a Centralized Decon for use during prep work and abatement
7. Place abatement supplies in the Armory rooms.
8. Surround regulated work areas with asbestos hazard warning tape.
9. Remove the ceiling tiles to access the TSI on plumbing lines (if necessary).
10. Perform any pre-cleaning of loose ACM, if necessary, to complete the Prep.
11. Hang all required negative pressure glovebags per ODOL Rules.
12. Prepare any rooms requiring abatement of ceiling acoustical texture per ODOL Rules 380:50-23-4, except that the decon and load out shall be attached and a negative air machines shall be provided as specified in this Project Design.
13. Provide adequate negative pressure HEPA Filter exhaust machines to establish a negative pressure to any central Decon facility and/or attached decon and loadout facilities for containments or modified containments.
14. Schedule an ODOL Prep Inspection.
15. Perform asbestos abatement and loadout all wastes.
16. Schedule any interim ODOL visual inspections per ODOL Inspector requirements.
17. Upon completion of final cleaning call, for ODOL visual inspection.
18. Perform any lock-down applications required by ODOL Rules.
19. Conduct clearance sampling and schedule final inspection with ODOL
20. Schedule any final ODOL inspection that may be required.
21. Tear down prep work and critical barriers and demobilize after approval by the ODOL and Owner's Representative (DEQ LPD).
22. Schedule the non-friable ACM with the Owners Representative.
23. Conduct a final inspection to verify the completion of the Scope of Work with the Project Designer's representative.
24. File final project documents with ODOL and provide a copy to the DEQ LPD Representative.



The Licensed Asbestos Contractor shall file the notification of the intended start date based upon the schedule to be determined by the DEQ LPD Representative. This Project is anticipated to start, once a Licensed Contractor is selected as a successful bidder and a Notice to Proceed is issued by the DEQ LPD and DCS.

The Project duration is estimated to take less than less than five days to complete friable ACM abatement. Clearance testing will be conducted per ODOL rules or as specified in the approved Project Design or any subsequent Project Specific Project Design Amendments.

## V. General Requirements

### A. Asbestos Contractor

The DCS Bid Packet will be used to select an ODOL Licensed Asbestos Abatement Contractor for use by the DEQ on this Oklahoma Armory Remediation Project. The ODOL Licensed Asbestos Contractor shall perform the asbestos abatement work in accordance with the ODOL Rules, this Project Design, any Site Specific Project Design Amendments and all applicable rule and regulations issued by those authorities' having jurisdiction.

### B. Codes and Regulations

**The Asbestos Abatement Contractor (herein and hereafter referred to as the Contractor)** shall abide by this Project Design and the requirements which govern asbestos removal in OAC 380:50 and transportation of asbestos waste materials to include, but not limited to, the following:

1. 29 CFR 1910, OSHA General Industry Standards.
2. 29 CFR 1926, OSHA Construction Industry Standard.
3. 29 CFR 1926, 1101 OSHA Asbestos Construction Standard
3. 40 CFR 61, Subpart M (NESHAPS) enforced by ODEQ.
4. ANSI Z88.2 latest edition (Respiratory Protection).
5. Oklahoma Asbestos Control Act Title 40 Sections 450-456.
6. OAC 380:50 (All-inclusive), Oklahoma Rules for Abatement of Friable Asbestos Materials.
7. 49 CFR (USDOT) Hazardous Material Transportation Regulations.
8. All Applicable State Statutes, County and City Codes/Ordinances
9. OAC 252:100-40, Air Pollution Control Rules, Control of Emission of Friable Asbestos during Demolition and Renovation Operations (replaces OAC 252:100-41-16).
10. OAC 252:515-19, Management of Solid Wastes (DEQ Asbestos Land Protection Division Asbestos Disposal Requirements).
11. Resilient Floor Covering Institute (RFCI) Recommended Work Practices for Removal of Resilient Floor Covering.  
<http://www.rfci.com/files/pdf/RFCIRecommended9-04.pdf>

Wherever conflicts arise in any of this Project Design's General Requirements or Procedures and/or among the applicable Rules and Regulations, the most stringent rules shall apply, subject to approval by ODOL or other authorities' having jurisdiction' (e.g. DEQ). Wherever allowed by the authority that has jurisdiction, a request for a variance can be submitted, provided it is acceptable to the Owner's Representative (DEQ) and its representatives in advance of consideration by the authority having jurisdiction.

C. Notifications

The Asbestos Abatement Contractor, prior to any abatement work, shall be required to file a Notifications of Asbestos Removal with both the ODOL Asbestos Division and the DEQ NESHAP Division (per Subchapter 9 ODOL Rules). These processes require ten days, unless the Agency waves the waiting period due to an emergency. The Contractor shall also be responsible for submitting any request for variances within this period of notification.

**Note:** A NESHAP notification shall be filed by the Licensed Asbestos Contractor with the DEQ Air Quality Division. A copy is to be provided to the ODOL, Project Designer and DEQ LPD representative. All quantities and disposition of waste shall conform to the notification. Changes in the amounts of asbestos waste materials (greater or less than 20% of the notified amounts) shall require that the Licensed Asbestos Contractor files a revised NESHAP Notice with the DEQ AQD at the time the waste is prepared for disposal. The DEQ LPD representative shall approve the landfill indicated on the NESHAP form prior to the Contractor filing the notification.

A copy of the required NESHAP Notice can be obtained at the following DEQ website: <http://www.deq.state.ok.us/aqdnew/asbestos/NESHAPfm.pdf>

A copy of the ODOL Asbestos Project Check list can be obtained from the following ODOL web site:

<http://www.ok.gov/odol/documents/AsbestosProjectChecklist.pdf>

D. Waste Disposal

The Licensed Asbestos Contractor is responsible for all fees for wastes, storage, transportation and disposal. Unless properly insured, in accordance with the Oklahoma Asbestos Control Act, the Licensed Asbestos Contractor shall hire a Licensed and Insured Asbestos Disposal Contractor that is also a Licensed Asbestos Contractor, for the transportation and disposal of all asbestos wastes as specified in the Project Design and in accordance with the NESHAP notification and Subchapter 40 of the Oklahoma Clean Air Act.

The Contractor or Licensed Transporter shall be responsible to provide onsite storage and licensed transportation of all asbestos wastes to the DEQ Permitted Asbestos Landfill where the ACM will be disposed of at the end of the job. The Project's NESHAP notification shall list the disposal site to be used for the Project.

During periods of time when the asbestos waste is to be stored onsite, the Asbestos Abatement Contractor shall maintain an enclosed and properly placarded waste storage unit and/or waste disposal trailer or roll-off bin, which is to be located in a secure area on the Armory campus at a location determined by the Owner's Representative (DEQ LPD).

The storage area, trailer or roll-off bin shall be prepared with 6-mil polyethylene and placarded in accordance with OSHA and DOT requirements. When not in use, the enclosed storage area, trailer or roll-off bin will be kept locked, wherever possible (e.g. trailer), or sealed tightly (e.g. roll-off bin) to control access to any stored waste. The trailer or storage unit shall be available for inspection to representatives of the ODOL during all site visits, no later than the initial prep inspection.

A uniform style industrial waste manifest or asbestos disposal record shall accompany each load transport to the landfill as specified in the NESHAP regulation. All 6 mil double wrapped wastes, 6-mil double bagged asbestos waste, manifests, landfill disposal records and NESHAP notices shall designate the DEQ and the specific Armory Name (with its address) as the generator of each specific project (e.g. DEQ – Minco Armory – Address).

The list of DEQ Approved Landfills that can accept Asbestos Waste can be found on the DEQ Land Protection web site at the following web site link: <http://www.deq.state.ok.us/lpdnew/SW/MSWLFsAcceptingAsbestos.htm>

E. Insurance

The Asbestos Abatement Contractor performing the asbestos abatement and any related contract services (e.g. re-insulation), shall provide the DCS and the DEQ LPD with copies of current Certificates of Insurance. Use of any sub-contracts shall require written approval by the DCS Construction and Properties Division. The Contractor's General Liability Insurance, Worker Compensation, Hired and Non-Owned Auto Insurance shall meet the requirements of the DCS as specified in the Bid Packet and this Project Design, as well as applicable State Statutes and meet the requirements of Section 452 of Title 40, Oklahoma Asbestos Control Act.

F. Documentation

The Asbestos Abatement Contractor shall complete all documentation as required by the authorities having jurisdiction and those specified in this Project Design. Air monitoring data shall be generated by the Project's Air Monitoring Firm and supplied to the Licensed Asbestos Abatement Contractor for any required submittals upon completion of the clearance sampling.

Upon completion of the job, the Licensed Asbestos Abatement Contractor shall provide the Owner's Representative with copies of ODOL inspections, copy of:

1. Asbestos supervisor's daily reports.
2. List the names of all Licensed Asbestos Personnel and other site workers, visitors and/or other employees with their valid ODOL License Numbers and valid State ID or valid Driver License Numbers.
3. Any electrical engineers safety instructions (if required).
4. All air monitoring results.
5. Final clearance testing results.
6. Copies of negative pressure recording devices (if required) tapes.
7. All signed asbestos disposal manifests.

G. Site Security, Electrical Safety and Employee Hazard Communication

All entrances and exits to the regulated work areas within the Armory (i.e. areas marked by asbestos warning signs) and entrance to the central decon shall have an asbestos hazard warning sign attached. During off shift hours, all entryways into the Armory shall be kept locked to restrain unauthorized personnel from entry into the Armory until such time as all the ACM has been removed and clearance sampling has conducted and the final visual inspection has been approved by the ODOL.

A daily log must be maintained by the Licensed Asbestos Abatement Contractor which includes the names of all Licensed Asbestos Personnel and other site workers, visitors and/or other employees with their valid ODOL License Numbers and valid State ID or valid Driver License Numbers.

The Owner's Representative shall be responsible to see that all required lockout-tagout of electrical lines are preformed in accordance with the OSHA Standards 29 CFR 1910.147 and 29 CFR 1926.417 and applicable Armory Policy. The Licensed Asbestos Contractor will perform lockout-tagout to de-energize all electrical circuits necessary to ensure worker safety. If an electrical engineers statement is required to work around live electrical circuits, it will be the responsibility of the Licensed Asbestos Contractor to

obtain one in accordance with ODOL Rules. Based on the pre-abatement inspection, no live electricity is anticipated to be left on in the abatement work areas located within the Armory.

The Owner's Representative will be responsible for any required hazard communication notifications of all applicable Armory personnel. Access to the abatement work areas, "the regulated work area", is to be kept to licensed personnel. Access to other areas of the Armory is to be authorized DEQ LPD personnel.

## VI. Prep for Abatement

### A. Available Utilities.

**Special Condition:** Some Armories do not have utilities. This may include the supply of potable water for the use in abatement methods, decontamination facility, and waste water disposal. Also, some armories do not have an active electrical supply hook-up with the local electric utility authority. Those Armories that do not have utilities for electricity, potable water and sewer connections will be identified by the Owner's Representative at the pre-bid site visit or Project walk-through by the DEQ Representative. The Asbestos Contractor will be responsible to provide all utility services in connection with their services for any location that does not have these services. Any fees or cost for the connection and disconnection of these services shall be paid by the Asbestos Contractor as a part of the SOW and are to be included in the cost for the services for these projects.

### B. Isolate adjacent areas and install critical barriers.

The Licensed Asbestos Contractor shall prepare the work area(s) for abatement in accordance with the requirements of ODOL regulations OAC 380:50-17-4 with the following modifications.

1. Establish required asbestos warning signs and regulated work area boundaries using asbestos warning tape at the entrances to the rooms and hallways undergoing the removal of the friable ACM.
2. Isolate adjacent areas and install critical barriers to seal off adjacent doorways, windows, heating and air conditioning duct openings and any other openings from the work area.
3. Establish GFI circuits for use throughout prep and abatement.
4. Establish a centralized decon for use during prep work and abatement
5. Place abatement supplies in the Armory rooms.
6. Surround regulated work area with asbestos hazard warning tape.
7. When required, remove the ceiling tiles to access the TSI on plumbing.
8. Perform any pre-cleaning of loose ACM, if necessary, to complete the prep.

9. Hang all required negative pressure glovebags per ODOL Rules.
10. Prepare any rooms requiring abatement of asbestos containing ceiling acoustical texture per ODOL Rules 380:50-23-4, except that the decon and load out shall be attached and a negative air machines shall be provided as specified in this Project Design.
11. Provide adequate negative pressure HEPA Filter exhaust machines to establish a negative pressure to any central Decon facility and/or attached decon and loadout facilities for containments or modified containments.
12. Schedule an ODOL Prep Inspection.
13. Perform asbestos abatement and loadout all wastes.
14. Schedule any interim ODOL visual inspections per ODOL Inspector requirements.
15. Upon completion of final cleaning call, for ODOL visual inspection.
16. Perform any lock-down applications required by ODOL Rules.
17. Conduct clearance sampling and schedule final inspection with ODOL.
18. Schedule any final ODOL inspection that may be required.
19. Tear down prep work and critical barriers and demobilize after approval by the ODOL and Owner's Representative (DEQ LPD).
20. Schedule the non-friable ACM with the Owners Representative.
21. Conduct a final inspection to verify the completion of the Scope of Work with the Project Designer's representative.
22. File final project documents with ODOL and provide a copy to the DEQ LPD Representative.

#### C. TSI Abatement.

The Contractor shall prepare the area for abatement in accordance with the requirements of ODOL regulations OAC 380:50-13 and OAC 380:50-15 (where applicab(e) including the following requirements of this Project Design.

1. Assist as need, the Armory Personnel in the moving out from the work area all non-fixed items (e.g. desks, files, non-attached shelving, stored paperwork, etc.) identified by Facility Representative.
2. Establish required asbestos warning signs and regulated work area boundaries using asbestos warning tape at the entrances to the rooms undergoing the removal of the ACM. Establish GFI circuits, and a Central Decon for use throughout Prep as needed.
3. Setup GFI circuits panels and temporary lighting in the work area and adjacent locations to assist with prep work, inspections and air monitoring. Any connections to the buildings electrical circuits for the purpose of obtaining power for GFI circuits shall be performed at the Contractor's expense using a State Licensed Electrical Contractor.
4. Set-up a load-out chamber area and a central decon (with HEPA filtered negative air exhaust), decon shower and connect to the water

supply and wastewater drain at a location approved by the Owner's Representative.

5. Place critical barriers over the HVAC supply and return vents, windows and adjacent room doorways and hallways.
6. Once the Armory heating and air conditioning is turned off begin to pre-clean all visible dust on surface inside the work area using HEPA vacuums.
7. Prep the floor space under each glove bag area with at least 6 feet of 6-mil polyethylene to serve as a drop cloth to protect the floor surface under the work area.
8. Mark all fire exit routes with red arrow or signage type markings with the arrows showing path of egress.
9. Cover any fixed items (lights fixtures, cabinets, bookshelves, etc.) in a sheet of 6-mil polyethylene per ODOL requirements.
10. When prep is completed call for an ODOL prep inspection.

**Note on Variance:** Due to the limited space the Contractor may request a variance to use the attached decontamination facility as both a decontamination facility and a loadout.

D. Abatement of Acoustical Texture with Asbestos Containing Textures.

The Asbestos Abatement Contractor shall prepare the area for abatement in accordance with the requirements of ODOL regulations OAC 380:50-23-4 for ceilings with asbestos containing acoustical texture materials and follow the procedures for abatement outlined in previous sections of this Project Design and the following requirements.

Insure the Armory Heating and Air Conditioning (HVAC) System is turn off. Place critical barriers over any openings into the HVAC supply or return grills.

The Contractor shall ensure that the ceiling acoustical texture removal will not compromise the adjacent interior walls which must remain intact as a barrier.

All openings from Armory room to be abated (e.g. supply air grilles for heating and air conditioning system) shall be sealed as critical barriers.

If the Asbestos Abatement Contractor's work would penetrate the adjacent room's wall or ceiling, the Contractor shall extend the dimensions of the Containment area to include the demolition of adjacent room and prep the adjacent rooms as a part of the project containment in order maintain negative pressure throughout the abatement process.

1. Assist as need, the Armory Personnel in the moving out from the work area all non-fixed items (e.g. desks, files, non-attached shelving, stored paperwork, etc.) identified by Facility Representative.
2. Establish required asbestos warning signs and regulated work area boundaries using asbestos warning tape at the entrances to the rooms that are undergoing the removal of the ACM. Establish GFI circuits, and a Central Decon for use throughout Prep as needed.
3. Setup GFI circuits panels and temporary lighting in the work area and adjacent locations to assist with prep work, inspections and air monitoring. Any connections to the buildings electrical circuits for the purpose of obtaining power for GFI circuits shall be performed at the contractor's expense using a State Licensed Electrical Contractor.
4. Once the Armory heating and air conditioning is turned off begin to pre-clean all visible dust on surface inside the work area using HEPA vacuums.
5. Place critical barriers over the HVAC supply and return vents, windows and adjacent room doorways and hallways.
6. Prep the floor space and walls within the work area with two layers of 6-mil polyethylene to protect the floor and wall surface in the work area.
7. Mark all fire exit routes with red arrow or signage type markings with the arrows showing path of egress.
8. Cover any fixed items (lights fixtures, fire extinguisher cabinets, etc.) in a sheet of 6-mil polyethylene per ODOL requirements.
9. Set-up an attached load-out chamber area and an attached decon and connect to the water supply and wastewater drain at a location approved by the Owner's Representative.
10. Provide adequate negative pressure HEPA Filter exhaust machines to establish a negative pressure of -0.02" water pressure in the work area and provide a continuously recording negative pressure monitor. Mark the tape each day at the start and end of each work shift with the time and date.
11. When prep is completed call for an ODOL prep inspection.

## VII. Abatement Procedures.

**Phasing:** The phasing of asbestos removal for glovebag work and containments shall be indicated on Contractor's initial ODOL notification for scheduling purposes. The Friable Asbestos Removal for this Project is to be conducted in two phases that will run concurrently. The First Phase will consist of the TSI removal, and 2<sup>nd</sup> Phase of work will consist of the ceiling acoustical texture removal. After friable ACM is abated, the Asbestos Abatement Contractor will schedule the non-friable ACM removal with the DEQ Representative.



**Negative Pressure Containment:** A Negative Pressure Containment is required for the efforts to remove the ceilings containing the acoustical texture. This material consists of ceiling acoustical texture materials. All the ceiling acoustical material and any of its associated contaminated materials shall be abated.

A Negative Pressure Containment is required to facilitate a safe removal of asbestos containing ceiling textured.

**Notice:** The quantities for the containment work exceeds 160 square feet. The Contractor must file a NESHAPS notice with DEQ Air Quality Division, which requires a 10 day notice prior to the start of asbestos removal activities.

During all phases of the work, the building's re-circulating heat and air system will be turned off, and the critical barriers are to be placed over all HVAC supply and return air grilles. These shall be routinely inspected and maintained in a sealed condition by the Licensed Abatement Contractor.

#### **A. Glovebag Removal.**

**Note:** (See Quantities in the Appendix)

Prior to beginning any removal of TSI from the plumbing lines, the Asbestos Abatement Contractor shall have drained the water from all water lines for the associated plumbing and turned off and locked out the water supply valves to the associated plumbing to prevent flooding.

Prior to beginning any removal of TSI from the plumbing lines, the Asbestos Abatement Contractor shall have hung as many negative pressure glovebags as possible for ODOL inspection at the scheduled prep inspection.

The negative pressure glovebag procedure shall conform to the Licensed Asbestos Contractor's written Operation and Maintenance (O&M) Program on file with the ODOL.

As a standard operating procedure, the exposed plumbing line inside each glovebag will be treated with an EPA approved post abatement sealant/lockdown agent prior to removing the glovebag. The sealant shall be pigmented so as to identify piping treated with the lockdown once the ACM is removed.

The Asbestos Supervisor shall keep a written log of the number of glovebag operations performed at the Armory each day that work is performed.

Once the scheduled glovebag removal is completed, the Licensed Asbestos Contractor shall call for a visual inspection by the ODOL Inspector.

**B. Negative Pressure Containment Work to Abate Ceiling Acoustical Texture Surfacing Material.**

Insure that the work areas are isolated from adjacent occupied areas and that all critical barriers are installed.

The Asbestos Abatement Contractor shall perform this abatement work in accordance with the requirements of ODOL regulations OAC 380:50-23-4, except that the decon and load out shall be attached and a negative air machines shall be provided as specified in this Project Design.

1. Once the prep has been approved by the ODOL, the Asbestos Abatement Contractor can begin the ACM removal operations.
2. Each worker involved in removal shall perform a careful and cautious manner for the removal all ceiling acoustical texture containing the ACM and prepare it for loadout as asbestos waste.
3. Initially wet each section of ceiling texture with amended water using a low-pressure hand-held spray bottle or pressure sprayer.
4. Then scrape off and collect all ACM wastes and prepare it for disposal in 6-mil asbestos waste disposal bags.
5. Collect and HEPA vacuum all residues and all dusts that are generated in the removal process for collection in the asbestos disposal bags.
6. Upon completion of the asbestos removal call for an initial visual inspection with the ODOL Inspector.
7. If any TSI is found in the ceiling space that is opened up during this abatement work, it may be removed using wet methods and placed into asbestos disposal bags along with the other remaining wastes.
8. Once the gross removal and final cleaning work is completed, the Asbestos Abatement Contractor will call for an ODOL visual inspection.
9. Upon approval of the visual inspection apply an EPA approved post abatement sealant as a "lockdown" onto all the surfaces throughout the containment.
10. Once the lockdown is dry schedule an ODOL inspection or follow the ODOL inspector's recommendation for the timing of clearance sampling.
11. Upon completion of successful clearance sampling and any addition required ODOL inspections, tear down the containment barriers and restore the area for occupancy.

## VIII. Engineering Controls (Apply to Specific Type of ACM being removed)

### A. Glovebag Operations.

The primary engineering control will consist of the use of wet methods and HEPA vacuums to wet the ACM and maintain a negative pressure within the glovebag.

### B. Asbestos Containing Acoustical Ceiling Texture Removal.

The primary engineering control will consist of the use the negative pressure containment and HEPA vacuums and wet methods to wet and abate the ACM while working with the negative pressure containment.

The HEPA Filtered Negative Air Equipment shall maintain a -0.02 inches of water pressure for the abatement of all asbestos containing materials. Based on the area involved (~3000 ft<sup>3</sup>) two negative air filtration units are recommended for use to supply at least (4) air exchanges per hour and a minimum of -0.02 inches of negative pressure to the work area.

The Asbestos Abatement Contractor shall have on site at least one addition Negative Air Filtration Unit onsite throughout the project for use in the event that one of the units supplied to the containment fails during the course of the abatement work.

## IX. Worker Protection

### A. Respiratory Protection.

**Full Face (FF-APR's) -** are to be worn by all personnel in the regulated areas during all prep work that has a potential to disturb ACM and during each work shift for the asbestos removal activities until final clearance levels have been met provided the fiber counts remain <0.5 f/cc UCL .

**Full Face PAPR's -** Full Face PAPR's may be provided to employees who request them or who need to wear one on the basis of a physician's recommendation provided the fiber counts remain <0.5 f/cc UCL.

**B. Work Clothing and Associated PPE.**

Additional PPE will consist of disposable asbestos worker clothing, protective gloves, hard hats, steel toe rubber boots and disposable work gloves.

All disposable PPE not limited to respirator cartridges, asbestos work clothing, gloves and other disposable items will be disposed of as asbestos waste throughout all phases of work.

Re-use items will be decontaminated using wet methods and HEPA vacuums at the central decontamination unit before they are brought out of the work area (e.g. rubber boots, respirator face piece).

**X. Decontamination and Waste Loadout**

**A. Decon and Loadout.**

Workers will be provided a three-chamber centralized decontamination facility (Decon).

During glovebag removal, a popup change room is to set up at the perimeter of the egress point for the regulated work area. Workers who exit the work area from the glovebag operations will put on an additional asbestos suit inside the popup change room before exiting the work area to walk to the central decon in accordance with OAC 380:50-23-1. Worker Decontamination procedures shall comply with OAC 380:50-15-8.

The central decon will be connected to a HEPA filtered negative pressure device, such as a large HEPA vacuum or low speed negative air machine attached to the dirty side of the central decon. The set-up will allow for the flow of clean air into the clean room and then allow for the air to exhaust through the HEPA filter device attached to the dirty side of the Decon.

This will allow the central decon to have a flow of clean air that is drawn into the clean room and exhausts out through the central decon's dirty room per ODOL requirements OAC 380:50-15-12 (7).

An attached decon facility and loadout facility shall be provided for the negative pressure containment work. Due to limitations in space, the Licensed Asbestos Contractor shall have some flexibility in the placement of the decontamination facility and loadout.

A containment diagram is provided in the Appendix to the Project Design that give the approximate location for the decon, loadout and negative pressure exhaust equipment.

The Clean Room shall conform to the requirements of OAC 380:50-15-7. When space is limited, the Contractor may request a variance from the ODOL rule for the size and configuration of the centralized or attached decontamination facility.

## XI. Air Monitoring and Clearance Testing

### Sampling Requirements.

#### A. Background Samples

At least three background air samples will be collected in the Armory work areas prior to the start of any asbestos abatement.

#### B. Personal Monitoring.

##### 1. During Preparation for Abatement.

A minimum of 25% of the workers will be monitored during preparation of the containment work area and/or hanging of glovebags if any prep work has the potential to disturb asbestos. Examples of tasks requiring air monitoring during prep work include such tasks as pre-cleaning contaminated fixed and non-fixed items, cleanup of loose ACM on floors or ceiling tiles, and putting up of any critical barriers within arms reach of exposed friable ACM (e.g. TSI where lagging is significantly damaged or missing).

##### 2. During Abatement in Negative Pressure Containments.

A minimum of 25% of the workers will be monitored during the abatement activities for all negative pressure containments or modified containments. Personal monitoring is required during these phases to assure adequate respirator protection factors are applied in respirator selection.

##### 3. During Negative Pressure Glovebag Removal.

100% of the workers will be monitored during the abatement activities for all negative pressure glovebag work. Personal monitoring is required

during these phases to assure adequate respirator protection factors are applied in respirator selection.

4. Excursion (30-minute sampling).

One or more 30-minute excursion sample will be collected during the removal of the asbestos for representative work conducted for each work activity that may generate a potential for worker exposure in excess of the OSHA PEL for the 30 minute Excursion Limit or 1.0 f/cc as specified in 29 CFR 1926.1101.

Separate excursion sampling events should be performed during the glovebag work and negative pressure containment work.

The Contractor may use prior air monitoring for compliance with the requirement to collect an excursion sample whenever the representative sampling was conducted for work conducted in the previous 12 months as specified in 29 CFR 1926.1101(f)(2)(iii)(B). ODOL has no excursion limit requirement, therefore it the Contractor responsibility to see that appropriate excursion sampling is conducted by the Third Party Air Monitoring firm.

C. Area Monitoring.

The following area samples shall be collected inside the Armory during each work shift when asbestos removal activities are being conducted.

One inside work area sample should be placed in the vicinity of a work crew during each day of work inside the negative pressure containment.

One inside work area sample will be placed in a representative work area during each day of the glovebag removal work.

One outside area samples shall be collected adjacent to the work area in the Hallway area or by the entrance to the Armory Building Drill Floor area.

One outside area sample will be collected outside the Clean Room for the Decon Facility for each shift that the Decon is in use.

One area sample will be collected outside the Loadout during the loading out of wastes.

D. Action Level.

Fiber counts for outside area samples collected in adjacent spaces which exceed an actual fiber concentration of  $>0.01$  fibers/cc, shall be cause to stop work and evaluate the need to change procedures and perform necessary cleanup. A representative set of such samples will be re-analyzed by the NIOSH 7402 TEM method to establish a confirmed level of asbestos fibers. If it is determined that a representative number of samples tested using the NIOSH 7402 procedure exceed the 0.01 fibers per cc then all the work will stop and ODOL will be notified before any work is allowed to continue. Those samples, which are B.D.L., due to insufficient sample volume or sampling time, will not be considered as exceeding this action level.

#### E. Clearance Testing.

Clearance testing containments or modified containments will consist of PCM samples collected for a minimum of 6 hours and 3000 liters. A minimum of three clearance samples, or one sample collected inside each room or Hallway of the Armory where asbestos removal activities have taken place, whichever is greater, shall be collected.

The sampling duration can be proportionally reduced to 3 hours by doubling the number of pumps used as stated in DOL rules.

The Clearance Testing can be scheduled once a visual inspection has been approved by ODOL.

The Clearance Criteria will be 0.01-fibers/cc UCL. NIOSH 7402 TEM Analysis will be used to confirm asbestos levels if the PCM clearances exceed 0.01-fibers/cc UCL. If they exceed the criteria, the Licensed Asbestos Contractor will contact ODOL, reclean the work areas and schedule a re-test for clearance. This process will be repeated until the clearance criteria are met or as approved by ODOL.

Whenever the Armory is governed by an AHERA Asbestos Management Plan of a Local Educational Authority (LEA) for school activities grades K-12, the Asbestos Abatement Contractor's Third Party Air Monitoring Firm shall conduct the Clearance Testing using an AHERA protocol with Transmission Electron Microscopy (TEM) analysis by allowing for the collection of a total of 5 PCM samples per each response action location/phase of work for a minimum volume of 1200 liters (i.e. AHERA requirements).

#### F. Laboratory Requirements.

*PCM Asbestos Fiber Analysis - Marshall Environmental Management, Inc.*

All routine and periodic asbestos air monitoring, performed during this response action, will be performed by the Third Party Air Monitoring Firm hired by the Licensed Asbestos Abatement Contractor. The Third Party Air Monitoring Firm shall be identified on the ODOL and NESHAPS Notification Forms.

- **Notice:** It is the Contractors Responsibility to include all costs for Third Party Air Monitoring in the DCS Bid Amount. The DEQ LPD is not responsible for providing any Third Party or other Air Monitoring as a part of any of the Scope of Work for the Project Awarded.

Air monitoring personnel will have an ODOL Asbestos Worker category and/or Asbestos Inspector Licenses where applicable. Air monitoring staff and lab analysts will have completed the NIOSH 582 equivalency course for sampling and analysis of airborne asbestos. The Lab or air monitoring firm shall be a participant in the AIHA Proficiency Analytical Testing Program (PAT) in accordance with ODOL requirements.

*PLM – Bulk Asbestos Analysis - Marshall Environmental Management, Inc.*

Bulk Asbestos samples will be analyzed in accordance with EPA methods. Bulk Asbestos analysis labs shall be a participant in the AIHA/RTI Bulk Asbestos Proficiency Analytical Testing Program (PAT) or NVLAP Lab.

Transmission Electron Microscope (TEM) analysis of asbestos air samples, when PCM results exceed 0.01 f/cc UCL, or when AHERA Protocol Clearance sampling is conducted will be performed by Quantem Labs of Oklahoma City.

## **XII. Loadout and Disposal.**

Double bagged asbestos waste will be brought to an exit location at the Armory. Waste generator labels will be placed on each bag. Then each bag will be transported by the workers to the prepared storage unit, waste trailer or roll-off bin. Work personal air monitoring and an area air sample, in the vicinity of the loadout, shall be performed during each loadout activity.

Waste manifests will be used to track the quantity of waste to the disposal site on the NESHAPS Notice.



### **XIII. Safety Issues, Electrical Safety, Fire and Emergency Egress**

No work will be performed without adequate lighting. The work area will be clearly illuminated by droplights, light stands, or equivalent lighting, if the ambient room light does not properly illuminate the work area through the polyethylene sheeting used for critical barriers over the windows.

All work will be performed using a buddy system.

All power to the area is to be supplied by the GFI power source.

All exit routes from the Armory building work areas will be clearly marked with a sign and red arrow designating the exit path. Emergency lights will be in place, where necessary, in all areas that are not properly illuminated so as to assist in the identification of the exit locations.

A minimum of three fire extinguishers will be on site during all phases of work. The fire extinguishers shall be a 10 # A:B:C rated.

A minimum of one fire extinguisher will be in the glovebag work area and one in the containment area prepared for the removal of the acoustical ceiling material.

A minimum of one fire extinguisher shall be placed in the clean room of the Decon facility.

### **XIV. Requests for Variances**

Request for variances must be submitted to both the Licensed Project Designer and ODOL Inspector.

A variance from starting the glovebag work in Type "C" supplied air is requested. Due to the presence of relatively low amounts of Chrysotile asbestos in the bulk samples collected from the ceiling texture and the small scale of the TSI removal work. The Contractor may start the initial shift of work in Powered Air Purifying Respirators (PAFP) and then down grade to full face APR's once a full shift of air monitoring shows asbestos fiber counts are below <0.50 fibers/cc UCL. Alternatively, the Asbestos Abatement Contractor may submit to ODOL a request to start the glovebag and containment work in full face APR's based on air monitoring records from previous projects where similar work practices maintained the fiber count exposure level below <0.50 fiber/cc UCL.

A variance request for starting the ceiling acoustical texture abatement work in Type "C" supplied air is requested due to the low level and amount of chrysotile asbestos in the materials to be abated.

No other variances were anticipated at the Pre-abatement Bid Conference.

**XV. Removal of Asbestos in Soil**

This Project does not require the removal of any soils contaminated with ACM.

**XIV. Special Materials or Methods**

The Armory location selected for this asbestos abatement project is to be unoccupied during the asbestos removal work. No special materials or methods for accomplishing the removal are anticipated. Requests for the use of any special materials or methods shall be coordinated with the Licensed Project Designer and submitted as a Project Design Amendment for consideration by the ODOL.

**Appendix**

**Armory Floor Plan Diagrams**

**Armory Containment Area Diagram**

**Armory Estimated Quantities of ACM**

**Asbestos Inspection Report and Bulk Asbestos Test Results**

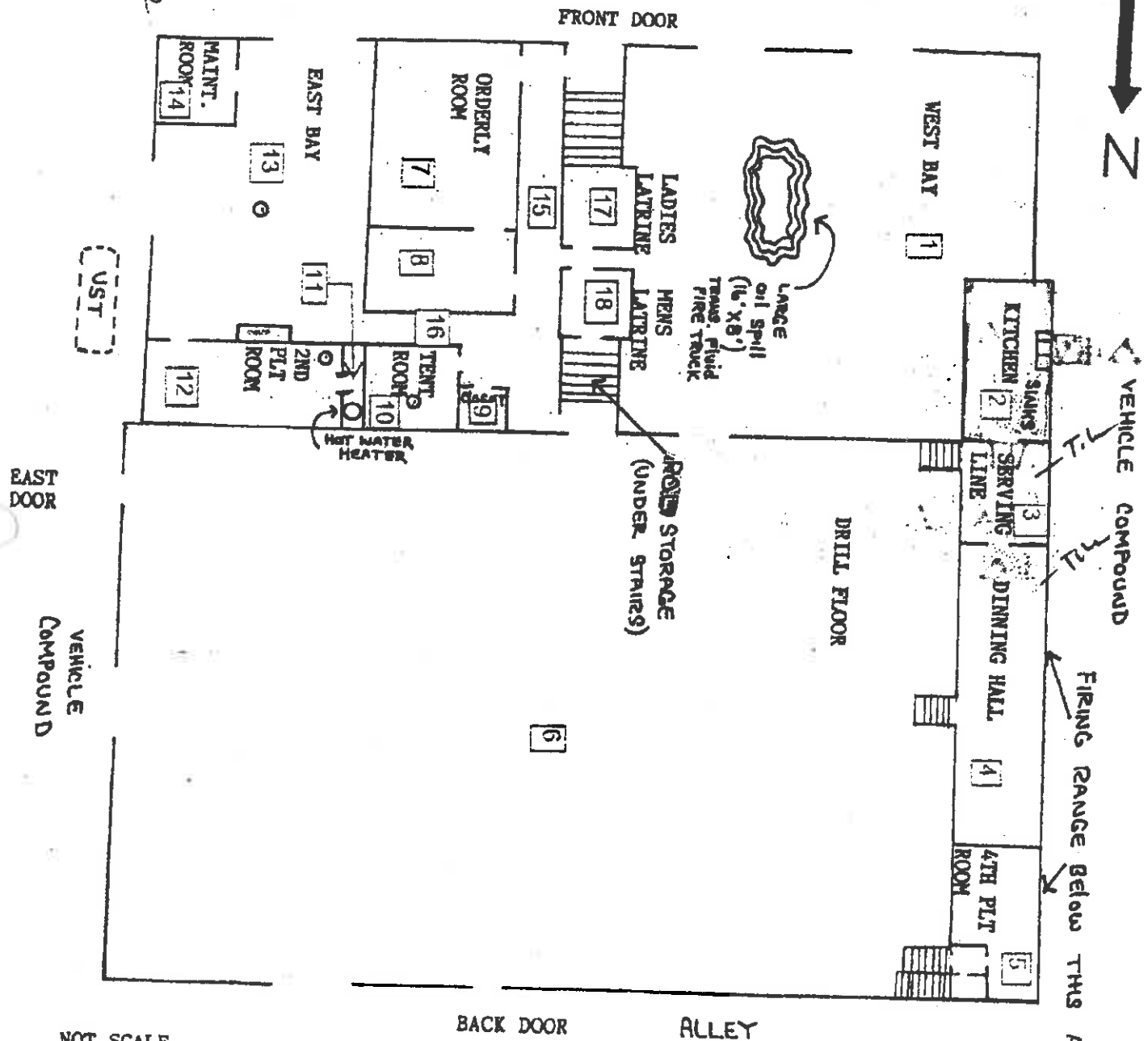
**Project Designer License**

407 W Pentagon  
MINCO, OKLAHOMA

# MINCO ARMORY

BUILT 1936  
BOTTOM FLOOR

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)



NOT SCALE  
FIRE EXTINGUISHER POINTS

○ FLOOR DRAIN

▭ FLAMMABLE MATERIALS  
STORAGE CABINET

VISIT: OCT. 17, 1995

Acoustical Texture  
Contaminant Area

-Glovebag Work Area

- Decon/Loadout

Air Monitoring

## Minco Armory Asbestos Containing Materials Locations and Estimated Quantities

SAMPLE ID	LOCATION	DESCRIPTION	%/TYPE ASBESTOS	MATERIAL	CONDITION	QTY
0065-022309-1	Room 2	Ceiling North	4% Chrysotile	Surfacing	Good	276 ft. <sup>2</sup>
0065-022309-2	Room 2	Ceiling Center	4% Chrysotile	Surfacing	Good	
0065-022309-3	Room 2	Ceiling South	4% Chrysotile	Surfacing	Good	
0065-022309-6	Room 3	Plumbing Line Wrap	10% Chrysotile	TSI	Good	1 GB
0065-022309-8	Room 3	Red 12"x12" Floor Tile	3% Chrysotile	Miscellaneous	Good	180 ft. <sup>2</sup>
0065-022309-9	Room 3	Black Mastic	5% Chrysotile	Miscellaneous	Good	180 ft. <sup>2</sup>
0065-022309-10	Room 4	Red 12"x12" Floor Tile	3% Chrysotile	Miscellaneous	Good	675 ft. <sup>2</sup>
0065-022309-12	Room 4	Red 12"x12" Floor Tile	3% Chrysotile	Miscellaneous	Good	
0065-022309-11	Room 4	Black Mastic	5% Chrysotile	Miscellaneous	Good	675 ft. <sup>2</sup>
0065-022309-13	Room 4	Black Mastic	5% Chrysotile	Miscellaneous	Good	
0065-022309-50	Room 31	Brown Spec. 9"x9" Floor Tile	Trace Amount Chrysotile	Miscellaneous	Good	18 ft. <sup>2</sup>
0065-022309-60	Room 31	Brown Spec. 9"x9" Floor Tile	Trace Amount Chrysotile	Miscellaneous	Good	
0065-022309-70	Room 31	Brown Spec. 9"x9" Floor Tile	Trace Amount Chrysotile	Miscellaneous	Good	
0065-022309-51	Room 31	Black Mastic	2% Chrysotile	Miscellaneous	Good	18 ft. <sup>2</sup>
0065-022309-61	Room 31	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-71	Room 31	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-52	Room 32	Brown/Tan 9"x9" Floor Tile (two layers)	2% Chrysotile	Miscellaneous	Good	210 ft. <sup>2</sup>
0065-022309-54	Room 32		2% Chrysotile	Miscellaneous	Good	
0065-022309-56	Room 32		2% Chrysotile	Miscellaneous	Good	
0065-022309-53	Room 32	Black Mastic	2% Chrysotile	Miscellaneous	Good	210 ft. <sup>2</sup>
0065-022309-55	Room 32	Black Mastic	2% Chrysotile	Miscellaneous	Good	
0065-022309-58	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	144 ft. <sup>2</sup>
0065-022309-62	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	
0065-022309-64	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	
0065-022309-67	Room 33	Brown 9"x9" Floor Tile	5% Chrysotile	Miscellaneous	Good	
0065-022309-57	Room 33	Black Mastic	2% Chrysotile	Miscellaneous	Good	144 ft. <sup>2</sup>
0065-022309-63	Room 33	Black Mastic	5% Chrysotile	Miscellaneous	Good	
0065-022309-65	Room 33	Black Mastic	5% Chrysotile	Miscellaneous	Good	
0065-022309-68	Room 33	Black Mastic	5% Chrysotile	Miscellaneous	Good	

## **SCOPE OF WORK FOR REMEDIATION OF LEAD**

March 9, 2012

To: File  
From: Dustin Davison, EPS IV  
Subject: Minco Armory Window Installation

Please note that the windows containing Lead-Based Paint in the Minco Armory have been removed and replaced under a previous contract (dated October 2009). This contract was not completed so the remaining tasks were included in a new Scope of Work (dated September 2010).

## STATEMENT OF WORK

For

### Remediation of Lead Contamination at Minco Armory

The Oklahoma Department of Environmental Quality (DEQ) is requesting bids from qualified bidders for remediation services at a former National Guard armory located in Minco, Oklahoma. This statement of work (SOW) describes the cleanup of lead contamination associated with the indoor firing range (IFR), lead-based paint, and lead contaminated dust on the floors of the building. This work must be performed to provide for safe re-use of the facility with unrestricted use such as storage areas, classrooms, or office space. A mandatory site visit and walk through will be held to give a better understanding of the site. Sample results are attached for review (Attachment 1).

The building is located at 407 West Pontotoc Street, Minco, Oklahoma. The building does not have available water and electricity to use during remediation.

#### SPECIAL PROVISIONS:

1. Work Schedule: The Contractor shall schedule all work to be complete within ninety (90) calendar days after date of the written "Notice to Proceed".
  - a. A pre-construction meeting shall be held at the site after the Notice to Proceed date to review Scope of Work and answer and questions the contractor may have.
  - b. All on-site work shall be completed by the Contractor five (5) days prior to the scheduled contract completion date, with the remaining five (5) days utilized for final inspection and correction of all deficiencies.
2. Conditions of Work: The following conditions of work will apply in accomplishment of this contract:
  - a. All work shall be performed in accordance with all applicable State and Federal regulations.
  - b. The contractor shall perform this work in such a manner as to cause a minimum of interruption to normal work being performed in the contract area.
  - c. Coordination of work areas shall be scheduled with DEQ.
  - d. Disposal of Removed Materials: All materials removed by the Contractor under this contract shall be disposed of in accordance with State and Federal regulations. DEQ will sign as generator, if necessary.

#### CONTRACTOR SHALL:

- Attend mandatory pre-bid meeting and site walk through;
- Posses a current lead-based paint license and have a certified lead-based paint supervisor in order to perform lead-based paint abatement;
- Read Guidelines for Rehabilitation and Conversion of Indoor Firing Ranges, November 3, 2006, Departments of the Army and Air Force, National Guard Bureau (Attachment 6), and refer to this document as a reference and guideline for remediating IFR lead contamination;
- Follow OSHA Lead in Construction Interim Final Standard (29 CFR 1926.62) for lead-based paint abatement, indoor firing range remediation, and lead dust remediation;

#### Submit With Bid:

- Copy of lead-based paint license;
- Three references with name, type of project, phone number, and location of similar work in the last three years;

#### Submit After Contract Award:

- A Work Plan with planned activities and schedule to DEQ for approval;



# LEAD REMEDIATION INSTRUCTIONS

## I. Sequence of Events

The initial cleaning of the building shall be as follows:

1. First –
  - The indoor firing range (IFR) shall be cleaned.
  - Any remaining debris inside and in the fenced in outside area of the building shall be properly disposed.
  - Lead-based paint abatement shall be completed including the installation of new doors.
2. Second –
  - All floors of the entire building shall be cleaned.

## A. Indoor Firing Range (IFR)

- Pre-remediation Preparation
  - To ensure cross contamination does not occur, use engineering controls such as:
    - Sealing openings with 6 mil poly sheeting to contain dust inside IFR;
    - Covering floor of area outside IFR with 6 mil poly sheeting to make sure not to track lead dust into clean areas;
    - Securing IFR at the end of the work day. At no time shall the IFR be accessible for unauthorized entry without the contractor present;
  - When inside IFR wear appropriate personal protective equipment (See Attachment 2).
- Water Removal
  - All wash water from the IFR shall be filtered and then sampled for total lead and total phosphorus. Total lead shall be run by ICP and total phosphorus shall be run by method 365.3. Wash water shall be disposed appropriately. Sample results shall be submitted to DEQ to determine if wash water can be disposed at the local Waste Water Treatment Facility.
- Pre-remediation Removal
  - Decontaminate door to IFR side room, remove from frame, wrap in poly sheeting, and properly dispose;
  - Remove all paint from side room door frame and paint frame with neutral colored primer;
- Remediation
  - HEPA vacuum and wet wash walls, floor, ceiling, vent fan, and other structures that are contaminated.
  - Dispose lead contaminated dust, wash water, and appropriate cleaning materials as hazardous waste or as appropriate;

- **Post-remediation**
  - All post-remediation sampling shall be performed by Enercon Services, Inc. (ESI). The Contractor shall provide ESI a minimum of five (5) calendar days prior notice to perform sampling. See Section C (Confirmation and Clearance Sampling) for contact information;
  - Post remediation sampling is required to confirm the IFR has been remediated to 200 micrograms per square foot (ug/SF);
    - Areas above 200 ug/SF shall be re-cleaned and re-tested until results are at or below 200 ug/SF;
  - If surfaces of the IFR cannot be cleaned and DEQ determines that these surfaces contain imbedded lead fragments, construction grout shall be used over these surfaces.
    - Surfaces shall be thoroughly cleaned;
    - BASF Acryl 60 or DEQ approved equivalent shall be applied to surfaces according to manufacturer's specifications. Specifications are attached (Attachment 3);
    - BASF Construction Grout or DEQ approved equivalent shall be applied (sprayed or troweled) to surfaces according to manufacturer's specifications. Specifications are attached (Attachment 3).
  - Once the IFR has been remediated to 200 ug/SF, seal the floor, ceiling, and walls with appropriate sealant;
    - Floor, ceiling, and walls will be sealed with KM-669 Acrylic Sealer or equivalent. Specifications attached (Attachment 3);
    - IFR area will have forced air applied to room 4 days after sealer is applied. This will be done to remove all vapors from the area;
  - After surfaces are sealed, the Contractor shall provide ESI a minimum of five (5) calendar days prior notice to perform post remediation wipe sampling to confirm the IFR has been remediated to 40 ug/SF;
  - Areas above 40 ug/SF shall be cleaned to remove lead dust from sealed surface. Once cleaned, the area shall be retested to confirm area has been remediated to 40 ug/SF;
  - All re-testing of previously failed areas shall be performed by ESI. Contractor shall provide MEM a minimum of five (5) calendar day's prior notice to perform sampling.
  - The chart below summarizes the clearance numbers for the indoor firing range. All lead wipe samples must be at or below these numbers in order for the room to be considered clean.

<b>Post Remediation</b>	<b>Post Sealant</b>
<b>200 ug/SF</b>	<b>40 ug/SF</b>

## **B. Remaining Building**

### **1. Lead-based Paint Abatement (See Attachment 1)**

#### **Non-Friction and Non-Impact Surfaces**

- All down spouts, all window lintels, all overhead door frames, the overhead door between the Drill Floor and West Bay, and the walls of Room #18 shall be wet scraped, painted with a neutral colored primer, and encapsulated with DEQ approved elastomeric encapsulant. A list of DEQ approved elastomeric encapsulants is attached (Attachment 3). Encapsulant shall be a minimum of 20 mils thick. Floor plan map is attached (Attachment 1);
- All interior and exterior window sills shall be cleaned and all loose and peeling shall be removed. Once this is complete, a lead-based paint encapsulant shall be placed over these surfaces.
- The drill floor hand rails shall have all paint removed and then be painted with a neutral colored primer;
- The white wooden vent cover in the Drill Floor (Room #6) shall be removed, wrapped in poly sheeting, and properly disposed;
- The wooden doors lying in the Drill Floor (Room #6) shall be removed, wrapped in poly sheeting, and properly disposed.
- The grey cabinet under the stairs shall have all wood sections removed, wrapped in poly sheeting, and properly disposed; All other portions of the grey storage area shall be wet scraped, painted with a neutral colored primer, and encapsulated with DEQ approved elastomeric encapsulant (See Above).
- Deteriorated paint removed from building surface will be properly disposed.

#### **Friction and Impact Surfaces**

##### **Floors**

- The paint on the floor of Room #2 shall have lead-based paint removed. Once paint is visibly removed, the floor shall be HEPA vacuumed and wet washed. DEQ will perform a visual inspection and the area shall be sampled. Once DEQ determines abatement has been appropriately performed, the floor areas where lead-based paint abatement was performed shall be sealed with KM-669 Acrylic Sealer or equivalent;

### **Doors and Frames**

- A Door-Scope of Work with map, door measurements, and specific details on abatement requirements for each door is attached (**Attachment 5**);
- Doors will be replaced with pre-hung Steelcraft Commercial Replacement Door Units (Specifications Attached) or equivalent;
- Doors will be replaced with UL listed 90 minute standard metal doors;
- Doors will be replaced with Steelcraft L18 and L16 – Series Honeycomb Doors (Specifications Attached) or equivalent;
- Contractor must submit product data for approval if different from doors or door frames in bid package;
- Replacement doors and frames must meet all compliance and fire rating requirements in the attached specifications;

#### **Exterior Doors**

- Exterior doors will be replaced with galvanized, 16 gage, honeycomb core insulated doors;
- Hinges: As manufactured by Hagar or approved equal – Plain Bearing - Standard Weight 1279 NRP, 4 ½ X 4 ½ (Specifications Attached);
- Threshold: As manufactured by National Guard Products or approved equal – 426E (Specifications Attached);
- Weather Strip: As manufactured by National Guard Products or approved equal – 160VA (Specifications Attached);
- Lever: As manufactured by Schlage or approved equal – D Series “Rhodes”, 626 finish, function ND60PD (Specification Attached);
- Keying: All doors to be keyed alike;
- Provide sealant per 07920 specification attached.

#### **Interior Doors**

- Interior doors will be replaced with non-galvanized, 18 gage, honeycomb core insulated doors;
- Hinges: As manufactured by Hagar or approved equal – Plain Bearing – Standard Weight 1279, 4 ½ X 4 ½ (Specification Attached);
- Knob: As manufactured by Schlage or approved equal – A Series “Orbit”, 626 finish, function A10S (Specification Attached);
- Provide sealant (caulking) per 07920 specification attached.

### **Clearance Sampling**

- Once lead-based paint abatement is complete and after room floors are cleaned, contact Enercon Services Inc. to perform post abatement clearance sampling in these areas. See Section C (Confirmation and Clearance Sampling) for additional information;
- If samples do not meet EPA and HUD standards for lead dust (40ug/SF for floors), areas shall be re-cleaned and re-sampled;

## 2. Lead Dust Remediation (See Attachment 1)

- Surfaces above the floors such as walls, shelves, etc. may have accumulated dust that has settled. This accumulation shall be removed prior to the cleaning of the floors. This shall be done to prevent recontamination of the floors after they are cleaned.
- Floors of the entire building shall require lead dust remediation;
  - Remove dust from all equipment, shelving, trash, etc, and remove these items from room before remediation begins;
  - Remove dust from all carpet, remove carpet from rooms, and dispose of all carpet as non-hazardous waste before lead dust remediation of floor begins;
  - Dispose any materials, determined by the DEQ to be trash, as non-hazardous waste;
  - HEPA vacuum and wet wash floors of entire building;
    - Lead levels on the floor are high in many areas of the building and lead contaminated dust may be ground into the pores and cracks of the concrete. It may be necessary to clean floors several times or use alternate cleaning methods after HEPA vacuuming and wet washing to remove the lead dust from the concrete and get the lead levels down to 40 micrograms per square foot (ug/SF).
  - Contact Enercon Services, Inc. to perform independent third-party post remediation wipe sampling to confirm that room floors with lead contamination have been appropriately remediated to 40 micrograms per square foot (ug/SF). See Section C (Confirmation and Clearance Sampling) for additional information;
  - Areas above 40 ug/SF shall be re-cleaned and re-tested until results are at or below 40 ug/SF;
  - Lead dust and appropriate cleaning materials shall be disposed as appropriate.
  - Wash Water Disposal
    - All wash water from the building shall be filtered and stored on site in containers;
    - The wash water will be sampled for total lead and total phosphorus; Total lead shall be run by ICP and total phosphorus shall be run by method 365.3;
    - Sample results shall be submitted to DEQ to determine if wash water can be disposed at the local Waste Water Treatment Facility;
    - Wash water shall be disposed appropriately.

### C. Confirmation and Clearance Sampling

- Enercon Services, Inc. (ESI) will be responsible for taking all post remediation samples.
- ESI shall be notified five (5) days prior to each sampling event.
- Contact Information:           Enercon Services, Inc.  
6525 North Meridian, Suite 400  
Oklahoma City, Oklahoma 73116  
Contact: Bill Muenker  
Phone: (405) 722-7693
- The third-party sampling shall not be included in the contractors base bid;
- All post remediation and clearance sampling done outside the indoor firing range will be performed after all initial abatement, remediation, and cleaning is complete.
- The chart below summarizes the clearance numbers for the building. All lead wipe samples shall be at or below these numbers in order for these areas to be considered clean.

IFR Post Remediation	IFR Post Sealant	Room Floors
200 ug/SF	40 ug/SF	40 ug/SF

### D. FINAL REPORT

- Write final report and submit to DEQ;
- Final report shall include:
  - A detailed summary of work including any warranties and data;
  - copy of post remediation sampling report;
  - waste manifests (if any); and
  - photo documentation of work;
    - Photo documentation of work will have color digital photos with captions describing photo;
- Final report will be submitted in hard copy and electronically on disc.

**OWNER REPRESENTATIVE**

**Owner's Representative:**

Dustin Davidson  
Oklahoma Department of Environmental Quality  
Land Protection Division  
707 N. Robinson  
Oklahoma City, OK 73102

Phone Numbers:  
(405) 702-5115 (Office)  
(405) 702-5101 (Fax)

E-Mail: [Dustin.Davidson@deg.state.ok.us](mailto:Dustin.Davidson@deg.state.ok.us)

**ATTACHMENT 1**

**Sample Results and Floor Plan**

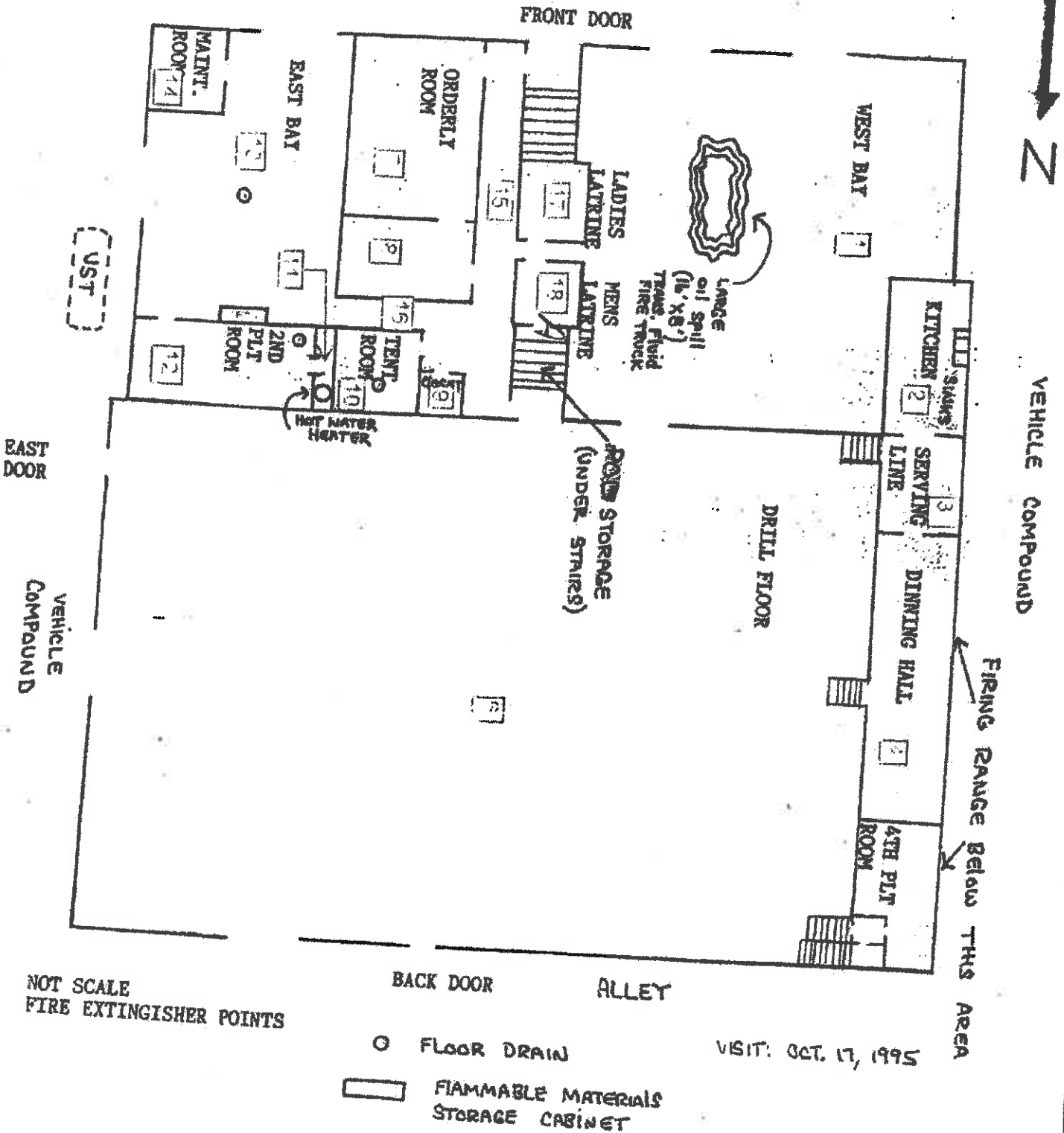


# MINCO ARMORY

BUILT 1936

BOTTOM FLOOR?

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)

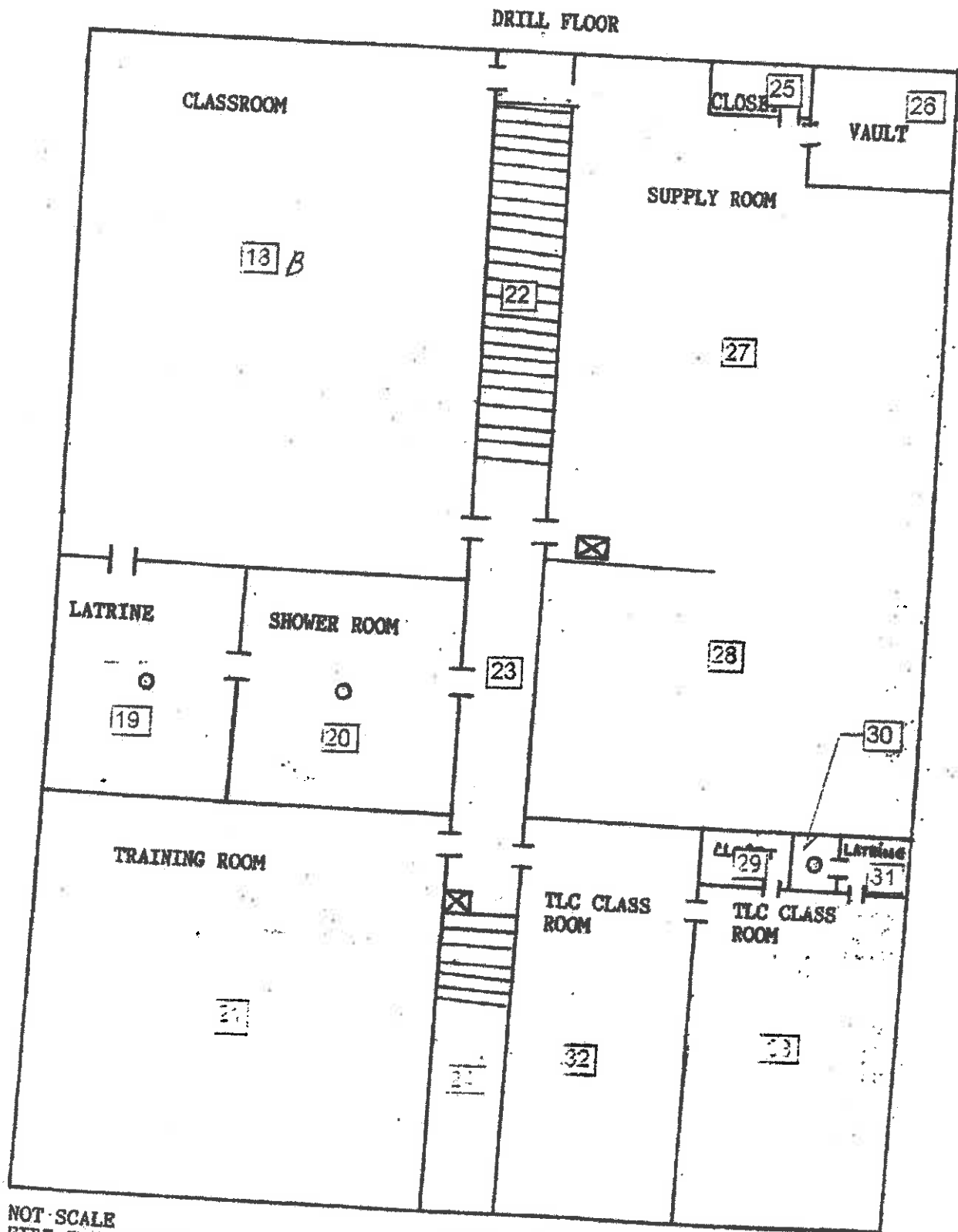


# MINCO ARMORY

BUILT 1936

TOP FLOOR WPA

MINCO, OKLAHOMA  
(DET 1 CO D 1/179 IN)



NOT SCALE

FIRE EXTINGUISHER POINTS



FRONT DOOR

○ FLOOR DRAIN

VISIT: OCT. 17, '95  
ICAS

## **ATTACHMENT 2**

### **Health & Safety Aspects to Consider**

## Health & Safety Aspects to Consider

**Project Goal:** To ensure that former National Guard Armories are free of lead dust. Specifically, indoor firing ranges (IFR's) and other areas that contain lead contamination.

**Please Note:** the following information is from the Departments of the Army and the Air Force, National Guard Bureau, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges (Attachment 4).

### Health and Medical Aspects

#### Health Effects

29 Code of Federal Regulations (CFR) 1910.1025, Appendix A, identifies lead as a highly toxic metal. Elemental lead is indestructible and common in the environment. Lead can enter the body by inhalation (breathing) or ingestion (eating). In addition, lead is a cumulative poison. It accumulates in the blood, bones, and organs, including the kidneys, brain and liver. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Symptoms include loss of appetite, difficulty sleeping, irritability, fatigue, headache, and inability to concentrate. It can stay in the bones for decades. Worker awareness and training are important to ensure that employees can recognize the symptoms of exposure and get prompt medical attention.

#### **Medical Surveillance for occupational Exposure to Lead**

- a. 29 CFR 1910.1025(j)(i-ii), Medical Surveillance - General: "The employer shall institute a medical surveillance program for all employees who are or may be exposed above the action level for more than 30 days per year. The employer shall assure all medical examinations and procedures are performed by or under the supervision of a licensed physician."
- b. The DOD 6055.5-M, Occupational Medical Surveillance Manual - Table 2-I lists medical surveillance criteria for employees "who are or may be exposed above the action level for 30 days/year."

## **Personal Protective Equipment**

29 CFR 1910.1025(f)(2), for housekeeping and rehabilitation the employer shall select respirators from among those approved for protection against dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH), under the provision of 42 CFR part 84. The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134(b), (d), (e), and (f). As a minimum, personnel conducting the decontamination of the range shall be provided with the following personal protective equipment.

a. Under 29 CFR 1910.1025 (g). For employees engaged in range rehabilitation and/or range conversion, the employer shall provide at no cost to the employee, and ensure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

(1) Protective coveralls with hood and shoe covers or disposable Tyvek™ full body suit.

(2) Disposable rubber gloves; and disposable shoe coverlets (If necessary).

(3) Full-face air purifying respirator with P-100 cartridges.

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

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

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

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

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

g. The employer shall ensure that the containers of contaminated protective clothing and equipment are labeled as follows: **CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.**

## **Education, Maintenance, Cleaning and Conversion**

### **Worker Education**

a. 29 CFR 1910.1025, Appendix 13, requires an information and training program for all employees exposed to lead above the action level or who may suffer skin or eye irritation from lead. The program must inform the employees of the specific hazards associated with their work environment, protective measures which can be taken, the danger of lead to their bodies (including their reproductive systems), and their rights under the standard. In addition you must make readily available to all employees, including those exposed below the action level, a copy of this standard and its appendices. This training program shall be repeated annually for personnel in range cleanup operations.

b. The supervisor shall ensure that each individual employee is informed of the following:

- (1) The content of the standard and its appendices.
- (2) The specific nature of operations that could result in exposure to lead above the action level.
- (3) The purpose, proper selection, fitting, use, and limitations of respirators.
- (4) The purpose and a description of medical surveillance program.
- (5) Eating and drinking are prohibited in lead contaminated areas.
- (6) Smoking and smoking materials shall not be permitted in contaminated areas.
- (7) Employees must wash their hands and other exposed skin whenever they leave the work area.
- (8) The engineering controls and work practices associated with the individual's job assignment.
- (9) The contents of any compliance plan in effect.
- (10) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician.

## **REFERENCES**

### **Section 1 Required Publications**

There are no entries in this section

### **Section II Related Publications**

#### **ASTM E1792-03**

Standard Specification for Wipe Sampling Materials for Lead in Surface Dust

#### **AR 11-34**

The Respiratory Protection Program

#### **AR 40-5**

Preventive Medicine

#### **DODI 6055.5**

Industrial Hygiene and Occupational Health

#### **DOD 6055.5-M**

Occupational Medical Surveillance Manual

#### **29 CFR, Part 1910**

Occupational Safety and Health Administration, Department of Labor

#### **National Institute for Occupational Safety and Health (NIOSH) 76-130**

Lead Exposure and Design Considerations for Indoor Firing Ranges, Department of Health, Education and Welfare

#### **NGR 385-15**

Policy and Responsibilities for Inspection, Evaluation and Operation Army National Guard National Guard Indoor Firing Ranges (IFRs).

#### **NGR 415-5**

Army National Guard Military Construction Program Development and Execution

#### **NGR 420-10**

Construction and Facilities Management Office Operations

#### **Technical Manual, 5<sup>th</sup> Edition**

Occupational Safety and Health Administration, Department of Labor Section III

**ATTACHMENT 3**

**DEQ Approved Lead-Based Paint Encapsulants List**

**Sealant and Encapsulant Specifications**



## Lead-Based Paint Encapsulants approved by DEQ

<b>Encapsulant Manufacturer</b>	<b>Encapsulant Product(s)</b>
Coronado Paint Company	LEAD BLOCK™
Dumond Chemicals	LEAD STOP™
Dynacraft Industries, Inc.	Back to Nature Protect-A-Coat
Encap Systems Corporation	EncapSeal™ I
Encap Systems Corporation	EncapSeal™ II
Fiberlock Technologies, Inc.	Child GUARD interior/exterior
Fiberlock Technologies, Inc.	L-B-C® Type III
Global Encasement, Inc.	LeadLock™
Grace Construction Products	Lead Seal®
Grace Construction Products	Barrier Coat® II
Insl-x Products Corporation	INSL-CAP™
SAFE Encasement Systems	SE-120 Protective Skin
Specification Chemicals, Inc.	NU-WAL® #2500 Coating

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5

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# KELLY-MOORE PAINTS INDUSTRIAL COATINGS HIGH PERFORMANCE SYSTEMS

## KM-669 Acrylic Sealer

THIS PRODUCT MAY NOT BE AVAILABLE IN SOME AREAS DUE TO VOC REGULATIONS  
Contact your Kelly-Moore representative for more information

### Product Description

A one component, solvent borne, high gloss, clear acrylic sealer designed for use on concrete, masonry, and brick. Dustproofs concrete by penetrating surface pores leaving a tough, durable film.

### Performance Features

- Non-Yellowing
- Excellent Adhesion to Concrete
- Good Water & Salt Chemical Resistance
- Good Abrasion Resistance
- Can be Sprayed, Padded or Rolled

### Product Specifications

Resin Type	Acrylic
Color Range	Clear
Finish	High Gloss
Drying Time	8 hours to recoat
Practical Coverage	250-450 Sq. Ft. / Gallon
Recommended Dry Film Thickness	1.2 - 2.2 mils per coat
Solids By Volume	35%
Sizes	Five gallon pails
V.O.C.	560 Grams per liter
Clean Up	KM-S-74 or KM-SA-50

### Surface Preparation

**WARNING!** If you scrape, sand or remove old paint from any surface, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Carefully clean up with a wet mop or HEPA vacuum. Before you start, find out how to protect yourself and your family by contacting the U.S. EPA/Lead Information Hotline at 1-800-424-LEAD (5323) or log on to [www.epa.gov/lead](http://www.epa.gov/lead).

### Surface Preparation:

Remove all dirt, grease, oil, soil, chemical contaminants, and other matter. Allow surface to dry.

### Application Procedure:

When mixing, use an EXPLOSION PROOF SLOW SPEED DRILL WITH A JIFFY MIXER. Apply a uniform wet film, do not puddle material. Do not cover more area than can be worked in 10 minutes due to fast dry time. When spraying, use a low pressure machine. Two coats may be necessary depending on porosity or type of service.

For safety and product curing, proper ventilation is necessary throughout application and cure.

**Dry Times:** 8 hours

*See Precautions and Limited Warranty next page*

## KM-669 (cont.)

### Precautions

KM-669 is Flammable. KM-669 contains flammable solvents. Keep away from all sources of ignition during mixing, application, and cure. In confined areas, provide adequate forced air ventilation. The use of goggles, fresh air masks or NIOSH approved respirators, protective skin cream and protective clothing is a recommended standard practice when spraying coatings.

### Proper Disposal

For proper disposal of excess material, please contact your local city or county waste management agency.

**Limited Warranty:** The statements made on this bulletin, product labels or by any of our agents concerning this material are given for information only. They are believed to be true and accurate and are intended to provide a guide to approved construction practices and materials. As workmanship, weather, construction equipment, quality of other materials and other variables affecting results are all beyond our control, Kelly-Moore Paint Company, Inc., does not make nor does it authorize any agent or representative to make any warranty of MERCHANTABILITY OR FITNESS for any purpose or any other warranty, guarantee or representation, expressed or implied, concerning this material except that it conforms to Kelly-Moore's quality control standards. Any liability whatsoever of Kelly-Moore Paint Company, Inc. to the buyer or user of this product is limited to the purchaser's cost of the product itself.

**SEE MATERIAL SAFETY DATA SHEETS FOR  
FULL SAFETY PRECAUTIONS.**

**KM-669 IS FOR PROFESSIONAL USE ONLY**

**KM-669 IS FOR INDUSTRIAL USE ONLY**

**KEEP AWAY FROM CHILDREN**

**KELLY-MOORE PAINT COMPANY INC. • 987 COMMERCIAL ST. • SAN CARLOS, CA 94070**  
Technical Assistance 1-888-MR-PAINT [www.kellymoore.com](http://www.kellymoore.com)

# MATERIAL SAFETY DATA SHEET

## For Coatings, Resins & Related Materials

### Section I

Manufactured For: Kelly-Moore Paints  
Address: 987 Commercial Street  
San Carlos, CA 94070  
Prep Date: 07/28/06  
Emergencies Involving Spills, Leaks,  
Fires, Exposure, Or Accident Contact  
Chemtrec: 1-800-424-9300  
Product Class: Acrylic Lacquer Sealer  
Trade Name: KM-669 CLEAR  
H.M.I.S. Codes: H F R P  
Information Phone: 1-888-677-2468  
2\*30-

### Section II - HAZARDOUS INGREDIENTS

Ingredient	C.A.S.#	Weight Percent	Occup. Exposure Limits		Vapor Pressure	
			OSHA PEL	ACGIH TLV	mm Hg	& Temp.F
Acrylic Resins	Mixture	30-40	Not Established		Not Determined	
*Xylene	1330-20-7	40-50	100 ppm	100 ppm	5.1	68
*Ethyl Benzene	100-41-4	15-20	100 ppm	100 ppm	7.1	68

\*Indicates toxic chemical(s) subject to reporting requirements of Section 313 of Title III and of 40 CFR 372.

### Section III - PHYSICAL DATA

Boiling Range (Deg. F): 240°  
Evaporation Rate: Slower than Ether  
Percent Volatile By Volume: 70 ± 3%  
Vapor Density: Heavier than air  
Weight Per Gallon (lbs.): 7.75 ± .25

### Section IV - FIRE & EXPLOSION HAZARD DATA

Flash Point (Deg. F): 80°  
Lower Explosive Limit: 1.0

Extinguishing Media: Foam, alcohol foam, CO2, dry chemical, water spray

OSHA Flammability Classification: Flammable Liquid IC

Special Firefighting Procedures: Wear a NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Use water to keep fire exposed containers cool. Water may be ineffective as an extinguishing agent.

Unusual Fire & Explosion Hazards: Vapors are heavier than air and may travel along the ground or be moved by ventilation to ignition sources at locations distant from material handling point. Pressure may build up in containers and create an explosion hazard.

KM-669 CLEAR

=====**Section V - HEALTH HAZARD DATA**=====

**THIS PRODUCT IS FLAMMABLE**

**Effects Of Overexposure:**

**Eyes:** Irritation, burning, tearing and redness.

**Skin:** Moderate irritation or defatting of skin upon prolonged or repeated contact.

**Ingestion:** Abdominal pain, nausea, vomiting and diarrhea.

**Inhalation:** Excessive exposure to vapors can cause headache, dizziness, uncoordination, nausea and loss of consciousness.

**Emergency & First Aid Procedures:**

**Eyes:** Flush with water for 15 minutes.

**Skin:** Remove contaminated clothing, wash skin with soap and water.

**Ingestion:** Do not induce vomiting. Get medical attention immediately.

**Inhalation:** Move to fresh air, aid breathing if necessary.

In all cases, consult a physician for best treatment.

Chemical listed as carcinogen or potential carcinogen:

NTP: No      IARC: No      OSHA: No

=====**Section VI - REACTIVITY DATA**=====

**Stability:** Product Stable

**Conditions to Avoid:** All sources of ignition

**Incompatibility (Materials to Avoid):** Oxidizing agents, strong acids & bases

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, nitrogen oxides and organic compounds.

**Hazardous Polymerization:** Will Not Occur

=====**Section VII - SPILL OR LEAK PROCEDURES**=====

**Steps To Be Taken In Case Material Is Released Or Spilled:** Dike spill area. Absorb spill with inert absorbent material. Place in sealed metal containers for proper disposal.

**Waste Disposal Method:** Dispose of in accordance with local, state and federal regulations.

=====**Section VIII - SPECIAL PROTECTION INFORMATION**=====

**Respiratory Protection:** Use a NIOSH/MSHA jointly approved respirator

**Ventilation:** Use mechanical ventilation

**Protective Gloves:** Neoprene or rubber

**Eye Protection:** Chemical splash goggles

**Other Protective Equipment:** Protective clothing, barrier cream, eye bath, safety shower

=====**Section IX - SPECIAL PRECAUTIONS**=====

**Precautions To Be Taken In Handling & Storing:** Store in dry area. Keep away from open flames and high temperatures.

**Other Precautions:** Minimize contact. Avoid breathing vapors. Practice good industrial hygiene and safe working practices.

**State and Local Regulations**

California Proposition 65

This product contains the following substances known to the State of California to cause cancer, birth defects or other reproductive hazards: Benzene, Toluene.



The Chemical Company

PRODUCT DATA



# ACRYL 60®

Water-based acrylic bonding and modifying admixture

### Description

Acryl 60® is an acrylic-polymer emulsion mixed with Portland cement mortars, plasters, stucco, and concrete mixes to enhance their physical properties, adhesion to substrates, and durability.

### Packaging

- 1 quart (0.9 L) bottles
- 1 gallon (3.8 L) bottles
- 5 gallon (18.9 L) pails
- 30 gallon (113.5 L) drums
- 55 gallon (208 L) drums

### Color

Milky white

### Shelf Life

1 year when properly stored

### Storage

Transport and store in unopened containers between 40 and 100° F (4 and 38° C). Protect from freezing.

### Features

- Acrylic polymer
- Excellent chemical and UV resistance
- Improved freeze/thaw stability of Portland cement-based materials
- Stable

### Benefits

- Significantly improves adhesion, cohesion, tensile, compressive, and flexural strengths of cement-based materials
- Promotes long-lasting repairs
- Suitable for cold climate applications
- Will not re-emulsify when exposed to water

### Where to Use

#### APPLICATION

- Cement-based mixes to improve their adhesion, and durability
- As gauging liquid for Thoro® waterproofing and repair products, such as Thorseal® and Thorite®
- Walkways
- Ramps and structural beams

#### LOCATION

- Interior or exterior
- Above or below grade

#### SUBSTRATE

- Columns

### How to Apply

#### Surface Preparation

1. The methods required for preparation will vary depending on the end product to be applied and the site and substrate conditions.
2. In all cases the surface must be clean and sound. Remove all loose and disintegrated material. Remove any and all traces of oil, grease, dirt, dust, efflorescence, biological, mold or mildew, and release or curing agents.
3. Vacuum, sweep, or blow out the areas to be patched with clean, oil-free air.

#### CONCRETE/CMU/MASONRY SURFACES

Predampen the area to be patched or coated with potable water to a saturated surface-dry (SSD) condition. Do not leave standing water on surface. Proper surface preparation and cleanliness are extremely important.

#### OTHER SURFACES

For other surface preparation guidelines, refer to the specific Thoro® product data guide for information.

#### Mixing

1. The normal ratio of Acryl 60® to clean potable water is 1 part Acryl 60® to 3 parts water (1 to 3). Where increased physical and chemical resistance are required, increase the Acryl 60® content in the mixing liquid to a 1 to 2 or 1 to 1 Acryl 60® to water ratio (see chart above).

2. Always mechanically mix. Do not overmix or mix at a high speed.



**Technical Data**

**Composition**

Acryl 60® is an acrylic-polymer emulsion.

**Typical Properties**

PROPERTY	VALUE
Density, lbs/gal (kg/L), Lab Method	8.65 (1.04)
Solids content, by volume, %, Lab Method	28
Maximum water dilution, Parts Acryl 60® to H <sub>2</sub> O, Lab Method	1:3

**Test Data**

The following properties are for sand/cement mortar samples:

PROPERTY	RESULTS		TEST METHODS
	With Water	With 1 to 1 Acryl 60® and Water	
Compressive strength, psi (MPa) 28 days	3,800 (26.2)	4,500 (31)	ASTM C 109
Tensile strength, psi (MPa) 28 days	225 (1.5)	350 (2.4)	ASTM C 190
Flexural strength, psi (MPa) 28 days	1,000 (6.9)	1,800 (12.4)	ASTM C 348
Freeze/thaw durability	11 at 98 cycles	102 at 300 cycles	Method A

Test results are averages obtained under laboratory conditions at 70° F (21° C) and 50% rh. Reasonable variations can be expected.

**Mixing Ratios**

APPLICATION	RATIO
For scrub coats applied before patching or overlays	Use straight Acryl 60®
To improve the adhesion properties of pointing mortars and to reduce cracking in cement plaster	Use 1 part Acryl 60® to 3 parts water
For large overlays or topping	Use 2 parts Acryl 60® to 1 part water
For bonding cement plaster no thicker than 1/4 – 3/8" (6 – 10 mm)	Use 1 part Acryl 60® to 3 parts water

NOTE: The above ratios are for normal conditions. Where bonding is more critical, increase the Acryl 60® content of the mixing liquid. A TEST PATCH IS ALWAYS RECOMMENDED.

For detailed application instructions for Thor® products, see specific product data sheets.

**Application**

**SAND/CEMENT MORTAR**

1. Thoroughly mix all cement and sand first. The sand must be clean, free of clay, and dry.
2. Make up mixing liquid from a 1 to 3 or 1 to 2 Acryl 60® water ratio depending upon requirements.
3. Slowly add the mixing liquid to the cement/sand mixture and mix with a slow-speed mixer for 1 – 2 minutes to avoid entrapping air. After preparing, cleaning, and predampening the surface, brush apply a scrub coat (not diluted) of the Acryl 60®-modified cement/sand. Scrub vigorously into the surface to displace any air pockets.

4. Place the mix into the scrub-coated repair area while the scrub coat is still wet or tacky. Place the mix and avoid overworking. The trowel should be cleaned frequently, kept wet, and used with minimal pressure.
5. Maximum time for placement should not exceed 20 minutes. Higher air and surface temperatures will decrease working and placement time.

**Curing**

1. When rapid drying is expected due to high temperatures, rapid air movement, or wind, it is recommended that the surface be covered with wet burlap to retain moisture.
2. For normal use, allow a 24-hour curing period.
3. For heavy wheeled traffic, allow a 4-day curing period.

**Clean Up**

Clean all tools and equipment immediately with water. Cured material may be removed by mechanical means only.



### For Best Performance

- Do not use Acryl 60® modified mixes when the ambient air or surface temperature is below 40° F (4° C) or when the temperature is expected to fall below 40° F (4° C) within 24 hours. High relative humidity, excessive moisture, and low temperatures will retard the curing of Acryl 60® modified mixes.
- Do not use with air-entrained cement mixes or with air-entraining admixtures.
- Do not overmix or aerate mixes.
- Use with proper ventilation.
- Do not use Acryl 60® as a surface-applied external bonding agent or as a primer.
- Do not expose cement-based mixes modified with Acryl 60® to water immersion service for a minimum of 24 hours at 73° F (23° C).
- Not recommended for exposure to soft water or immersion where contact with water-treatment chemicals is present without a protective top coat.
- Caution should be used when a highly solvent material is being used over a base system that contains Acryl 60®.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

### Health and Safety

#### ACRYL 60®

#### Caution

Acryl 60® contains no hazardous ingredients as defined by 29 CFR 1910.1200 WHMIS.

#### Risks

May cause skin, eye or respiratory irritation. Ingestion may cause irritation.

#### Precautions

Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

### Proposition 65

This product contains material listed by the state of California as known as to cause cancer, birth defects, or other reproductive harm.

### VOC Content

1 g/L or 0.01 lbs/gal less water and exempt solvents.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**

**BASF Construction Chemicals, LLC -  
Building Systems**

389 Valley Park Drive  
Shakopee, MN, 55379

[www.BuildingSystems.BASF.com](http://www.BuildingSystems.BASF.com)

Customer Service 800-433-9517  
Technical Service 800-243-6739



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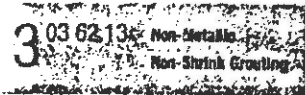
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The Chemical Company

PRODUCT DATA



# CONSTRUCTION GROUT

General construction, mineral-aggregate nonshrink grout

### Description

Construction Grout is a noncatalyzed, multi-purpose construction grout containing mineral aggregate.

### Yield

One 50 lb (22.7 kg) bag of Construction Grout mixed with 1.15 gallons (4.35 L) of water (flowable mix) provides approximately 0.45 ft<sup>3</sup> (0.013 m<sup>3</sup>) of mixed grout.

### Packaging

50 lb (22.7 kg) multi-wall paper bags

### Color

Concrete gray when cured

### Shelf Life

1 year when properly stored

### Storage

Store in unopened bags under clean, dry conditions.

### Features

- Concrete gray color (after curing)
- No organic accelerators, including chlorides or other salts
- Can be extended with clean, well-graded coarse aggregate
- Hardens free of bleeding when properly placed

### Benefits

- Blends in with surrounding concrete
- Will not corrode reinforcing steel
- Fills large voids without additional mix water
- Provides high effective bearing area for proper support and load transfer

### Where to Use

#### APPLICATION

- Normal loads for columns and baseplates
- Bedding grout for precast panels
- Repairing of cavities resulting from ineffective concrete consolidation
- Caulking concrete pipe
- Backfilling, underpinning foundations, and pressure grouting of slabs needing alignment
- General construction applications
- Damp pack applications

#### LOCATION

- Interior or exterior

### How to Apply

#### Application

For aggregate extension guidelines refer to Appendix MB-10: Guide to Cementitious Grouting.

#### Mixing

By using the minimum amount of water to provide the desired workability, maximum strength will be achieved. Whenever possible, mix the grout with a mechanical mixer. Either a mortar mixer or an electric drill with a paddle device is acceptable. Put the measured amount of water into the mixer, add grout, then mix till a uniform consistency is attained. Do not use water in an amount or a temperature that will cause bleeding or segregation.

### Curing

Cure all exposed grout shoulders by wet curing for 24 hours and by applying a recommended curing compound compliant with ASTM C 309 or preferably ASTM C 1315.

### For Best Performance

- Contact your local representative for a pre-job conference to plan the installation.
- Construction Grout is designed for the 50 to 90° F (10 to 32° C) application temperature range. Consult your BASF representative when applying outside this range. Use cold and hot weather concreting practices (ACI 305 and ACI 306) when grouting within 10° F (6° C) of these minimum and maximum temperature ranges.
- To ensure optimum performance of Construction Grout, place at a plastic or flowable consistency and at ambient temperatures of 50° F (10° C) and above.
- For best results, allow a minimum of 1" (25 mm) vertical clearance under baseplates when placing Construction Grout.
- Do not use Construction Grout where it will come in contact with steel designed for stresses above 80,000 psi (552 MPa). Use Masterflow® 816, Masterflow® 1205, or Masterflow® 1341 post-tensioning cable grouts.



**Technical Data**

**Composition**

Construction Grout is a noncatalyzed hydraulic cement-based grout containing mineral aggregate.

**Compliances**

- CRD C 621 and ASTM C 1107, Grade C, at flowable or plastic consistency
- City of Los Angeles Research Report Number RR 23137

**Typical Properties**

**Mixed Grout Data\* (Flowable Mix)**

PROPERTY	VALUE
Approximate Water, gal (L)	1.15 (4.35)

Initial set, hrs, at 70° F (21° C)	6
Final set, hrs, at 70° F (21° C)	8

\*At a constant percent of water, consistency will vary with temperature. Final set takes place in approximately 8 hours at a flowable consistency and 70° F (21° C).

**Test Data**

PROPERTY	RESULTS	TEST METHODS
Flow, %, 5 drops	126 - 145	ASTM C230
Volume change, %, flowable consistency, after 28 days	0.08	ASTM C 1090
Compressive strength, psi (MPa)		ASTM C 942, according to ASTM C 1107
	<b>Consistency</b>	
	Flowable <sup>1</sup>	Plastic <sup>2</sup>
1 day	1,500 (10)	—
3 days	5,000 (34.5)	6,000 (41.4)
7 days	6,000 (41.3)	7,000 (48.3)
28 days	7,000 (48.0)	8,500 (58.6)
	Stiff <sup>3</sup> (damp pack)	
	—	8,000 (55.2)
	—	9,500 (65.5)
	—	10,000 (69.0)

<sup>1</sup> 140% flow on flow table, ASTM C 230, 5 drops in 3 seconds

<sup>2</sup> 100% flow on flow table, ASTM C 230, 5 drops in 3 seconds

<sup>3</sup> 40% flow on flow table, ASTM C 230, 5 drops in 3 seconds

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

- Do not add plasticizers, accelerators, retarders, or other additives unless advised in writing by BASF Technical Services.
- The surface to be grouted should be clean, strong, and roughened to CSP 5 - 9 according to ICRI Guideline 03732 to permit proper bond. For freshly placed concrete, consider using Liquid Surface Etchant (see Form No. 1020198).
- Do not place Construction Grout in lifts greater than 6" (152 mm) unless the product is extended with aggregate to dissipate hydration heat.
- Where precision alignment and severe service, such as heavy loading, rolling, or impact resistance are required, use metallic-reinforced, noncatalyzed Embeco® 885 grout. If the amount of impact resistance needed is not great enough to require metallic reinforcement, use natural-aggregate, Masterflow® 928.
- The water requirement may vary with mixing efficiency, temperature, and other variables.
- The concrete surfaces should be saturated (ponded) with clean water for 24 hours before grouting. Remove water immediately before application.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.

- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

**Health and Safety**

**CONSTRUCTION GROUT**

**WARNING!**

Construction Grout contains silica, crystalline quartz; portland cement; limestone; calcium oxide; gypsum; silica, amorphous.

**Risks**

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

**Precautions**

Avoid contact with skin, eyes and clothing. Prevent inhalation of dust. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

**First Aid**

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

**Waste Disposal Method**

This product when discarded or disposed of is not listed as a hazardous waste in federal regulations. Dispose of in a landfill in accordance with local regulations. For additional information on personal protective equipment, first aid, and emergency procedures, refer to the product Material Safety Data Sheet (MSDS) on the job site or contact the company at the address or phone numbers given below.

**Proposition 65**

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

**VOC Content**

0 g/L or 0 lbs/gal less water and exempt solvents.

**For medical emergencies only, call ChemTrec (1-800-424-9300).**

**BASF Construction Chemicals, LLC - Building Systems**

889 Valley Park Drive  
Shakopee, MN, 55379

www.BuildingSystems.BASF.com

Customer Service 800-433-9517  
Technical Service 800-243-6739



Basf and our products to be of good quality and will replace it, at our election, when the purchase price of any products proved defective. Substituted goods do not constitute a warranty, but do not constitute a warranty of our products. However, we do not guarantee the quality of any products. BASF MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, AND BASF AND ITS AFFILIATED COMPANIES SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS REGARDING PRODUCTS DEFECTIVE IN WORK OR IN USE. THE USER SHALL BE RESPONSIBLE FOR THE PROPER USE AND APPLICATION OF THE PRODUCTS AND FOR THE PROTECTION OF THE ENVIRONMENT. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ENVIRONMENT. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ENVIRONMENT.

The information on this technical data sheet is based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and does not warrant the accuracy or completeness of the information. The user shall be responsible for the proper use and application of the products and for the protection of the environment. The user shall be responsible for the protection of the environment. The user shall be responsible for the protection of the environment.

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**ATTACHMENT 4**

**Door Scope of Work Including Measurements and Specifications**

5

2

5

5

## **Minco Armory Door Measurements And Scope of Work**

- **Door measurements are listed as approximate Width X Height; Contractor to field verify.**
  - **All removed doors will be properly disposed.**
  - **All removed lead-based paint will be properly disposed.**
  - **Attached is a Minco armory Floor Plan with designated door numbers that correspond with the numbers on this Scope of Work.**
  - **Specifications for replacement doors are attached.**
- 
1. Remove all paint from original outer door frame. Once paint is removed, paint frame with neutral colored primer.
  2. Remove all paint from door frame. Once paint is removed, paint frame with neutral colored primer.
  3. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
  4. Remove all paint from door frame. Replace double doors with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Double Door Measurements – 5' X 7'
  5. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
  6. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
  7. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
  8. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
  9. Remove all paint from original outer door frame. Once paint is removed, paint frame with neutral colored primer.

10. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
11. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
12. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
13. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
14. Remove door. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
15. Remove door. Remove all paint from door frame. Replace door with pre-hung door unit. Original frame will be painted with a neutral colored primer.  
Door Measurements – 2'5" X 6'6"
16. Remove all paint from original outer door frame. Once paint is removed, paint frame with neutral colored primer.
17. Remove all paint from original outer door frame. Once paint is removed, paint frame with neutral colored primer.
18. Remove all paint from original outer door frame. Once paint is removed, paint frame with neutral colored primer.
19. Remove all paint from original outer door frame. Once paint is removed, paint frame with neutral colored primer.
20. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 4' X 7'
21. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
22. Remove all paint from door frame. Once paint is removed, paint frame with neutral colored primer.



23. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
24. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
25. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 5' X 7'
26. Remove all paint from vault door and door frame. Once paint is removed, paint door and frame with neutral colored primer.
27. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 2'8" X 7'
28. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
29. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 2'4" X 7'1"
30. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 3' X 7'
31. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 2'4" X 7'
32. Remove all paint from door frame. Replace door with pre-hung door unit.  
Original frame will be painted with a neutral colored primer.  
Door Measurements – 2'4" X 7'
33. Remove all paint from door frame. Once paint is removed, paint frame with neutral colored primer.

5

5

6

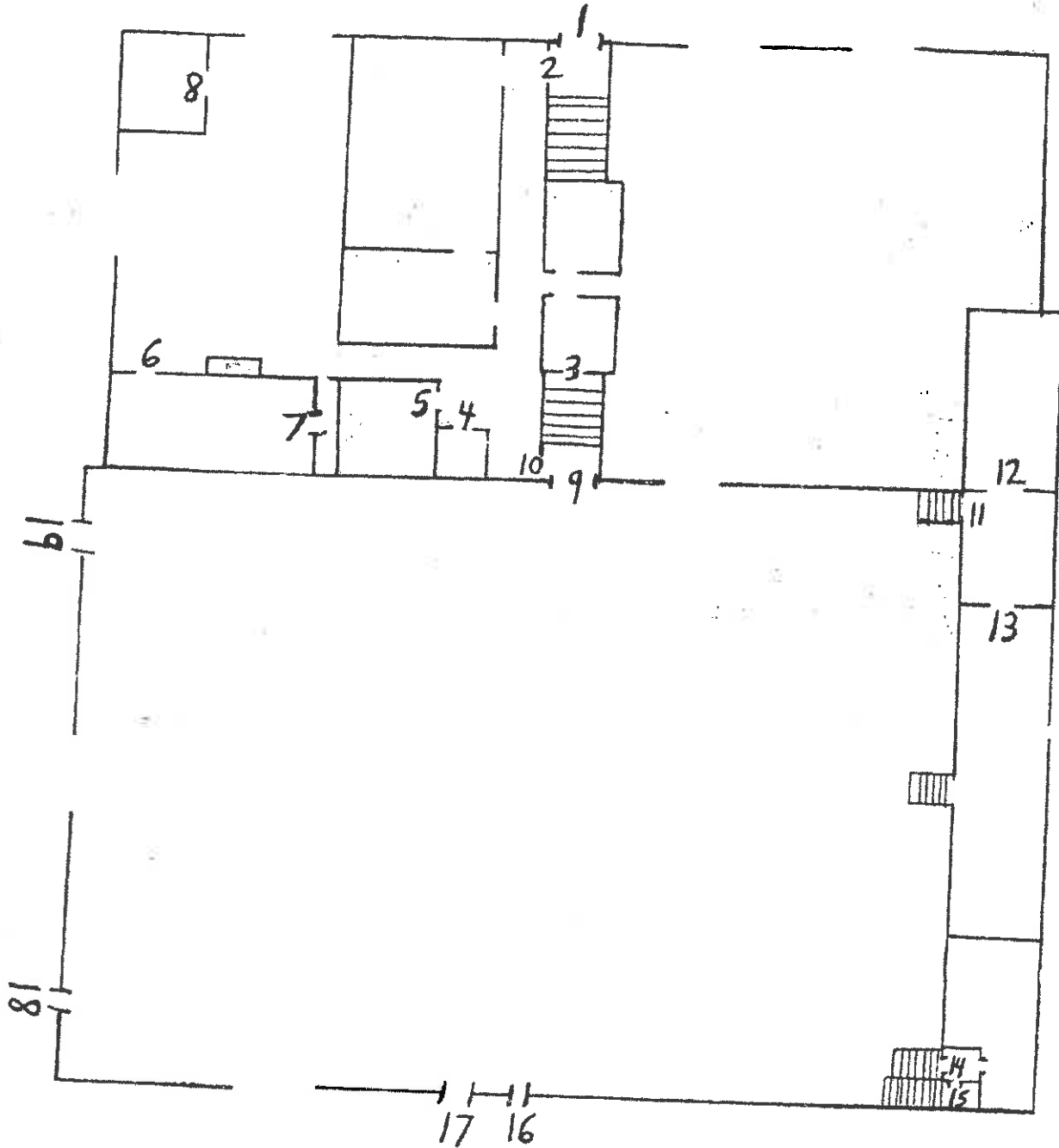
# MINCO ARMORY

BUILT 1936

BOTTOM FLOOR

MINCO, OKLAHOMA

DOOR NUMBERING



# MINCO ARMORY

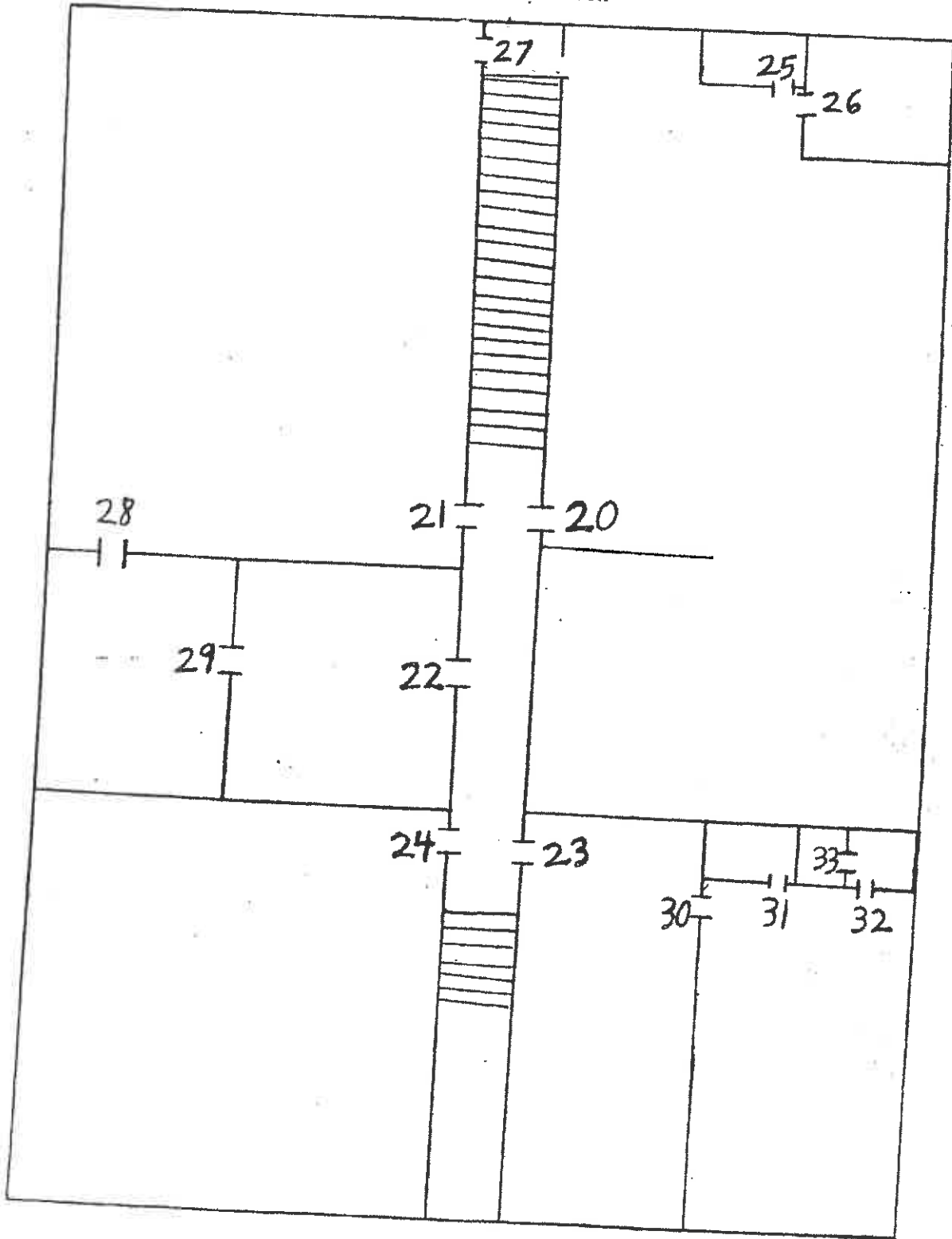
BUILT 1936

TOP FLOOR WPA

MINCO, OKLAHOMA

DOOR NUMBERING

DRILL FLOOR

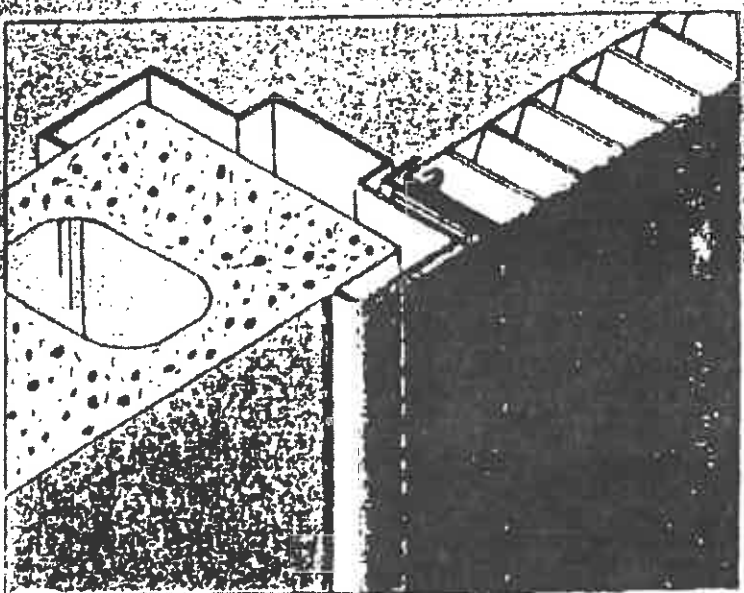
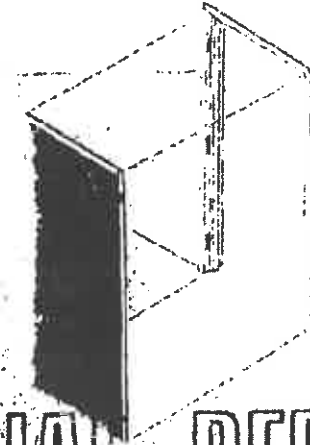


Install a pre-hung



# COMMERCIAL REPLACEMENT DOOR UNIT

**UL LISTED**  
 1 1/2 HR (B) LABEL  
 can be used in existing  
 non-listed or listed  
 steel frame.



New beauty  
 and security  
 for worn out doors.

The Steelcraft Commercial Replacement Unit is the only product of its kind specifically designed for the rehab market. Fits these nominal sizes: 2868, 3068, 3668, 3868, 4068, 2870, 3070, 3670, 3870, 4070 single, and 5468, 5068, 5470 and 6070 double doors.

- Does not require removal of existing frame.
- Fits an "out-of-square" opening.
- Works with grouted or non-grouted frames.
- Installs quickly and easily.
- Includes rugged steel adapter frame.
- Permits door swing to be changed without major rework.
- Fills opening without re-mortaring and filling hardware cutouts.
- Can be installed in existing steel or wood frame.
- Provides additional security.

**QUICK**

1. Remove old door, hardware, sill and any other item(s) projecting into opening.

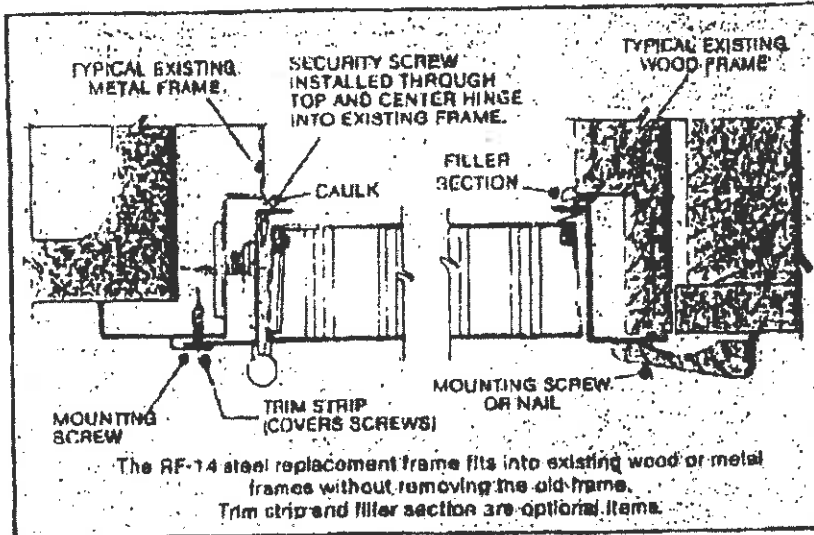
**'N EASY**

2. Set pre-hung unit into frame opening. Install mounting screws through face, cut bending and insert security screws.

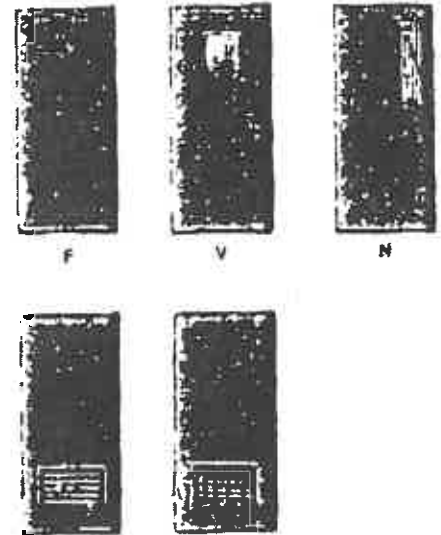
**INSTALLATION**

3. Mount hardware as required. Paint.

**TYPICAL SECTION**



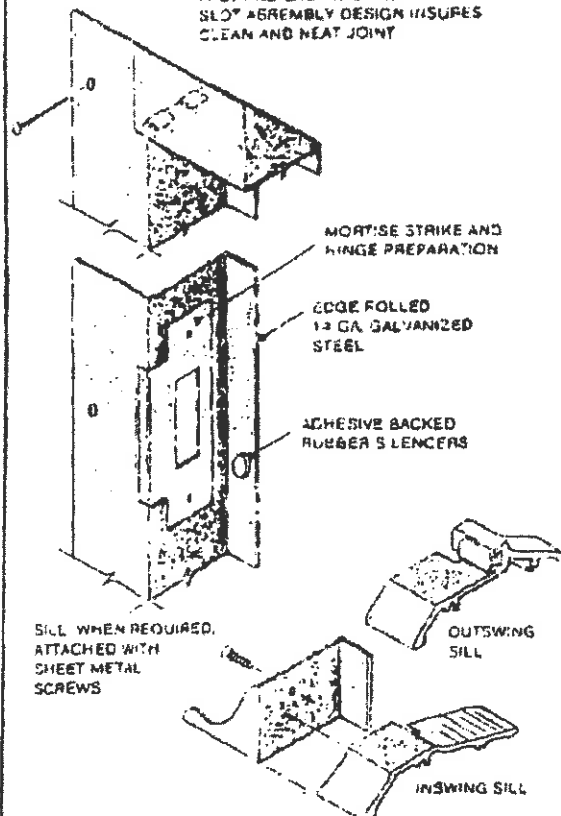
**DESIGNS AND FINISHES AVAILABLE**



**LOUVERS**

**FRAME DETAIL**

**KNOCKED DOWN CORNER CONSTRUCTION. FAST AND EASY TAB AND SLOT ASSEMBLY DESIGN INSURES CLEAN AND NEAT JOINT**



FRAME IS FURNISHED WITHOUT SILL AS STANDARD. AN OPTIONAL INSWING OR OUTSWING SILL IS AVAILABLE. WEATHERSTRIPPING ALSO IS AVAILABLE AS AN OPTION

**SPECIFICATIONS**

Commercial Replacement Unit shall be supplied as a complete unit, consisting of 18 ga. door (RL-18) and 14 ga. frame (RF-14).

\* Single openings shall be pre-hung, ready for quick and easy installation. Double openings shall be supplied as separate units (frame and two door leaves) not pre-hung.

Doors shall conform to the following:

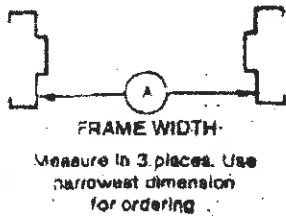
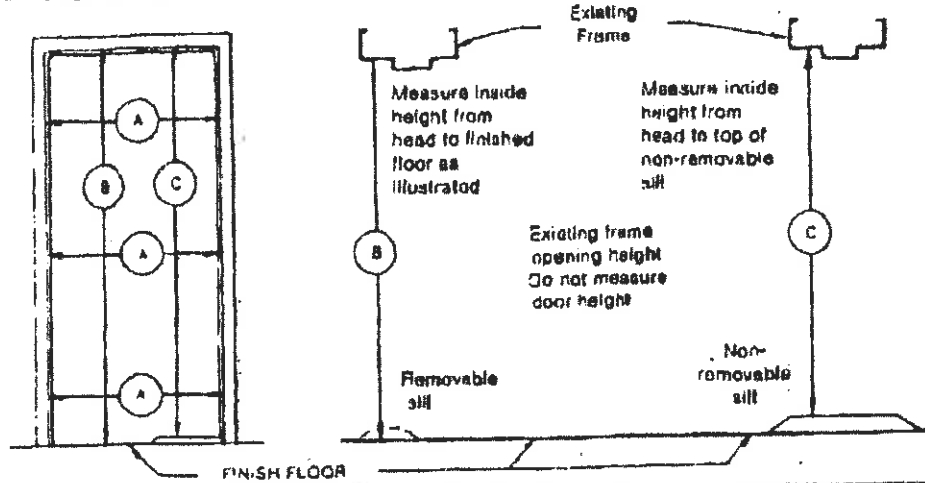
- Doors shall be as manufactured by Stealcraft, Cincinnati, Ohio, and designated as RL-18 (1 3/4" 18 ga. steel).
- Doors shall be fabricated from cold rolled steel.
- Doors shall have 1/2" bevel in 2" on hinge and lock edges.
- Doors shall have vertical mechanical interlocking seams on hinge and lock edges with visible edge seam.
- Doors shall be provided with top and bottom inverted steel channels, spotwelded within the door.
- Doors shall be reinforced, stiffened and sound deadened with impregnated wathoneycomb core completely filling the inside of the door and laminated to the inside faces of panels.
- Doors shall be mortised and adequately reinforced for all hardware.
- Doors shall be phosphatized and receive one coat of baked-on prime paint.

Frames shall conform to the following:

- Frames shall be as manufactured by Stealcraft, Cincinnati, Ohio, and designated as RF-14 (14 ga.).
- Frames shall be accurately formed from galvanized steel.
- Frames shall be furnished knocked down (KD). Corners shall have tabs for secure and easy interlocking of jambs to head at each corner.
- Frames shall be adequately reinforced for all hardware.
- Frames shall be supplied with adhesive backed rubber bumpers: three per strike jamb, two per double door frame head.
- Frames shall be phosphatized and receive one coat of baked-on prime paint.

\*Single openings are designed to be pre-hung and installed. Units are supplied KD for pre-hanging at job site or by distributor.

# HOW TO DETERMINE SIZE OF EXISTING FRAME



NOTE: ORDER UNITS BY NOMINAL SIZES.  
DO NOT ORDER BY ACTUAL DIMENSIONS.

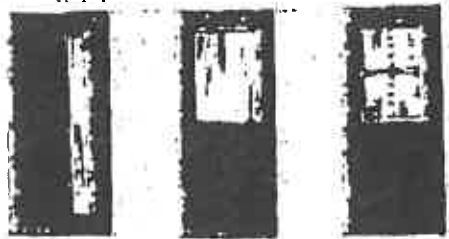
SIZE (Nominal)	FITS THESE EXISTING OPENINGS			
	A WIDTHS		B C HEIGHTS	
	MIN.	MAX.	MIN.	MAX.
2'8" x 6'8"	31 1/2"	32 3/4"	79 3/4"	80 3/4"
3'0" x 6'8"	35 3/4"	36 3/4"	79 3/4"	80 3/4"
3'8" x 6'8"	41 1/4"	42 3/4"	79 3/4"	80 3/4"
3'8" x 8'8"	48 3/4"	44 3/4"	78 3/4"	80 3/4"
4'0" x 6'8"	47 3/4"	48 3/4"	78 3/4"	80 3/4"
2'8" x 7'0"	31 1/4"	32 3/4"	83 3/4"	84 3/4"
3'0" x 7'0"	35 3/4"	36 3/4"	83 3/4"	84 3/4"
3'8" x 7'0"	41 3/4"	42 3/4"	83 3/4"	84 3/4"
3'8" x 7'0"	43 3/4"	44 3/4"	83 3/4"	84 3/4"
4'0" x 7'0"	47 3/4"	48 3/4"	83 3/4"	84 3/4"
5'4" x 6'8"	83 3/4"	84 3/4"	79 3/4"	80 3/4"
6'0" x 6'8"	71 3/4"	72 3/4"	79 3/4"	80 3/4"
5'4" x 7'0"	83 3/4"	84 3/4"	83 3/4"	84 3/4"
6'0" x 7'0"	71 3/4"	72 3/4"	83 3/4"	84 3/4"

\*MAX. OPENING HEIGHT MAY BE EXCEEDED BY BLOCKING DOWN EXISTING OPENING.

### TO HAND A DOOR — FACE IT FROM THE OUTSIDE OR KEYSIDE

<b>LEFT HAND</b> Hinges on Left Opens inward	<b>RIGHT HAND</b> Hinges on Right Opens inward	<b>LEFT HAND REVERSE</b> Hinges on Left Opens outward	<b>RIGHT HAND REVERSE</b> Hinges on Right Opens outward
<b>LEFT HAND</b> Hinges on Left Opens inward	<b>RIGHT HAND</b> Hinges on Right Opens inward	<b>LEFT HAND REVERSE</b> Hinges on Left Opens outward	<b>RIGHT HAND REVERSE</b> Hinges on Right Opens outward

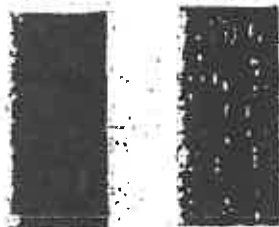
**Steelcraft**  
 9017 Blue Ash Road Cincinnati, Ohio 45242 513/745-6400



LNL

G

G1/0+



FINISH PAINTED AND WOOD GRAIN FINISHES

**HARDWARE**

Replacement Units shall be prepared for the following hardware:

Hinges:

1-1/2 pair of 4-1/2 x 4-1/2 x .134 template hinges

Lock and Strike:

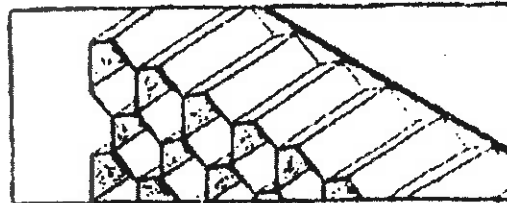
Government 16 (ANSI-A115.2) cylindrical or Government 88 (ANSI-A115.1) mortise lock w/ an ANSI-A115.1 or .2 strike.

Consult distributor for other hardware preparations.

	NOMINAL SIZE	FRAME SIZE (FINISHED OPENING)		NET DOOR SIZE*	
		WIDTH	HEIGHT	WIDTH	HEIGHT
SINGLE	2868	31"	79 1/2"	30-13/16"	79 1/2"
	3068	35"		34-13/16"	
	3668	41"		40-13/16"	
	3868	43"		42-13/16"	
	4068	47"	46-13/16"	82 1/2"	
	2870	31"	30-13/16"		
	3070	35"	34-13/16"		
	3670	41"	40-13/16"		
	3870	43"	42-13/16"		
	4070	47"	46-13/16"		
PAIR	5468	63"	79 1/2"	30-13/16" & 31-13/16"	78 1/2"
	6068	71"		34-13/16" & 35-13/16"	
	5470	63"	83 1/2"	30-13/16" & 31-3/16"	82 1/2"
	6070	71"		34-13/16" & 35-13/16"	

\*FOR PAIRS OF DOORS INACTIVE LEAF IS 1" WIDER THAN ACTIVE LEAF  
CONSULT DISTRIBUTOR FOR OTHER SIZES.

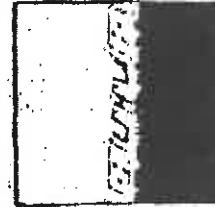
**DOOR DETAILS**



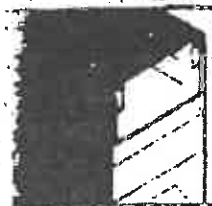
Full honeycomb core of phenolic resin-impregnated kraft paper reinforces the door every 1-inch, providing superlative resistance to impact and assuring a flat surface.



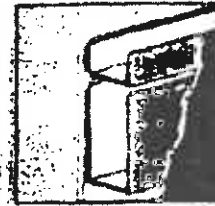
Aluminum glass trim (snap-in).



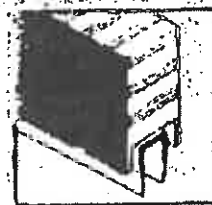
8-gage thick hinge reinforcement.



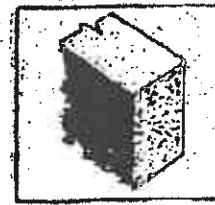
Snap-in steel top cap for exterior openings.



Steel top and bottom reinforcing channel with 8-gage closer reinforcement when required.



Door bottom with double sweep when required.



Insulated doors: one pound polystyrene core, 1/2 pound polyurethane core when required.

**PAIRS OF DOORS**



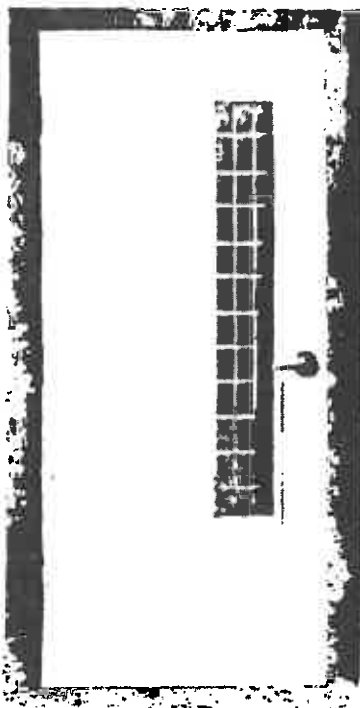
Designs shown may be combined for pairs of doors. Pairs of doors consist of two leaves and a 14 ga. steel 2" integral field mounted to inactive leaf of pair. Inactive leaf may be secured with flush bolts or surface bolts.

Note: For pairs of doors, right hand will be active, unless specifically ordered.



# STEELCRAFT

## L18 AND L16-SERIES HONEYCOMB DOORS



### ABOUT THE PRODUCT:

The L18 and L16-Series Flush Doors are designed to meet the architectural requirements for full flush doors. This premium door construction combines the strength and dimensional stability of steel with the structural integrity of the honeycomb core. The continuous bonding of core to metal provides an attractive flat door, free of face welding marks. Tests have proven that the L-Series door has integral high resistance to impact damage, low thermal conductivity, and high STC ratings.

To meet application, specification and performance requirements, the L-Series doors offer a wide range of specifiable options including sizes, glass lite designs, hardware (mechanical, pneumatic, electrical) preparations and edge constructions.

### FEATURES AND BENEFITS:

Steelcraft's L-Series Doors offer the following standard unique features, which enhance long term performance and durability.

1. Honeycomb core system enhances the structural integrity of the door, while significantly reducing the weight.
2. Full height, epoxy filled mechanical interlock edges provide structural support and stability the full height of the door edges.
3. Patented universal hinge preparations allow for easy field conversion from standard weight (.134) hinges to heavy weight (.180) hinges.
4. 14 gage top and bottom channels provide stability and protection for the top and bottom edges from abuse.
5. Beveled hinge and lock edges allow for tighter installation tolerances, ensure easier operation, and eliminate binding and sticking.
6. Recessed Designer™ glass trim provide a clean, neat, and flush finish with the door surface.
7. Factory applied baked on rust inhibiting primer in accordance with ANSI A250.10.

### SPECIFICATION COMPLIANCE:

1. Door construction for the Steelcraft L18 and L16-Series Full Flush Doors meet the requirements of ANSI A250.8-1998 (commonly referred to as SDI-100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-1997. Locations are in accordance with ANSI/DHI A115.

### FIRE RATINGS:

The L-Series doors meet the broadest fire rating requirements. They are listed for installations requiring compliance to both negative pressure testing ASTM E152 and UL-10B, and positive pressure standards UBC 7-2 and UL-10C.

Steel Thickness	Opening	Usage Frequency <sup>1</sup>	Frame Applications
16 gage (1.3mm)	Interior & Exterior	Extra-heavy duty	• 16 & 14 gage steel frames
18 gage (1mm)	Interior & Exterior	Heavy duty	• 16 gage steel frames
Steel Type	Opening	Building Applications	
Non Galvannealed <sup>2</sup>	Mainly Interior	• Typical building conditions	
Galvannealed <sup>2</sup>	Mainly Exterior	• Used in locations with high humidity and/or weather exposure	

### MATERIAL:

Depending on environmental conditions, exterior doors are generally galvannealed and interior doors non galvanneal. All doors are supplied with a factory applied baked on primer for field applied finish paints.

<sup>1</sup> Usage frequency is based on ANSI A250.8-1998

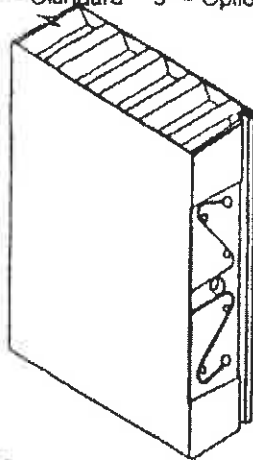
<sup>2</sup> Reinforcements for galvannealed doors are also galvannealed

<sup>3</sup> Commercial quality carbon steel



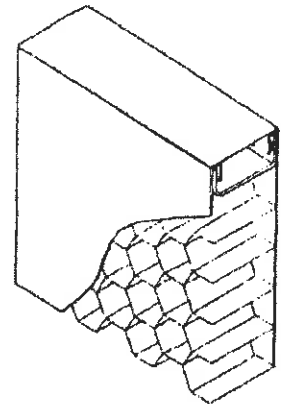
Details are subject to change without prior notice.

**Universal Mortise Hinge Prep**  
4 1/2" - Standard 5" - Optional

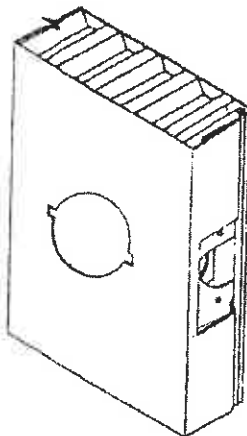


7 Gage Hinge Reinforcement

**Optional Snap-In Top Cap**

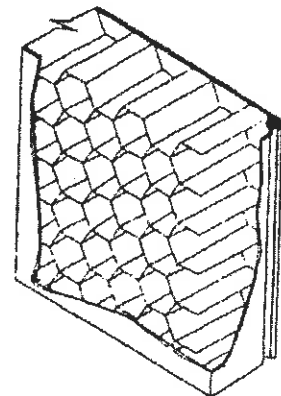


**Lock Prep**

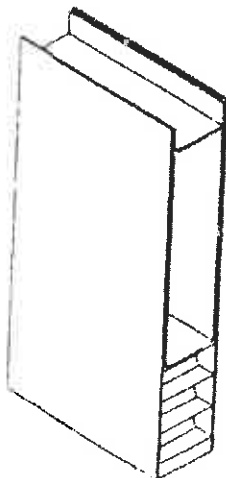


161 Cylindrical Lock shown

**Rigid Honeycomb Core**

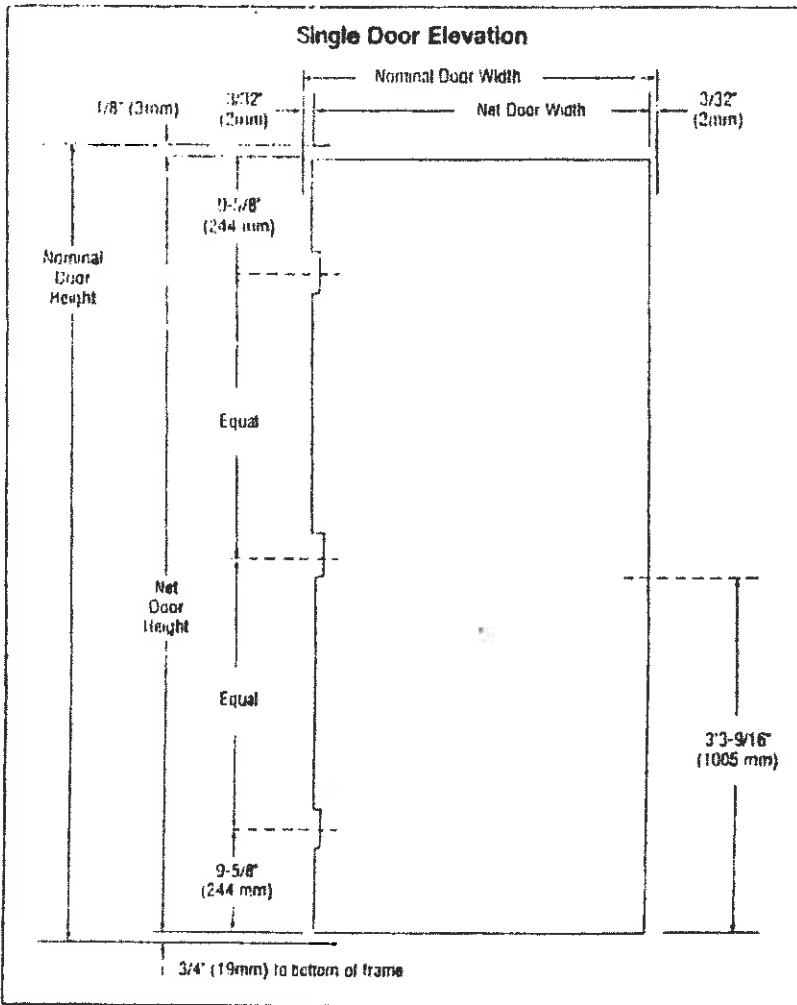


**Optional 14 Gage Closer Reinforcement**

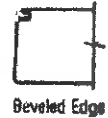
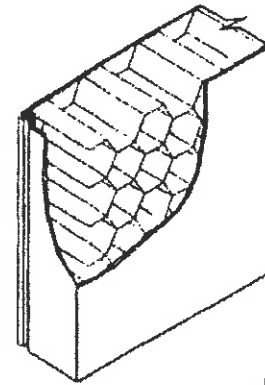


**GENERAL NOTES:**

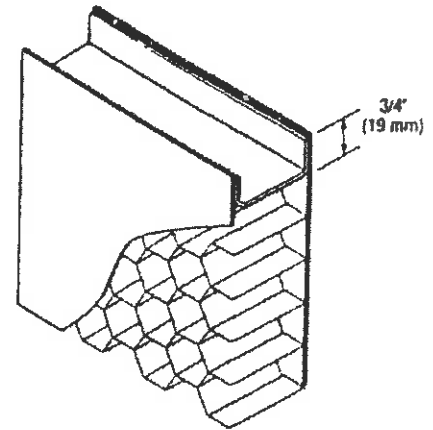
1. **Edge construction:**
  - Vertical edges (both hinge and lock) are beveled with a visible seam.
  - Top and bottom edges are closed with inverted 14 gage welded channels. Exterior applications require the addition of snap-in top caps to protect against the weather.
2. **Optional edge seams** available in the L-Series door construction are as follows:
  - **LF** - The mechanical edge seam is filled and finished prior to applying the factory primer.
  - **LW** - The mechanical edge seam is welded and finished prior to applying the factory primer.
3. **Optional cores** available in the L-Series door construction:
  - **Polystyrene** for exterior applications in extreme weather conditions.
  - **Polyurethane** for exterior applications in arctic weather conditions. Not Fire Rated.
4. **Standard hardware preparations:** standard mortised and reinforced for:
  - **Universal hinge preps** - 4 1/2" (114mm) patented preparation which allows easy and quick field conversion from standard to heavy weight hinges.
  - **Locks** - A multitude of standard lock preps are available. The most commonly used with a 4 7/8" (124mm) strike are 161, 61L and 86.



**Beveled Edge with Full Height Mechanical Interlock**



**Inverted Top & Bottom Channels 14 Gage**

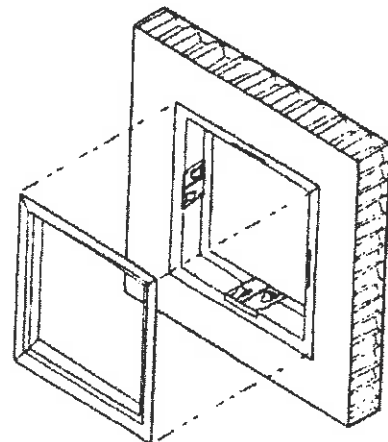


**CONSTRUCTION NOTES:**

- Doors are 1 3/4" (45mm) thick.
- Door opening size maximum:**  
Single door opening size 4'0" x 10'0" (1219mm x 3048mm)  
Double door opening size 8'0" x 10'0" (2438mm x 3048mm)
- Standard operating clearances (installed in frame):**  
Head = 1/8" (3mm) to bottom of head or transom panel  
Hinge and lock side = 3/16" (2mm) to rabbet on jamb
- Standard core system:**  
1" (25mm) cell Kraft honeycomb core is laminated to both face sheets with contact adhesive. The honeycomb is phenolic resin impregnated and sanded to insure ultimate lamination and performance. To further enhance the structural stability of the door the honeycomb core material is subjected to several unique operations prior to assembly. If any of these operations are eliminated, the strength and durability of the door is compromised.
- Hardware preparations:** to meet specifications, doors can be prepared for all commercial mortised hardware, and can be factory reinforced for surface applied hardware applications.
  - Lock preps - details and dimensions shown are for cylindrical (ANSI 115.2) type locks. For mortise (ANSI A115.1) locks, the centerline of the lock is located 3/8" (9mm) lower.
- Glass lites with Designer® trim and louvers:** doors with glazed cutouts and doors with louvers are available (see *Lites and Louvers* section of *Spec Manual*).

**Designer Trim Option**

1/4" - Standard 1/2" - Optional



## INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, SDI 105 *Recommended Installation Instructions for Steel Frames*, and ANSI/DHI A115-IG *Installation Guide for Doors and Hardware*.
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. The *Authority Having Jurisdiction* is the final authority in issues related to the installation and use of installed Fire Rated Doors.

## DOOR EDGE APPLICATIONS:

The L-Series Doors are used in virtually all buildings and construction applications. The application and functionality dictate the door edge construction specified.

Edge	Usage	Application
L	Heavy & Extra-heavy duty	High traffic in all commercial applications
LF	Heavy & Extra-heavy duty	High traffic, in sanitation conditions
LW	Heavy & Extra-heavy duty	High traffic, in sanitation and high abuse conditions

## CONVERSION CHART

ANSI A250.8 (SDI 100) *Recommended Specification for Standard Steel Doors and Frames*.

Series	Level	Model	Description	Edge Construction
L18	2	1	Full Flush	Full height, visible mechanical interlocked edge
LF18	2	2	Seamless	L-Series with epoxy filled edge seams
LW18	2	2	Seamless	L-Series with welded edge seams
L10	3	1	Full Flush	Full height, visible mechanical interlocked edge
LF10	3	2	Seamless	L-Series with epoxy filled edge seams
LW10	3	2	Seamless	L-Series with welded edge seams

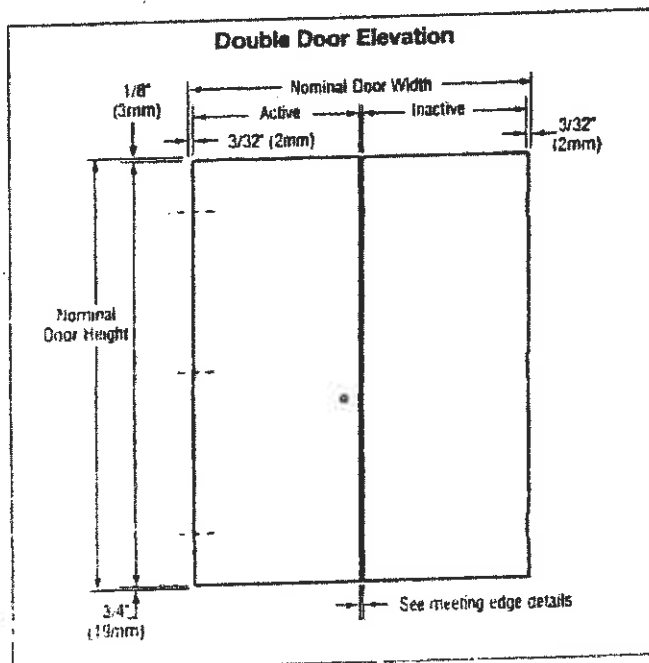
## DOUBLE DOOR APPLICATIONS:

L-Series doors are available in double door elevations, with active and inactive leaves and an overlapping astragal.

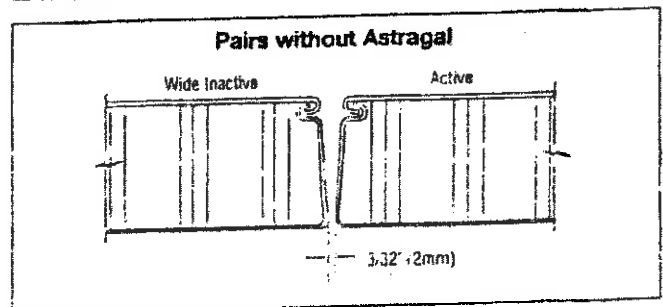
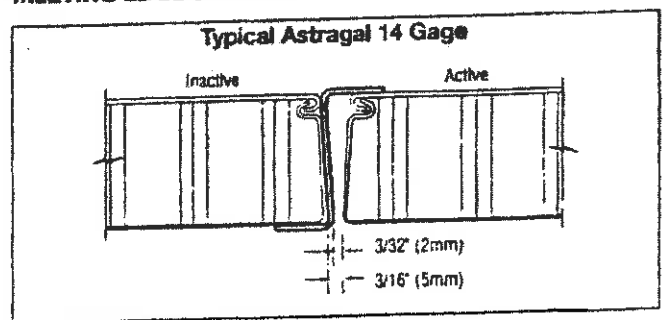
- **Standard operating clearances (installed in frame):**
  - Head =  $\frac{1}{8}$ " (3mm) to bottom of head or transom panel
  - Hinge side =  $\frac{3}{32}$ " (2mm) to rabbet on jamb
  - Meeting edges =  $\frac{3}{32}$ " (2mm) with or without astragal. For openings without an astragal, a wide inactive leaf is used.
  - Bottom =  $\frac{3}{4}$ " (19mm) to bottom of frame

### Meeting edges:

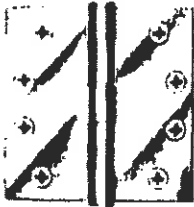
- 14 Gage astragal is furnished loose for installation in the field by others.
- Overlapping astragal kits are available to convert an active leaf to an inactive leaf.
- When an astragal is not used, the width of the inactive leaf is increased  $\frac{3}{32}$ " (2mm).
- **Hardware preparations:** the inactive leaf can be prepared for hardware as specified.



## MEETING EDGE DETAILS:



### Five Knuckle



#### Plain Bearing - Standard Weight

For use on medium weight doors or doors requiring low frequency service

**1191** Brass with Stainless Steel pin  
- ANSI A2133  
Stainless Steel with Stainless Steel pin  
- ANSI A5133

**1279** Steel with Steel pin  
- ANSI A8133

- Non-rising removable pin with button tip and plug
- With door closer use ball bearing hinge

Hinge Size		Gauge of Metal	Hole Count	Screw Size	
Inches	mm			Machine	Wood
2 x 2	51 x 51	0.083	4	-	3/4 x 8
2 1/2 x 2 1/2	64 x 64	0.089	6	-	3/4 x 8
3 x 3	76 x 76	0.097	6	-	1 x 9
3 1/2 x 3 1/2	89 x 89	0.119	6	1/2 x 10-24	1 x 9
4 x 4	102 x 102	0.129	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 4	114 x 102	0.134	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 4 1/2	114 x 114	0.134	8	1/2 x 12-24	1 1/4 x 12
5 x 4	127 x 102	0.145	8	1/2 x 12-24	1 1/4 x 12
5 x 4 1/2	127 x 114	0.145	8	1/2 x 12-24	1 1/4 x 12
5 x 5	127 x 127	0.145	8	1/2 x 12-24	1 1/4 x 12
6 x 4 1/2	152 x 114	0.160	10	1/2 x 1 1/4-20	1 1/2 x 14
6 x 5	152 x 127	0.160	10	1/2 x 1 1/4-20	1 1/2 x 14
6 x 6	152 x 152	0.160	10	1/2 x 1 1/4-20	1 1/2 x 14

### Five Knuckle



#### Plain Bearing - Standard Weight - Wide Throw

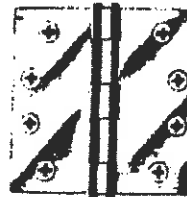
For use on medium weight doors or doors requiring low frequency service

**1191** Wide Throw  
Brass with Stainless Steel pin  
- ANSI A2133  
Stainless Steel with Stainless Steel pin  
- ANSI A5133

**1279** Wide Throw  
Steel with Steel pin  
- ANSI A8133

- Non-rising removable pin with button tip and plug
- With door closer use ball bearing hinge

Hinge Size		Gauge of Metal	Hole Count	Screw Size	
Inches	mm			Machine	Wood
3 1/2 x 5	89 x 127	0.119	6	1/2 x 10-24	1 x 9
3 1/2 x 6	89 x 152	0.119	6	1/2 x 10-24	1 x 9
4 x 5	102 x 127	0.129	8	1/2 x 12-24	1 1/4 x 12
4 x 6	102 x 152	0.129	8	1/2 x 12-24	1 1/4 x 12
4 x 7	102 x 178	0.129	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 5	114 x 127	0.134	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 6	114 x 152	0.134	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 7	114 x 178	0.134	8	1/2 x 12-24	1 1/4 x 12
4 1/2 x 8	114 x 203	0.134	8	1/2 x 12-24	1 1/4 x 12
5 x 6	127 x 152	0.145	8	1/2 x 12-24	1 1/4 x 12
5 x 7	127 x 178	0.145	8	1/2 x 12-24	1 1/4 x 12
5 x 8	127 x 203	0.145	8	1/2 x 12-24	1 1/4 x 12



#### Concealed Bearing - Standard Weight

For use on medium weight doors or doors requiring medium frequency service

**CB1191** Stainless Steel with Stainless Steel pin  
- ANSI A5112

- Non-rising removable pin with button tip and plug
- Only available with SecureCoat® Lifetime finish (US3SC)
- Specify machine screws

Hinge Size		Gauge of Metal	Hole Count	Screw Size	
Inches	mm			Machine	Wood
3 1/2 x 3 1/2	89 x 89	0.119	6	-	1 x 9
4 x 4	102 x 102	0.129	8	-	1 1/4 x 12
4 1/2 x 4	114 x 102	0.134	8	-	1 1/4 x 12
4 1/2 x 4 1/2	114 x 114	0.134	8	-	1 1/4 x 12
5 x 4	127 x 102	0.145	8	-	1 1/4 x 12
5 x 4 1/2	127 x 114	0.145	8	-	1 1/4 x 12
5 x 5	127 x 127	0.145	8	-	1 1/4 x 12
6 x 4 1/2	152 x 114	0.160	10	-	1 1/2 x 14
6 x 5	152 x 127	0.160	10	-	1 1/2 x 14
6 x 6	152 x 152	0.160	10	-	1 1/2 x 14





Saddle Thresholds

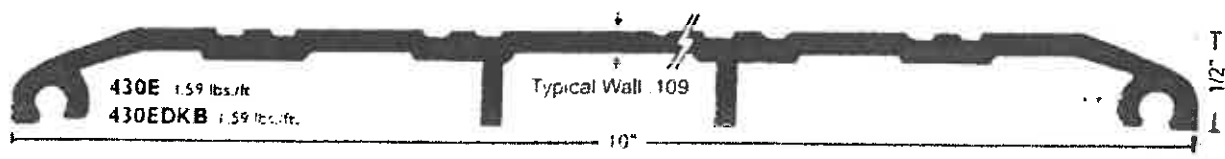
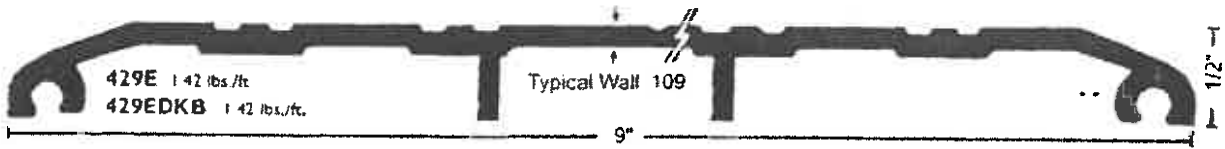
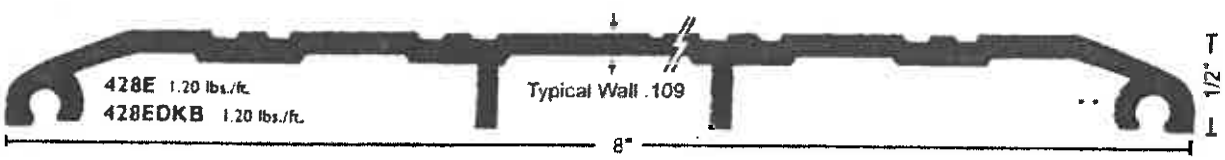
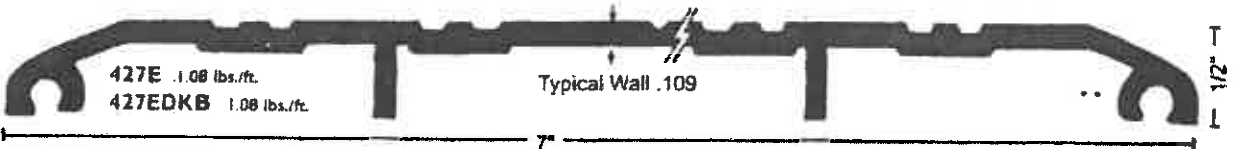
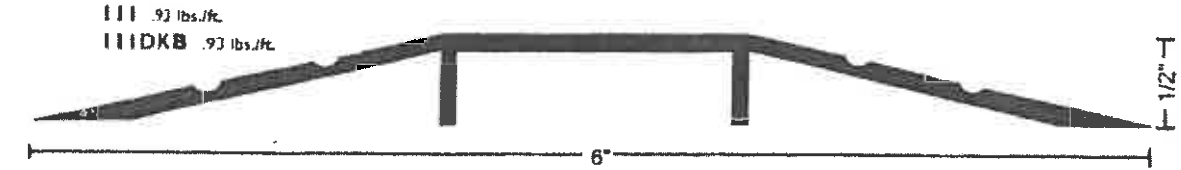
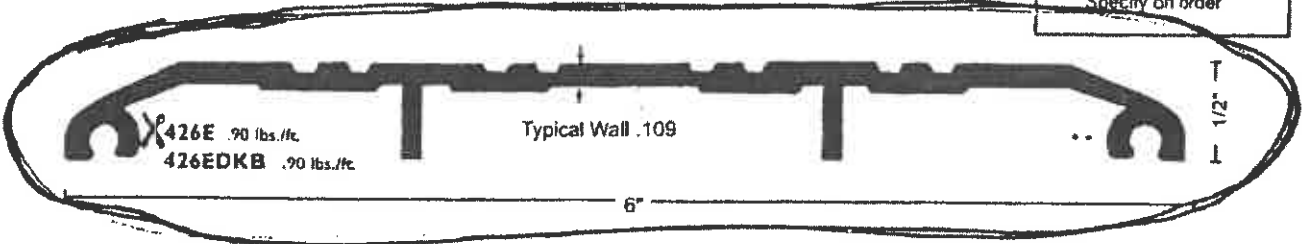
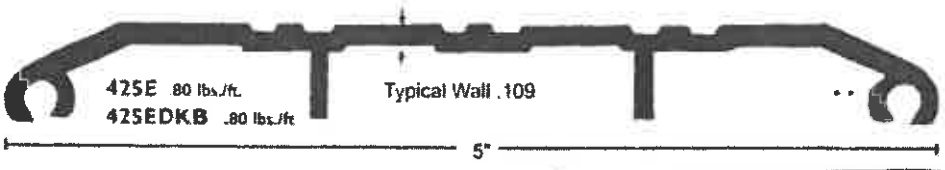
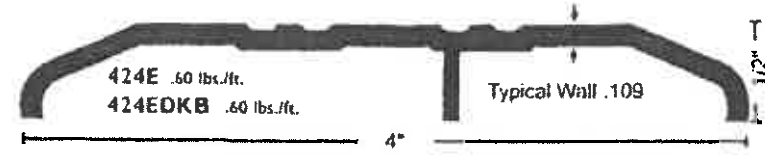
All thresholds this page

**MATERIALS & FINISHES**

- Aluminum mill finish
- DKB - Aluminum dark bronze finish

Slip Resistant SIA Finish

All thresholds are available with our slip resistant, non-skid finish for better traction, Suffix "SIA".



**VINYL FOOT SEAL**  
 used instead of caulking to increase the weather resistance of the threshold. Specify on order.


**NATIONAL GUARD PRODUCTS, INC.**

**Vinyl Seals**

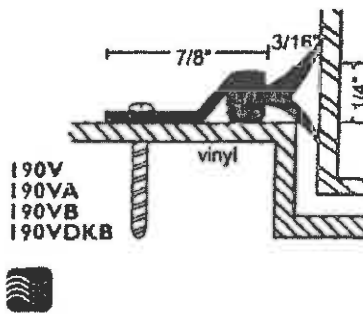
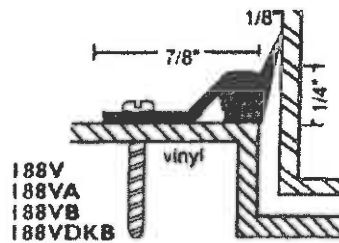
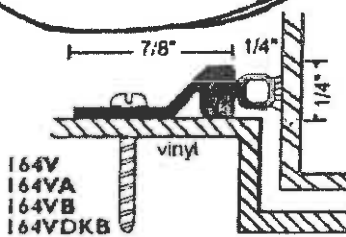
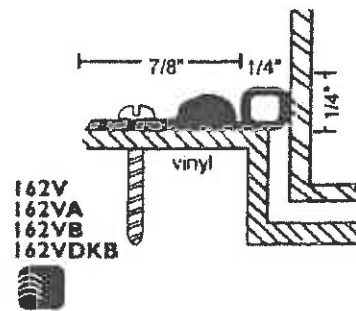
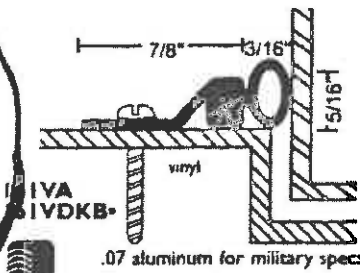
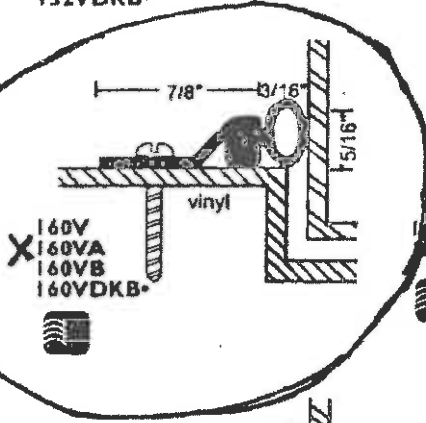
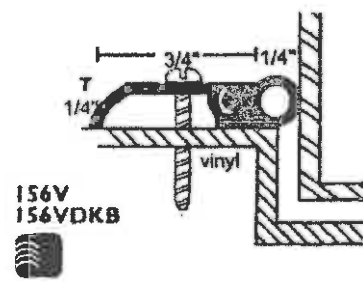
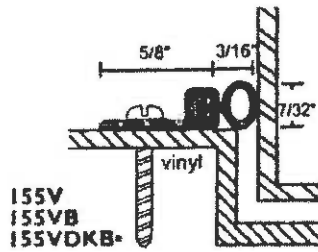
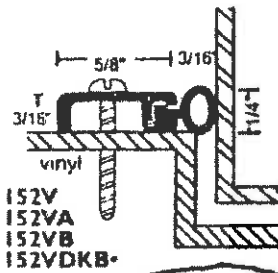
Properties:

- Synthetic polymer: Polyvinyl Chloride
- Economical
- Flame resistant
- Moisture resistant
- Temperature range 0F to 140F
- Plasticizers evaporate with age and exposure to UV, Cold, Heat causing hardening, loss of memory, loss of resilience, cracking and crazing

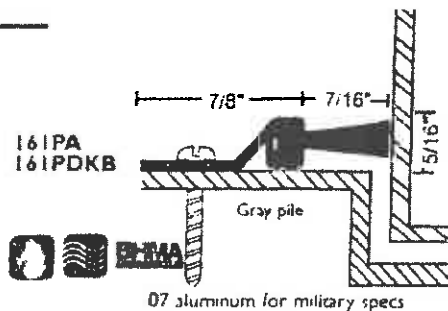
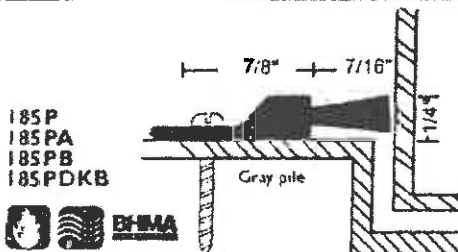
#6 x 3/4" Stainless Steel Sheet Metal Screws furnished  
Screw holes slotted for adjustment

 All vinyl seals this section

A - clear  
B - gold  
DKB - dark bronze  
no suffix - mill  
Vinyl is gray  
(exception: \*vinyl is black)



**Pile Seals**



Vinyl Perimeter Seals

Pile Seals

## Specifications

### Handing

All D-Series lever locksets are non-handed.

### Door Thickness

1 3/8" to 2 1/8" (41mm-54mm) standard including Vandlgard® functions.

See accessories (Page 12) for spacers required for 1 3/8" doors.

### Backset

2 3/4" (70mm) standard. 2 7/8", 3 3/4" and 5" (60mm, 95mm, 127mm) optional.

### Faceplate

Brass, bronze or stainless steel. 1 1/8" x 2 1/4" (29 mm x 57mm) square corner, beveled.

### Lock Chassis

Zinc plated for corrosion resistance.

### Latch Bolt

Steel, 1/2" (12mm) throw, deadlocking on keyed and exterior functions. 3/4" (19mm) throw anti-friction latch available for pairs of fire doors.

### Exposed Trim

Levers: Pressure cast zinc, plated to match finish symbols.  
Roses: Solid brass.

### Striker

ANSI curved lip strike 1 1/4" x 4 7/8" x 1 3/16" lip to center standard. Optional strikes, lip lengths and ANSI strike box available. See page 11.

### Cylinder & Keys

6-pin Everest C123 keyway standard with two patented nickel silver keys per lock.

### Keying Options:

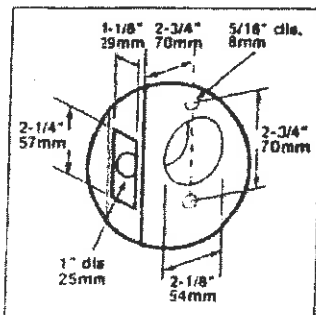
Interchangeable core and Primus® high security cylinders. Master keying, grand master keying and construction keying.

### Warranty:

Seven-year limited for all functions including Vandlgard®.

## Door Preparation

### Lever Designs



## Certifications

### ANSI

Meets or exceeds A156.2 Series 4000, Grade 1 strength and operational requirements. Meets A117.1 Accessibility Code.

### Federal

Meets FF-H-106C Series 161.

### California State Reference Code

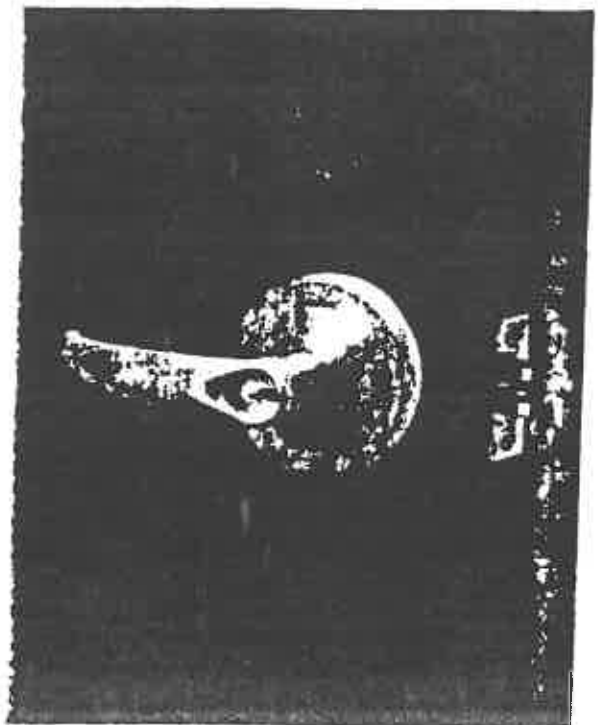
(Formerly Title 19, California State Fire Marshal Standard)

All levers with returns comply; levers return to within 1/2" of door face.

### UL / cUL

All locks listed for A label single doors, 4' x 8'. Letter F and UL symbol on latch front indicate listing. Electrified functions are UL19X Listed for single point locking applications.

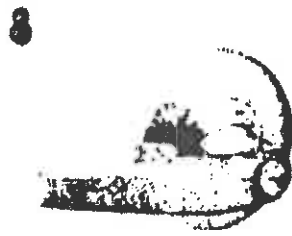
UL437 Listed locking cylinder optional: specify Primus 20-500 Series cylinder.





# D SERIES LEVERS

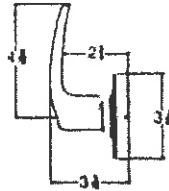
## Lever Designs & Finishes



608

### ATHENS

Symbol: ATH  
Material: Pressure cast zinc lever; wrought brass rose  
Finishes  
605, 606, 612, 613, 619, 625, 626



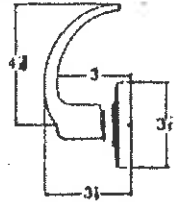
## Lever Designs & Finishes



628

### SPARTA

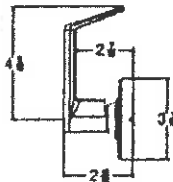
Symbol: SPA (17)  
Material: Pressure cast zinc lever; wrought brass rose  
Finishes  
605, 606, 612, 613, 619, 625, 626



612

### RHODES

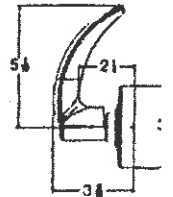
Symbol: RHO (06)  
Material: Pressure cast zinc lever; wrought brass rose  
Finishes  
605, 606, 612, 613, 619, 625, 626



619

### OMEGA

Symbol: OME  
Material: Pressure cast zinc lever; wrought brass rose  
Finishes  
605, 606, 612, 613, 619, 625, 626



605  
Bright Brass



608  
Satin Brass



612  
Satin Bronze



613  
Oil Rubbed Bronze



619  
Satin Nickel



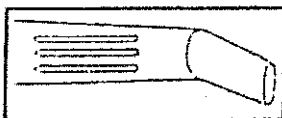
625  
Bright Chromium Plated



626  
Satin Chromium Plated



Keyed functions available with interchangeable core options. Levers are available for full size and small format interchangeable cores.



### TACTILE WARNING (KNURLING)

Change symbol designation as follows:

- 8AT for Athens
- 8RO for Rhodes
- 8SP for Sparta

### Finishes

- 605 Bright Brass
- 608 Satin Brass
- 612 Satin Bronze
- 613 Oil Rubbed Bronze
- 619 Satin Nickel
- 625 Bright Chromium Plated
- 626 Satin Chromium Plated

Only outside lever is knurled unless otherwise specified.

Not available with Omega trim

# D SERIES LEVERS

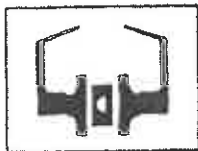
## Functions

### Non-Keyed Locks

SCHLAGE ANSI

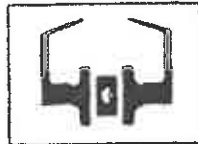
ND10S F75

**Passage Latch**  
Both levers always unlocked.



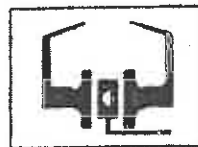
ND12D F89

**Exit Lock**  
Outside lever always fixed. Inside lever always unlocked.



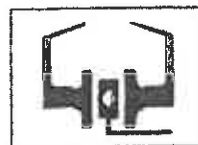
ND12DEL

**Electrically Locked (Fail Safe)**  
Outside lever continuously locked electrically. Unlocked by switch or power failure. Auxiliary latch deadlocks latchbolt when door is closed. Inside lever always free for immediate exit.



ND12DEU

**Electrically Unlocked (Fail Secure)**  
Outside lever continuously locked until unlocked by electric current. Auxiliary latch deadlocks latchbolt when door is closed. Inside lever always free for immediate exit.



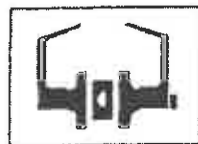
ND25D

**Exit Lock**  
Blank plate outside. Inside lever always unlocked.



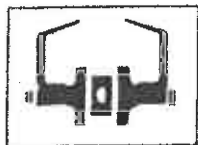
ND40S F76

**Bath/Bedroom Privacy Lock**  
Push-button locking. Can be opened from outside with small screwdriver. Turning inside lever or closing door releases button.



ND44S

**Hospital Privacy Lock**  
Push-button locking. Unlocked from outside by turning emergency turn-button. Turning inside lever or closing door releases button.



ND170

**Single Dummy Trim**  
Dummy trim for one side of door. Used for door pull or as matching inactive trim.

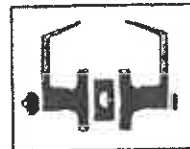


### Keyed Locks

SCHLAGE ANSI

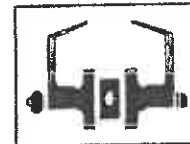
ND50PD F82

**Entrance/Office Lock\***  
Push-button locking. Push-button locks outside lever until unlocked with key or by turning inside lever.



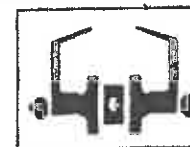
ND53PD F109

**Entrance Lock\***  
Turn/push-button locking; pushing and turning button locks outside lever, requiring use of key until button is manually unlocked. Push-button locking; pushing button locks outside lever until unlocked by key or by turning inside lever.



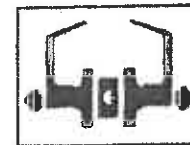
ND60PD F88

**Vestibule/Classroom Security Lock\***  
Latch retracted by key from outside when outside lever is locked by key in inside lever. Inside lever is always unlocked.



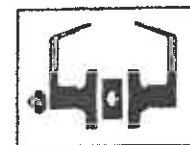
ND66PD F91

**Store Lock\*†**  
Key in either lever locks or unlocks both levers.



ND70PD F84

**Classroom Lock\***  
Outside lever locked and unlocked by key. Inside lever always unlocked.



ND73PD F90

**Corridor Lock\***  
Outside lever locked by key outside or push-button inside. Push-button released by rotating inside lever or closing door. When outside lever is locked by key, key must be used to unlock it. Inside lever is always unlocked.



\* Available functions for small format interchangeable core.

† Caution: Double cylinder locks on residences and any door in any structure which is used for egress are a life safety hazard in times of emergency and their use is not recommended. Installation should be in accordance with existing codes only.

## Specifications

### Handing

Keyed functions are reversible. Non-keyed functions are not handed.

### Door Thickness

1 3/8" to 1 3/4" (35 mm to 48 mm) standard.  
2" (51 mm) to 2 1/2" (64 mm) optional extended inside.

### Backsets

2 3/4" (60 mm) standard. 2 3/4" (70 mm), 3 3/4" (95 mm) and 5" (127 mm) optional.

### Front

Steel. 1 1/4" x 2 1/4" square corner, beveled, for 2 3/4" backset standard. Optional 1" square corner, 1" radius corner, and non-UL drive-in / round face. For availability with specific backsets, see page 6.

### Lock Chassis

Steel, zinc dichromate plated for corrosion resistance.

### Latch Bolts

Brass, chrome plated, 1/2" throw, deadlocking on keyed and exterior functions.

### Exposed Trim

Wrought brass, bronze or stainless steel. Levers are pressure cast zinc, plated to match finish symbols.

### Strike

T-strike 1 1/8" x 2 3/4" (29 mm x 70 mm) x 1 1/8" (29 mm) lip to center with box standard. Optional strikes, lip lengths and ANSI strike box available. See page 7.

### Cylinder & Keys

Commercial: 6-pin patented Everest C123 keyway standard with two nickel silver keys per lock.  
Residential: 6-pin C keyway, keyed 5-pin.

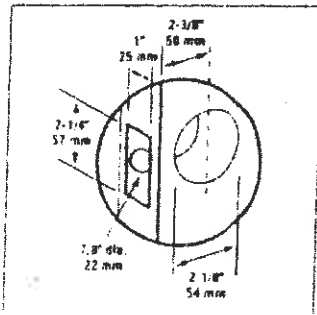
### Keying Options

Interchangeable core and Primus® high security cylinders. Master keying, grand master keying, and construction keying.

### Warranty

Commercial: three-year limited.  
Residential: Full mechanical lifetime.

## Door Preparation



## Certifications

### ANSI

Meets or exceeds A156.2 Series 4000. Grade 2 strength and operational requirements.

### Federal

Meets FF-H-106C.

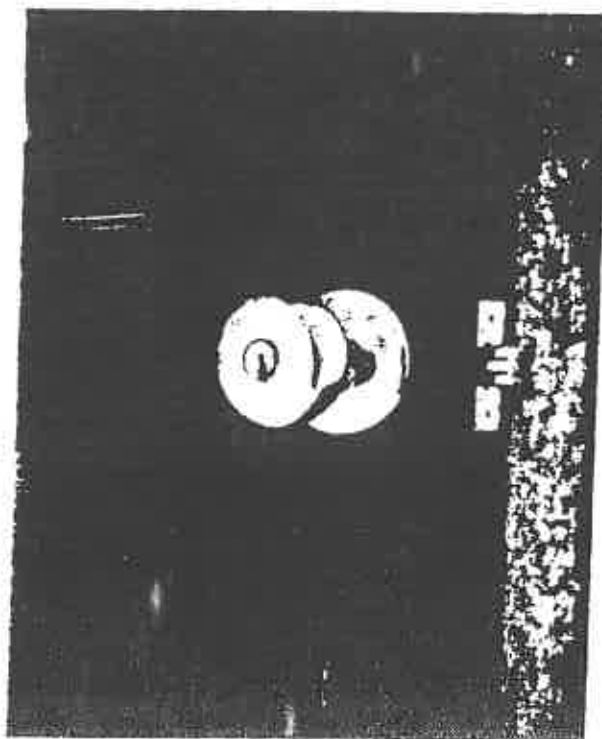
### California State Reference Code

(Formerly Title 19, California State Fire Marshal Standard)

All levers with returns comply; levers return to within 1/2" of door face.

### UL / ULC

All locks listed for A label single doors, 4' x 8'.  
Letter F and UL symbol on latch front indicate listing.  
UL437 Listed locking cylinder optional: specify Primus 20-500 Series cylinder.



*Designs & Finishes*



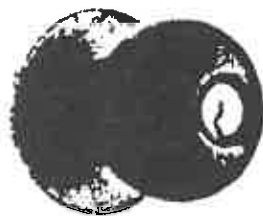
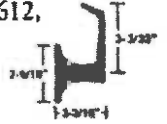
609

**GEORGLIAN**  
 Symbol: GEO  
 Material: Wrought brass  
 Finishes: 605, 606,  
 609, 610,  
 625, 626



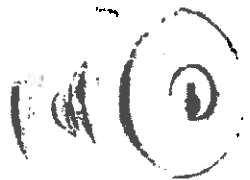
605

**LEVON**  
 Symbol: LEV  
 Material: Pressure cast  
 zinc lever; wrought brass  
 or bronze rose  
 Finishes: 605, 612,  
 613, 626



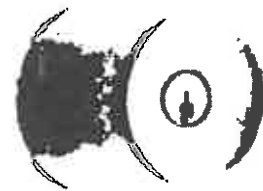
613

**ORBIT**  
 Symbol: ORB  
 Material: Wrought brass  
 or bronze  
 Finishes: 605, 606, 609,  
 610, 611, 612, 613,  
 616, 625, 626



605

**PLYMOUTH**  
 Symbol: PLY  
 Material: Wrought brass,  
 bronze, or stainless steel  
 Finishes: 605, 606, 609, 610,  
 611, 612, 613, 616, 625,  
 626, 629, 630



626

**TULIP**  
 Symbol: TUL  
 Material: Wrought brass  
 Finishes: 605, 606,  
 609, 610,  
 625, 626



*Note: Levon available as  
 inside trim only on deadlatch  
 functions. Specify complete  
 trim application and door  
 handing when ordering with  
 deadlatch functions.*

**Finishes**

- 605 Bright Brass
- 606 Satin Brass
- 609 Antique Brass
- 610 Bright Brass, Blackened
- 611 Bright Bronze
- 612 Satin Bronze
- 613 Oil Rubbed Bronze
- 616 Antique Bronze
- 625 Bright Chromium Plated
- 626 Satin Chromium Plated
- 629 Bright Stainless Steel
- 630 Satin Stainless Steel

Keyed functions available with full size interchangeable core option for Orbit design.

*Functions*

ANSI A156.2 Series 4000 Grade 2

**Non-Keyed Functions**

SCHLAGE  
A10S    ANSI  
F75

**Passage Latch**  
Both knobs always unlocked.



**A25D    Exit Lock**  
Blank plate outside. Inside knob always unlocked. Specify door thickness, 1 1/8" or 1 3/4".



**A30D    F77    Patio Lock**  
Push-button locking. Turning inside knob or closing door releases button, preventing lock-out.



**A40S    F76    Bath/Bedroom Privacy Lock**  
Push-button locking. Can be opened from outside with small screwdriver. Turning inside knob or closing door releases button.



**A43D    F79    Communicating Lock**  
Turn-button in outer knob locks and unlocks knob and inside thumbturn.



**A170    Single Dummy Trim**  
Dummy trim for one side of door. Used for door pull or as matching inactive trim.



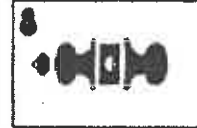
**Keyed Functions**

SCHLAGE    ANSI  
A53PD    F109

**Entrance Lock**  
Turn/push-button locking: pushing and turning button locks outside knob requiring use of key until button is manually unlocked. Push-button locking: pushing button locks outside knob until unlocked by key or by turning inside knob.



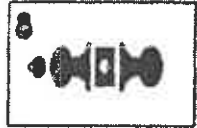
**A70PD    F84    Classroom Lock**  
Outside knob locked and unlocked by key. Inside knob always unlocked.



**A79PD    Communicating Lock**  
Locked or unlocked by key from outside. Blank plate inside.



**A80PD    F86    Storeroom Lock**  
Outside knob fixed. Entrance by key only. Inside knob always unlocked.



**A85PD    F93    Hotel/Motel Lock**  
Outside knob fixed. Entrance by key only. Push-button in inside knob activates visual occupancy indicator, allowing only emergency masterkey to operate. Rotation of inside spanner-button provides lock-out feature by keeping indicator thrown.



Keyed functions available with full size interchangeable core option for Orbit design.

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## SECTION 07920 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Warranty: Warranty materials and workmanship of sealing against leaks, adhesion, and cohesive failure for a period of two years from the date of substantial completion.
- C. References:
  - 1. American Society for Testing and Materials
    - a) ASTM C790 - Recommended practices for use of latex sealing compounds.
    - b) ASTM C920 - Elastomer Joint Sealants.
  - 2. Federal Specifications
    - a) FS TT-S-00230C (2), Sealing Compound, Elastomeric Type, Single Component (for caulking, sealing and glazing in buildings and other structures).
    - b) FS TT-S-00227E (3), Sealing Compound, Elastomeric Type, Multi-component (for caulking, sealing and glazing in buildings and other structures).

### PART 2 - PRODUCTS

#### 2.1 JOINT SEALANTS

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that have been tested and found compatible with one another and with joint substrates under service and application conditions.
- B. Interior Sealant: Provide ASTM C 834. If no color is specified, use Gray. Location(s) of sealant for the following:
  - 1. Small voids between walls or partitions and adjacent door frames, and similar items.
  - 2. Perimeter of frames at doors, windows, and access panels which adjoin exposed interior concrete and masonry surfaces.
- C. Exterior Sealant: Provide ASTM C 920, polyurethane or polysulfide, Type M, Grade NS, Class 25, Shore A hardness of 20-40. If no color is specified, use Gray. Location(s) of sealant for the following:
  - 1. Joints and recesses formed where frames and vents adjoin masonry, concrete, or metal frames. Use sealant at both exterior and interior surfaces of exterior wall penetrations. Color to match adjacent surface.

#### 2.2 ACCESSORIES

- A. Primers: Provide a nonstaining, quick-drying type and consistency recommended by the sealant manufacturer for the particular application.
- B. Bond Breakers: Provide the type and consistency recommended by the sealant manufacturer to prevent adhesion of the sealant to backing or to bottom of the joint.
- C. Cleaning Solvents: Provide type(s) recommended by the sealant manufacturer, except for aluminum and bronze surfaces that will be in contact with sealant.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Clean surfaces from dirt, frost, moisture, grease, oil, wax, lacquer, paint, or other foreign matter that would tend to destroy or impair adhesion. Remove oil and grease with solvent. Surfaces must be wiped dry with clean cloths. When resealing an existing joint, remove existing caulk or sealant prior to applying new sealant. For surface types not listed below, contact sealant manufacturer for specific recommendations.
  - 1. Steel Surfaces: Remove loose mill scale by sandblasting or, if sandblasting is impractical or would damage finish work, scraping and wire brushing. Remove protective coatings by sandblasting or using a residue-free solvent.
  - 2. Aluminum or Bronze Surfaces: Remove temporary protective coatings from surfaces that will be in contact with sealant. When masking tape is used as a protective coating, remove tape and any residual adhesive just prior to sealant application. For removing protective coatings and final cleaning, use nonstaining solvents recommended by the manufacturer of the item(s) containing aluminum or bronze surfaces.
  - 3. Concrete and Masonry Surfaces: Where surfaces have been treated with curing compounds, oil, or other such materials, remove materials by sandblasting or wire brushing. Laitance, remove efflorescence and loose mortar from the joint cavity.

4. Wood Surfaces: Keep wood surfaces to be in contact with sealants free of splinters and sawdust or other loose particles.
- B. Do not add liquids, solvents, or powders to the sealant. Mix multi-component elastomeric sealants in accordance with manufacturer's instructions.

### 3.2 INSTALLATION

- A. Joint Width-to-Depth Ratios: Install per manufacturer's recommendation or as described below, whichever is more stringent.
- |   |                                  |                  |
|---|----------------------------------|------------------|
| 1. Acceptable Ratios:                             | <u>Minimum</u>                   | <u>Maximum</u>   |
| a) For metal, glass, or other nonporous surfaces: |                                  |                  |
| (1) 1/4 inch (6 mm) (minimum)                     | 1/4 inch (6 mm)                  | 1/4 inch (6 mm)  |
| (2) Over 1/4 inch (6 mm)                          | 1/2 of width                     | Equal to width   |
| b) For wood, concrete, masonry, or stone:         |                                  |                  |
| (1) 1/4 inch (6 mm) (minimum)                     | 1/4 inch (6 mm)                  | 1/4 inch (6 mm)  |
| (2) Over 1/4 inch (6 mm) to 1/2 inch (13 mm)      | 1/4 inch (6 mm)                  | Equal to width   |
| (3) Over 1/2 inch (13 mm) to 2 inch (50 mm)       | 1/2 inch (50 mm)                 | 5/8 inch (16 mm) |
| (4) Over 2 inch (50 mm)                           | (As recommended by sealant mfr.) |                  |
2. Unacceptable Ratios: Where joints of acceptable width-to-depth ratios have not been provided, clean out joints to acceptable depths and grind or cut to acceptable widths without damage to the adjoining work. Grinding is not required on metal surfaces.
- B. Masking Tape: Place masking tape on the finish surface on one or both sides of a joint cavity to protect adjacent finish surfaces from primer or sealant smears. Remove masking tape within 10 minutes after joint has been filled and tooled.
- C. Immediately prime prior to application of the sealant, clean out loose particles from joints. Where recommended by sealant manufacturer, apply primer to joints in concrete masonry units, wood, and other porous surfaces in accordance with sealant manufacturer's instructions. Do not apply primer to exposed finish surfaces.
- D. Provide bond breakers to the back or bottom of joint cavities, as recommended by the sealant manufacturer for each type of joint and sealant used, to prevent sealant from adhering to these surfaces. Carefully apply the bond breaker to avoid contamination of adjoining surfaces or breaking bond with surfaces other than those covered by the bond breaker.
- E. Provide a sealant compatible with the material(s) to which it is applied. Do not use a sealant that has exceeded shelf life or has jelled and can not be discharged in a continuous flow from the gun. Apply the sealant in accordance with the manufacturer's printed instructions with a gun having a nozzle that fits the joint width. Force sealant into joints to fill the joints solidly without air pockets. Tool sealant after application to ensure adhesion. Make sealant uniformly smooth and free of wrinkles. Upon completion of sealant application, roughen partially filled or unfilled joints, apply sealant, and tool smooth as specified. Apply sealer over the sealant when and as specified by the sealant manufacturer.
- F. Thresholds: Place double band of sealant under and along all sides of all exterior thresholds.

END OF SECTION 07920



**ATTACHMENT 5**

**Guidelines for Rehabilitation and  
Conversion of Indoor Firing Ranges**

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Departments of the Army and the Air Force  
National Guard Bureau  
Arlington, VA 22202-3231  
3 November 2006

\*NG Pam 420-15

**Facilities Engineering**

**Guidelines and Procedures for Rehabilitation and  
Conversion of Indoor Firing Ranges**

**By Order of the Secretaries of the Army and the Air Force:**

**H STEVEN BLUM**  
Lieutenant General, USA  
Chief, National Guard Bureau

Official:

**GEORGE R. BROCK**  
Chief, Plans and Policy Division

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**History.** This printing publishes a revision of NG Pam (AR) 385-16/ANGPAM 91-101.

**Summary.** This pamphlet prescribes policy for rehabilitation and conversion of National Guard Indoor Firing Ranges (IFR).

**Applicability.** This guidance applies to all persons responsible for the operation of National Guard IFRs. As no regulation/guidance can foresee all situations that might arise, the following is written in a broad scope and is intended to be interpreted so as to ensure compliance with all applicable Federal and State laws and regulations.

**Proponent and exception authority.** The proponent of this regulation is Chief, NGB-SG-IH. The proponent has the authority to approve exceptions to this regulation that are consistent with controlling law and regulation.

**Suggested Improvements.** Users of this pamphlet are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to NGB-SG-IH, 1411 Jefferson Davis Highway, Arlington, VA 22202-3231.

**Distribution.** A.

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- 1-3. Explanation of abbreviations and terms
- 1-4. Policy and Procedures
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- 1-6. Deviation

**Chapter 2**

**Health and Medical Aspects**

- 2-1. Health Effects
- 2-2. Medical Surveillance for Occupational Exposure to Lead (Pb)
- 2-3. Air Monitoring

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\* This publication supersedes NP Pam (AR) 385-16/ANGPAM 91-101, dated 31 January 1994. i

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- 2-4. Wipe Sampling Protocol and Media
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**Appendixes**

- A. References
- B. Protocol for Collecting Wipe Samples
- C. Sampling Strategy for Collection of Wipe Samples

**Glossary**

**1-1. Purpose**

This pamphlet establishes the policy and procedures for rehabilitation and conversion, of National Guard IFRs.

**1-2. References**

Required and related publications and referenced and prescribed forms are listed in Appendix A.

**1-3. Explanation of abbreviations and terms**

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

**1-4. Policy and Procedures**

Indoor firing ranges can be safely rehabilitated or converted for other uses, such as a storage area, classrooms or office space, provided the following --

a. Prior to conversion active ranges must be thoroughly decontaminated and cleaned to acceptable levels. *All ranges converted prior to the publication date of this pamphlet, must be inspected and evaluated to determine lead contamination.* This will be accomplished by a certified National Guard Industrial Hygienist (IH) or a person certified to perform inspections, evaluations, and determinations of IFRs IAW with OSHA standards, other nationally accepted standards, and accepted IH practices for maintenance, cleaning, conversion, ventilation, and air sampling of IFRs.

b. The level of cleanliness is to be determined by sampling. The Occupational Safety and Health Administration's (OSHA) Technical Manual, 5th Edition, provides guidance on the methods and techniques needed to collect wipe samples (Appendix B).

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

(2) Post-cleaning surface wipe sample results must be less than 200 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) (40 micrograms in the case of child exposure). The sampling strategy, which is the amount and location of wipe samples to be collected, is provided in Appendix C.

c. Equipment/items previously stored in the range must be decontaminated and cleaned to acceptable levels as determined by a person certified to perform inspections, evaluations, and determinations of IFRs IAW with OSHA standards, other nationally accepted standards, and accepted IH practices for maintenance, cleaning, conversion, ventilation, and air sampling of IFRs

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

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

(3) Samples should also be collected on items stored the longest period of time, and which have not been disturbed. Items stored closest to the bullet trap and firing line are likely to have higher concentrations of lead dust.

**1-5. Goal**

To ensure that every IFR is free of lead dust which means to test less than 200 micrograms and to reduce the number of unsafe National Guard IFRs.

**1-6. Deviation**

Deviations from this guidance will require a written exception to policy from your Regional Industrial Hygiene Office. Questions and/or comments regarding this subject should be directed to your Regional Industrial Hygiene Office or Chief, National Guard Bureau, Office of the Joint Surgeon, ATTN: NGB-SG-IH, 1411 Jefferson Davis Highway, Arlington, VA 22202-3231.

**Chapter 2****Health and Medical Aspects****2-1. Health Effects**

29 Code of Federal Regulations (CFR) 1910.1025, Appendix A, identifies lead as a highly toxic metal. Elemental lead is indestructible, and common in the environment. Lead can enter the body by inhalation (breathing) or

ingestion (eating). In addition, lead is a cumulative poison. It accumulates in the blood, bones, and organs, including the kidneys, brain and liver. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. Symptoms include loss of appetite, difficulty sleeping, irritability, fatigue, headache, and inability to concentrate. It can stay in the bones for decades. Worker awareness and training are important to ensure that employees can recognize the symptoms of exposure and get prompt medical attention.

#### 2-2. Medical Surveillance for Occupational Exposure to Lead (Pb)

a. Per 29 CFR 1910.1025 (j)(i-ii), Medical Surveillance - General, "The employer shall institute a medical surveillance program for all employees who are or may be exposed above the action level for more than 30 days per year. The employer shall assure all medical examinations and procedures are performed by or under the supervision of a licensed physician."

b. The DOD 6055.5-M, Occupational Medical Surveillance Manual - Table 2-1 lists medical surveillance criteria for employees "who are or may be exposed above the action level for 30 days/year."

#### 2-3. Air Monitoring

Worker breathing zone air samples must be collected to ensure that personnel are not overexposed to airborne lead during the cleanup phase. Daily air samples will be collected from all personnel involved in the cleanup operation. These exposure levels will be used to evaluate work practices and medical surveillance requirements.

#### 2-4. Wipe Sampling Protocol and Media

A template measuring 10 centimeters by 10 centimeters square, approximately 4 inches square, should be used to accurately measure and mark the area before collecting wipe samples. Samples should be staggered to different areas of the range. A grid system should be utilized. Samples should not be collected all on one section of a wall, or end of the building. OSHA Technical Manual provides the necessary guidance on the technique needed to collect wipe samples (Appendix B). Only distilled or deionized water will be used to saturate dry sample media. At least one field blank must be submitted with every 10 samples. The field blank must be from the same lot, and labeled as a blank.

#### 2-5. Personal Protective Equipment

29 CFR 1910.1025 (f) (2), for housekeeping and rehabilitation the employer shall select respirators from among those approved for protection against dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH), under the provision of 42 CFR part 84. The employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f). As a minimum, personnel conducting the decontamination of the range will be provided with the following personal protective equipment.

a. Under 29 CFR 1910.1025 (g). For employees engaged in range rehabilitation and/or range conversion, the employer shall provide at no cost to the employee, and ensure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

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

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

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

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

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

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

g. The employer will ensure that the containers of contaminated protective clothing and equipment are labeled as follows: **CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.**

### Chapter 3 Education, Maintenance, Cleaning and Conversion

#### 3-1. Worker Education

a. 29 CFR 1910.1025, Appendix B, requires an information and training program for all employees exposed to lead above the action level or who may suffer skin or eye irritation from lead. The program must inform the employees of the specific hazards associated with their work environment, protective measures which can be taken, the danger of lead to their bodies (including their reproductive systems), and their rights under the standard. In addition you must make readily available to all employees, including those exposed below the action level, a copy of this standard and its appendices. This training program will be repeated annually for personnel in range cleanup operations.

b. The commander/supervisor will ensure that each soldier or Army National Guard (ARNG) employee is informed of the following:

- (1) The content of the standard and its appendices.
- (2) The specific nature of operations that could result in exposure to lead above the action level
- (3) The purpose, proper selection, fitting, use and limitations of respirators.
- (4) The purpose and a description of medical surveillance program
- (5) Eating and drinking are prohibited in lead contaminated areas.
- (6) Smoking and smoking materials will not be permitted in contaminated areas.
- (7) Soldiers and ARNG employees must wash their hands and other exposed skin whenever they leave the work area.
- (8) The engineering controls and work practices associated with the individual's job assignment.
- (9) The contents of any compliance plan in effect.

(10) Instructions to soldiers and ARNG employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician.

#### 3-2. Range Cleaning Instructions

a. Written procedures, such as a scope of work, or standing operating procedure that complies with all Federal, State and local regulations must be established prior to decontamination operations.

b. The range ventilation system will be in operation during range cleaning to ensure that a negative pressure environment is maintained. In the absence of mechanical ventilation system, all doors and windows will be sealed to eliminate fugitive emissions.

c. A High Efficiency Particulate Air (HEPA) filtered vacuum system, which is designed to collect loose surface lead dust particles, is the preferred method of cleanup. If a HEPA filtered vacuum is not available, the range can be cleaned using a wet method.

d. Prohibited methods include:

(1) Wet cleaning using high-pressure systems, since this method may embed the lead into the substratum and generate large quantities of hazardous waste.

(2) Dry sweeping is not permitted.

e. All surface areas of the range must be cleaned. In addition, areas outside of the IFR where lead can be tracked must be cleaned.

f. The preferred progression of cleaning is from top to bottom and from behind the steel bullet trap to the firing line.

(1) Clean the steel bullet trap, areas in front of and behind the bullet trap, and the steel bullet trap plate(s), after removing the sand (if applicable).

(2) Clean the ceiling, floors, lights, baffles, retrieval system, heating system(s), and ventilation duct(s).

(3) Vacuum and remove acoustical material. *Painting over this material is not recommended.*

(4) Clean the floor the last, starting at the bullet trap and ending behind the firing line.

g. When using a HEPA filtered vacuum, vacuum all surface areas until no dust or residue is visible.

h. Any general purpose cleaning solutions can be used for the wet method. However, Spic and Span™ has been found to be an effective cleaning solution by other Army organizations. Mix new solutions of cleaning solution frequently. Wet wiping will require dual containers of water, one container for wetting the applicator (mops, rags, sponge, etc.) and the other container for rinsing the applicator after the dust has been wiped from the surfaces. After wet wiping all surfaces, permit the area to dry.



i. *Properly dispose of all hazardous waste. Do not place lead contaminated waste into the sewer system or onto the ground.*

(1) When placed in containers, wastewater should be left to evaporate.

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

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

k. Wood floors should receive a coat of deck enamel or urethane; concrete floors should be sealed with deck enamel.

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

m. Any cleaning activities must be under the supervision by a trained and competent personnel IAW with OSHA and other nationally accepted standards and the work shall be according to current industry engineering standards under the control of the State Construction and Facilities Management Officer. Cleaning must recognize that there likely will be "background" lead presence in the readiness center totally independent of the existence of an indoor range and that the method of cleaning is less important than achieving the goal of less than 200 micrograms (40 micrograms in the case of child exposure).

### 3-3. Cleaning Stored Contaminated Equipment

a. Equipment contaminated (sample result is higher than 200 ug/ft<sup>2</sup>) with lead dust must be decontaminated before it is removed from the range.

b. Equipment located near the bullet trap and firing line should be cleaned first and then removed. The cleaning method depends on the size of the equipment and the material it is comprised of, i.e. metal, wood, concrete, porous, non-porous, smooth or rough finish etc. However, either HEPA vacuum or the wet wipe method will be used. Refer to paragraph 3-2 for additional guidance.

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

### 3-4. Contaminated Sand and Lead Waste

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

### 3-5. Range Rehabilitation

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

a. The portion(s) of the range to undergo rehabilitation must be sampled to determine the level of lead contamination. Wipe samples will be taken per the established sampling protocol. See Appendix B.

b. All personnel involved in range rehabilitation will wear a NIOSH approved respirator (P-100) and proper personal protective equipment as prescribed in paragraph 2-5 above.

c. Prior to the start of rehabilitation, the environmental office must be notified to determine the disposition of any debris containing hazardous materials (lead).

d. Supervision shall be by a person who is certified to perform inspections, evaluations, and determinations of IFRs IAW with OSHA standards, other nationally accepted standards, and accepted IH practices for maintenance, cleaning, conversion, ventilation, and air sampling of IFRs. All work shall be according to current industry engineering standards under the control of the State Construction and Facilities Management Officer.

### 3-6. Conversion of Indoor Firing Ranges

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

a. The State shall follow the project approval process as delineated in NGR 420-10 (or NGR 415-5 if the use of the military construction appropriation is required).

b. All ranges slated for conversion will be inspected and evaluated by the NGB Regional Industrial Hygiene Office

- c. All equipment stored in the range, if applicable, prior to the start of decontamination must be sampled, decontaminated, re-sampled and removed or turned in as lead contaminated material.
- d. All acoustical tiles and/or sound proofing material (if applicable) must be removed and turned in as lead contaminated material through the environmental office.
- e. The bullet trap, target retrieval system and firing line stations must be removed and turned in as lead containing material through the environmental office.
- f. Light fixtures and ventilation system grills must be removed and decontaminated.
- g. Ventilation system ducts need to be decontaminated or removed and replaced.
- h. The exhaust fans and/or the complete ventilation air-handling unit (if applicable) must be decontaminated or removed to include roof fans.
- i. Cover all openings of any component previously decontaminated prior to start of interior decontamination of the firing range.
- j. Prior to start of washing, the interior of the range should be vacuumed with a HEPA filtered vacuum. The range should be washed using a cleaning solution of hot water and Spic and Span in five gallons of hot water. A progression of cleaning from top to bottom, and from back to front should be used. All surface areas of the range must be cleaned. Mix new solutions of water frequently. Washing will require dual containers of water; one container for wetting the applicators (mops, rags, sponges, etc.), and the other container for rinsing the applicators. Waste water placed into containers can be left to evaporate. *Properly dispose of all hazardous waste and do not place any lead contaminated waste into the sewer system or onto the ground.* Mop heads, sponges and rags will be discarded as hazardous waste following decontamination of the range. After completion of decontamination, and prior to taking clearance samples, the ventilation system must be run for a period of 36 hours. Wipe clearance samples will be taken from ceiling, walls and floors. The range will be considered clean if no clearance sample is greater than 200 ug/ft<sup>2</sup>, if any sample is above 200 ug/ft<sup>2</sup>, the range is not considered clean, the range will need to be re-washed until clearance samples are below 200 ug/ft<sup>2</sup>.
- k. The regional industrial hygienist will do quality assurance sampling as needed.
- l. After obtaining clearance, the walls of the range will be coated with a sealant (Not Paint), which is smooth, wood floors will receive a coat of deck enamel or urethane, concrete floors will be sealed with deck enamel. After sealing, floors will be tiled or covered with linoleum.
- m. As a variety of conditions exist in ranges, unique situations may arise and specific written guidance from the Regional Industrial Hygiene Office may be required.
- n. All personnel involved in the decontamination/conversion of IFRs as a minimum will be provided with the following personal protective equipment.
- (1). Full Face air purifying respirator with HEPA cartridges. The requirements outline in 29 CFR 1910.134, must be met prior to placing workers in respiratory protection.
  - (2). Individuals will be provided personal protective equipment as required per paragraph 2-5, this pamphlet.
- o. Any conversion must be supervised by a person certified to perform inspections, evaluations, and determinations of IFRs IAW with OSHA standards, other nationally accepted standards, and accepted IH practices for maintenance, cleaning, conversion, ventilation, and air sampling of IFRs. All work shall be according to current industry engineering standards under the control of the State Construction and Facilities Management Officer. Cleaning must recognize that there likely will be "background" lead presence in the readiness center totally independent of the existence of an indoor range and that the method of cleaning is less important than achieving the goal of less than 200 micrograms (40 micrograms in the case of child exposure).
- p. After conversion, lead testing shall continue on an annual basis to verify that no lead migration from the substrate is occurring.

**Appendix A  
References**

**Section I  
Required Publications**

There are no entries in this section

**Section II  
Related Publications**

**ASTM E1792-03**  
Standard Specification for Wipe Sampling Materials for Lead in Surface Dust

**AR 11-34**  
The Respiratory Protection Program

**AR 40-5**  
Preventive Medicine

**DODI 6055.5**  
Industrial Hygiene and Occupational Health

**DOD 6055.5-M**  
Occupational Medical Surveillance Manual

**29 CFR, Part 1910**  
Occupational Safety and Health Administration, Department of Labor

**National Institute for Occupational Safety and Health (NIOSH) 76-130**  
Lead Exposure and Design Considerations for Indoor Firing Ranges, Department of Health, Education and Welfare

**NGR 385-15**  
Policy and Responsibilities for Inspection, Evaluation and Operation Army National Guard National Guard Indoor Firing Ranges (IFRs)

**NGR 415-5**  
Army National Guard Military Construction Program Development and Execution

**NGR 420-10**  
Construction and Facilities Management Office Operations

**Technical Manual, 5<sup>th</sup> Edition**  
Occupational Safety and Health Administration, Department of Labor

**Section III  
Prescribed Forms**

There are no entries in this section

**Section IV  
Referenced Forms**

There are no entries in this section

**Appendix B  
Protocol for Collecting Wipe Samples**

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

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

**B-3. Wipe Samples**

a. If using Ghost Wipes™, tear open the individually sealed package. Remove the moistened wipe. Unfold the wipe.

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

**B-4.** Place a 10 centimeter by 10 centimeter template on the area to be wiped.

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

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

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

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

**Appendix C  
Sampling Strategy for Collection of Wipe Samples**

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

**C-2.** Samples should be collected from different areas of the range. A grid system should be utilized. Each range surface areas should be divided evenly into 3 by 3 sections. Samples should not be collected from only one section of a wall or end of the building.

**Glossary**

**Section I  
Abbreviations**

**ARNG**  
Army National Guard

**CFR**  
Code of Federal Regulations

**HEPA**  
High Efficiency Particulate Air

**IFR**  
Indoor Firing Range

**NIOSH**  
National Institute for Occupational Safety and Health

**OSHA**  
Occupational Safety and Health Administration

**ug/ft<sup>2</sup>**  
Micrograms per square foot

**Section II  
Terms**

**Air monitoring**  
The sampling for and measuring of pollutants in the atmosphere.

**Breathing zone**  
The imaginary globe of two feet radius surrounding the head

**General area**  
Collection of and later analysis of airborne contaminants in a given work environment. As the sampling pump and collection media are not attached to a worker, the concentrations found represent average concentrations in that area but may not be representative of the actual exposure of the worker.

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

**Lead-Contaminated Range**  
It is assumed that all IFRs, which have been fired in, are lead-contaminated.

**Respirator**  
A device designed to provide the wearer with respiratory protection against inhalation of airborne contaminants.

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

3 November 2006

NGP 420-15

**Section III**  
**Special Abbreviations and Terms**

This section contains no entries

## LEAD CONTAMINATION ABATEMENT REPORT

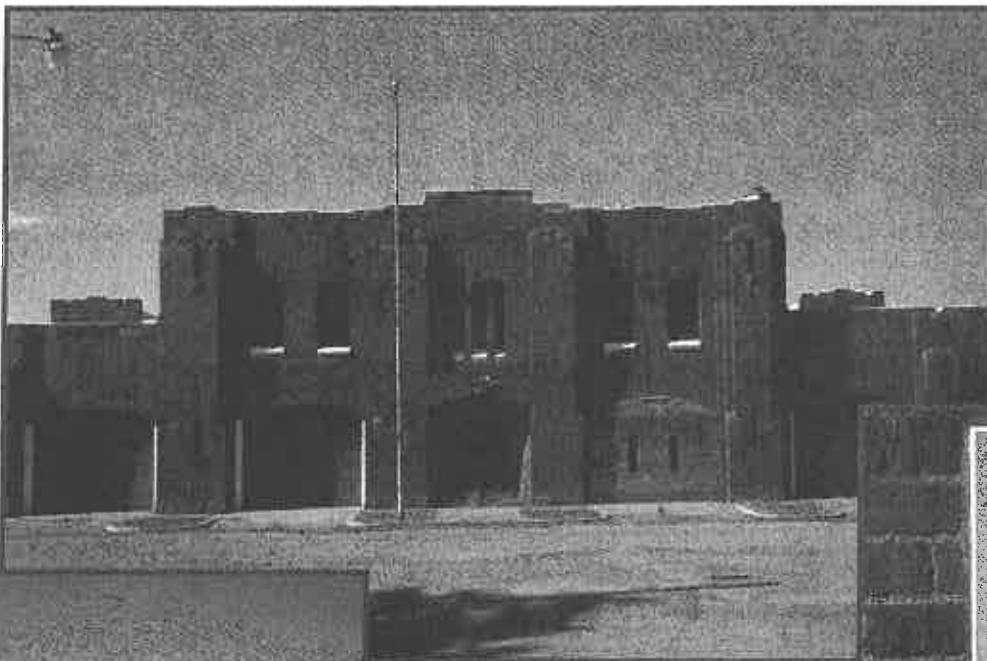


**RECEIVED**  
JUN 03 2011  
LAND PROTECTION DIVISION  
DEPARTMENT OF ENVIRONMENTAL QUALITY

## Lead Remediation 11042

### Lead Remediation for Minco Armory Minco Armory, 407 West Pontotoc, Minco, Oklahoma

Report Date: April 15<sup>th</sup>, 2011



**ENVIRONMENTAL ENGINEERING AND CONSTRUCTION**

1401 CORNELL PARKWAY, SUITE 100 • OKLAHOMA CITY, OKLAHOMA 73108  
PH: (405) 942-2230 • FAX: (405) 949-5382 • WWW.CRYSTALCREEKINC.COM



## SUMMARY

Crystal Creek Environmental Solutions, Inc. (Crystal Creek) prepared preformed Lead Remediation under contract with the Department of Central Services and with oversight from the Oklahoma Department of Environmental Quality at the Minco National Guard Armory. The purpose for the remediation was to provide for safe re-use of the facility with unrestricted use such as storage areas, classrooms or office space.

All remediation efforts were preformed in accordance with the Guidelines for Rehabilitation and Conversion of Indoor Firing Ranges, November 3, 2006, Department of the Army and Air Force, National Guard Bureau and in accordance with OSHA Lead in Construction Interim Final Standard (29 CFR 1926.62) for lead based paint abatement, indoor firing range remediation and lead dust remediation.

All work was preformed by skilled, Licensed Lead Based Paint Workers, licensed by the State of Oklahoma.

## LOCATIONS:

### Location 1:

407 West Pontotoc, Minco, Oklahoma

RECEIVED

JUN 06 2011

LAND PROTECTION DIVISION  
DEPARTMENT OF ENVIRONMENTAL QUALITY

## Table of Contents

Contract Documents and Change Orders	Section 1
Statement of Work and Addendums	Section 2
Minco Photos	Section 3
Minco Clearance Testing Results	Section 4
Minco Disposal Waste Profile & Test Results	Section 5
Waste Manifest	Section 6

## **SECTION 1**

### **Contract Documents And Change Orders**



State of Oklahoma  
 Department of Central Services  
 Construction and Properties

**NOTICE TO PROCEED / WORK ORDER**

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Notice to proceed date: **November 8, 2010**

In accordance with the Agreement or Purchase Order dated: **11/08/2010**

Between the Vendor's client identified as the Owner: **The State of Oklahoma,**  
 acting through the **Department of Central Services,**  
**Construction and Properties Division** on behalf of the  
**Oklahoma Department of Environmental Quality**  
**PO Box 1677**  
**Oklahoma City, OK 73101**

and the Vendor: **Crystal Creek Environmental Solutions**  
**1401 Cornell Parkway**  
**Oklahoma City, OK 73108**

For the following Project: **DCS Project Number: 11042 (Please, reference on all invoices)**  
**DCS Purchase Order Number: 2929013570 (Please, reference on all invoices)**  
**Project Name: Minco Armory Lead Remediation**

1. Authorization is given to proceed with the **Minco Armory Lead Remediation Project.**
2. Work Periods set forth in the agreement or purchase order begin upon receipt of this Notice to Proceed / Work Order.
3. Contract Time: **45 Days**
4. Contract Sum: **\$73,531.00**
5. Completion Date: **December 22, 2010**

Distribution:

- Contractor
- Consultant, if Applicable
- Using Agency
- CAP Project Manager
- CAP Project File



# Purchase Order

Dispatch via Print

**Dept of Environmental Quality**  
OK DEPT OF ENVIRONMENTAL QUALITY  
SHIPPING & RECEIVING  
707 N ROBINSON  
OKLAHOMA CITY OK 73102

<b>Purchase Order</b> 2929013570	<b>Date</b> 11/08/2010	<b>Revision</b> 1	<b>Page</b> 1
<b>Payment Terms</b> 0 Days	<b>Freight Terms</b> Free on board at Destination	<b>Ship Via</b> Common	
<b>Buyer</b> Tiffany McBurnett (580)	<b>Phone</b> 405/522-0047	<b>Currency</b> USD	
<b>Ship To:</b> OK DEPT OF ENVIRONMENTAL QUALITY SHIPPING & RECEIVING 707 N ROBINSON OKLAHOMA CITY OK 73102			

**Vendor:** 0000237377  
CRYSTAL CREEK ENVIRONMENTAL SOLUTIONS  
1401 CORNELL PARKWAY  
OKLAHOMA CITY OK 73108-1811

**Bill To:** OK DEPT OF ENVIRONMENTAL QUALITY  
ADMINISTRATIVE SERVICES  
PO BOX 1677  
OKLAHOMA CITY OK 73101-1677

Line-Sch	Item Id	Description	Quantity	UOM	PO Price	Extended Amt	Due Date
1- 1	1000002278	ENV REMEDIATION SERVICES:Task XXV Per Diem Unit Cost Rate~Environmental Remediation Services. Furnish All Labor, Materials & Equipment Necessary Task XXV. Per diem unit cost rate	1.0000	SUM	73,531.0000	73,531.00	11/08/2010

LEAD REMEDIATION FOR THE MINCO ARMORY

PRICE AND VENDOR TO BE DETERMINED AFTER BIDS RECEIVED BY DCS

Total PO Amount

73,531.00

COMMENTS:  
DCS #11042  
Rebekah Richardson-Project Mgr.  
405-522-0050

FY 2011

PROJECT: SITE CLEANUP ASSISTANCE PROGRAM - MINCO LEAD REMEDIATION BIDDING

JUSTIFICATION: UNDER THE SITE CLEANUP ASSISTANCE PROGRAM THE DEQ WILL HIRE A LICENSED PROFESSIONAL TO ABATE LEAD CONTAMINATION FROM AN INDOOR FIRING RANGE, LEAD BASED PAINT INCLUDING REPLACING DOORS, AND LEAD CONTAMINATED DUST FROM THE FLOORS AND WINDOW SILLS IN THE MINCO ARMORY.

THIS PROJECT WAS ALREADY BID AND AWARDED TO KJ ENVIRONMENTAL. THE WINDOWS WERE REMOVED AND REPLACED AND THE DOORS WERE REMOVED BUT NOT REPLACED. A DECISION WAS MADE BY KJ ENVIRONMENTAL, DEQ AND DCS TO REMOVE KJ ENVIRONMENTAL FROM THIS CONTRACT AND REBID THE REMAINING WORK. THE BUILDING CONTAINS AN INDOOR FIRING RANGE AND HAS HIGH LEVELS OF LEAD ON THE FLOOR OF THE ENTIRE BUILDING. THE BUILDING ALSO CONTAINS LEAD-BASED PAINT ON SEVERAL SURFACES. THE NON-FRICTION SURFACES WILL BE ENCAPSULATED, THE FRICTION SURFACES WILL HAVE ALL PAINT REMOVED AND THE DOORS WILL BE REPLACED.

(FOR AGENCY USE ONLY)

CONTACT: KAREN RUMSEY/ASD/(405)702-1168  
MARY JOHNSON/LPD/(405)702-5100

DEQ IS AN EQUAL OPPORTUNITY EMPLOYER.

FUNDING: 493

REQUISITION #2920003019 - PLEASE RETURN PO TO MARY JOHNSON

8/17/2010

Authorized Signature



# Purchase Order

Dispatch via Print

**Dept of Environmental Quality**  
OK DEPT OF ENVIRONMENTAL QUALITY  
SHIPPING & RECEIVING  
707 N ROBINSON  
OKLAHOMA CITY OK 73102

<b>Purchase Order</b>	<b>Date</b>	<b>Revision</b>	<b>Page</b>
2929013570	11/08/2010		2
<b>Payment Terms</b>	<b>Freight Terms</b>		<b>Ship Via</b>
0 Days	Free on board at Destination		Common
<b>Buyer</b>	<b>Phone</b>		<b>Currency</b>
Tiffany McBurnett (580)	405/522-0047		USD

**Ship To:** OK DEPT OF ENVIRONMENTAL QUALITY  
SHIPPING & RECEIVING  
707 N ROBINSON  
OKLAHOMA CITY OK 73102

**Vendor:** 0000237377  
CRYSTAL CREEK ENVIRONMENTAL SOLUTIONS  
1401 CORNELL PARKWAY  
OKLAHOMA CITY OK 73108-1811

**Bill To:** OK DEPT OF ENVIRONMENTAL QUALITY  
ADMINISTRATIVE SERVICES  
PO BOX 1677  
OKLAHOMA CITY OK 73101-1677

Tax Exempt?	N	Tax Exempt ID:	Quantity	UOM	PO Price	Extended Amt	Due Date
Line-Sch	Item Id	Description					

Authorized Signature



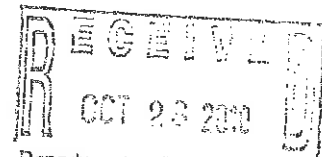
State of Oklahoma  
Department of Central Services  
Construction and Properties Division

**Standard Form of Agreement Between Owner and Contractor where  
the basis of payment is a Stipulated Sum**

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

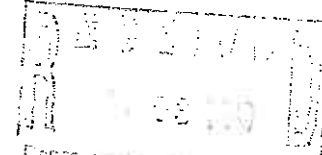
AGREEMENT made as of the 21st day of October, 2010.

**BETWEEN** the Owner: State of Oklahoma  
Construction and Properties Division  
Department of Central Services  
Will Rogers Office Building  
2401 N. Lincoln, Suite 106  
Oklahoma City, OK 73152-3448



Department of Central Services  
Construction & Properties

On behalf of: Department of Environmental Quality  
707 N. Robinson  
Oklahoma City, OK 73102



Department of Central Services  
Construction & Properties

And the Contractor: Crystal Creek Environmental  
1401 Cornell Parkway  
Oklahoma City, OK 73108

The Project is: Minco Armory Lead Remediation  
Minco, OK

The Consultant is: N/A

The Owner and the Contractor agree as follows:

**ARTICLE 1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement; these form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 8.

**ARTICLE 2 THE WORK OF THIS CONTRACT**

The Contractor shall fully execute the Work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.

**ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

3.2 The Contract Time shall be measured from the date of Work Order.

3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than 45 days from the date of commencement, or as follows: None, subject to adjustments of this Contract Time as provided in the Contract Documents.

#### ARTICLE 4 CONTRACT SUM

4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be Seventy Three Thousand, Five Hundred Thirty-One Dollars \$ 73,531.00, subject to additions and deductions as provided in the Contract Documents.

4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner. **NONE**

4.3 **Options.** The following options shall remain available for 30 days after the contract date. After the expiration date, the cost of the option may be negotiated by the Owner and Contractor. **NONE**

4.4 **Unit prices**, if any, are as follows: Dollars/Square Foot \$12.75 Application of construction grout over imbedded lead.

#### ARTICLE 5 PAYMENTS

##### 5.1 PROGRESS PAYMENTS

5.1.1 The Contractor shall follow the current Rules and Procedures established by the Construction and Properties Division of the Department of Central Services, State of Oklahoma to ensure compliance with state statutes.

5.1.2 Based upon Applications for Payment submitted to the Consultant by the Contractor and Certificates for Payment issued by the Consultant, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

5.1.3 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month or as follows:

5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Consultant may require. This schedule, unless objected to by the Consultant, shall be used as a basis for reviewing the Contractor's Application for Payment.

5.1.5 Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedules of values, less retainage of five percent (5%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Subparagraph 7.3.8 of CAP Document A201-General Conditions;

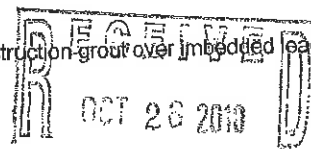
.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of five percent (5%).

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Consultant has withheld or nullified a Certificate for Payment as provided in Paragraph 9.5 of CAP Document A201-1997.

5.1.7 The progress payment amount determined in accordance with Subparagraph 5.1.6 shall be further modified under the following circumstances:

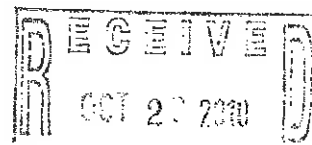
.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Consultant and Owner shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and (stat other requirements if any).





.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Subparagraph 9.10.3 of CAP Document A201-General Conditions.

5.1.8 Reduction or limitation of retainage, if any, shall be as follows:  
Refer to CAP Form A201 General Conditions Section 9.3.1.1.



Department of Central Services  
Construction & Properties

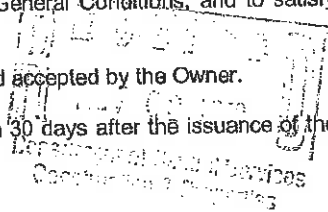
5.2 FINAL PAYMENT

5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when:

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Subparagraph 12.2.2 of CAP Document A201-General Conditions, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Consultant and accepted by the Owner.

5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Consultant's final Certificate for Payment.



Department of Central Services  
Construction & Properties

ARTICLE 6 TERMINATION OR SUSPENSION

6.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of CAP Document A201-General Conditions.

6.2 The Work may be suspended by the Owner as provided in Article 14 of CAP Document A201-General Conditions.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 Where reference is made in this Agreement to a provision of CAP Document A201-General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Document.

7.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the legal state rate.

7.3 The Owner's representative is: **John W. Morrison AIA**  
**State Construction Administrator**  
**Construction and Properties Division**  
**Department of Central Services**  
**P. O. Box 53448**  
**Oklahoma City, OK 73152-3448**

7.4 The Contractor's representative is: **Michael Jenkinson.**

7.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

7.6 AUDITS AND RECORDS CLAUSE: As used in this clause, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form. In accepting any contract with the State, the Contractor agrees any pertinent State or Federal agency will have the right to examine and audit all records relevant to execution of the resultant contract. The Contractor is required to retain all records relative to this contract for the duration of the contract term and for a period of three years following completion and/or termination of the contract. If an audit, litigation, or other action involving such records are started before the end of the three year period, the records are required to be maintained for three years from the date that all issues arising out of the action are resolved or until the end of the three year retention period, whichever is later.

7.7 The Contractor certifies that it and all proposed subcontractors, whether known or unknown at the time this contract is executed or awarded, are in compliance with 25 O.S. §1313 and participate in the Status Verification System. The Status Verification System is defined in 25 O.S. §1312 and includes but is not limited to the free Employee Verification Program (E-Verify) available at [www.dhs.gov/E-Verify](http://www.dhs.gov/E-Verify).

7.8 Other provisions: **None**

ARTICLE 8 ENUMERATION OF CONTRACT DOCUMENTS

8.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:

8.1.1 The Agreement is this executed edition of the Standard Form of Agreement Between Owner and Contractor, CAP Document A101.

8.1.2 The General Conditions are the current edition of the General Conditions of the Contract for Construction, CAP Document A201, as incorporated in the Project Manual.

8.1.3 The Supplementary and other Conditions of the Contract are those contained in the Project Manual dated September 2010 and are as follows:

Document As Specified	Title	Date
--------------------------	-------	------

8.1.4 The Specifications are those contained in the Project Manual dated as in Subparagraph 8.1.3, and are as follows:

Number As Specified	Title	Date
------------------------	-------	------

8.1.5 The Drawings are as follows, and are dated unless a different date is shown below:

Number As Specified	Title	Date
------------------------	-------	------

8.1.6 The Addenda, if any, are as follows:

Number (1) One	Date September 17, 2010	Pages (1) One
-------------------	----------------------------	------------------

8.1.7 Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 8.

8.1.8 Other documents, if any, forming part of the Contract Documents are as follows:

This agreement is entered into as of the day and year first written above and is executed in at least three original copies, of which one is to be delivered to the Contractor, one to the Consultant for use in the administration of the Contract, and the remainder to the Owner.

This Agreement entered into as of the day and year written above.

STATE OF OKLAHOMA  
DEPARTMENT OF CENTRAL SERVICES

CRYSTAL CREEK ENVIRONMENTAL  
OKLAHOMA CITY, OK

*Michael James #912*  
\_\_\_\_\_  
Owner (Signature)

*[Signature]*  
\_\_\_\_\_  
Contractor (Signature)

John W. Morrison AIA  
\_\_\_\_\_  
State Construction Administrator  
Construction and Properties Division

*Michael M. Tenkinson, President*  
\_\_\_\_\_  
(Printed name and title) FEI # 731452615

The Using Agency certifies that funds are available and dedicated to complete the contract sums stated in this Contract. The Using Agency agrees to pay all project related costs including but not limited to work related to unknown site conditions, remediation of discovered environmental conditions, legal expenses, judgments and any reasonable project related expense.

Department of Environmental Quality

*Larry Caperton 11-2-10*  
\_\_\_\_\_  
Using Agency Authorized Representative (Signature)

WENDY CAPERTON, DIRECTOR OF ADMIN. SERVICES  
(Printed name and title)

RECEIVED  
OCT 21 2010

Department of Environmental Quality  
Construction Division  
11-00-2010  
Department of Environmental Quality  
Construction Division



State of Oklahoma  
Department of Central Services  
Construction and Properties Division

Non-Collusion Affidavit

The statement below must be signed and notarized before this contract will become effective

Michael Jenkinson of lawful age, being first duly sworn, on oath says that (s)he is the agent authorized by Contractor to submit the above Contract to the State of Oklahoma.

Affiant further states that contractor has not paid, given, or donated or agreed to pay, give or donate to any officer or employee of the State of Oklahoma any money or other thing of value, either directly or indirectly, in the procuring of the Contract.

[Signature]  
Contractor

Michael Jenkinson, President  
(Printed name and title)

CHERYL F. NELSON  
Notary Public  
State of Oklahoma  
Commission # 03001390 Expires 02/07/12

Subscribed and sworn to before me this 26<sup>th</sup> day of October, 2010

[Signature]  
Notarial Officer

Commission Number: 03001390  
My Commission Expires: 02/07/12

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02 10 10  
Department of Central Services  
Construction and Properties Division



State of Oklahoma  
Department of Central Services  
Construction and Properties Division

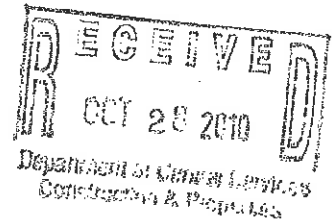
Bond #OKC607419

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable. This document may not be altered or modified.

**CONTRACTOR (Name and Address):**  
Crystal Creek Environmental Solutions, Inc.  
Environmental Solutions Specialists, Inc.  
1401 Cornell Parkway  
Oklahoma City, OK 73108  
**OWNER: Construction and Properties Division**  
Department of Central Services  
State of Oklahoma  
P.O. Box 53448  
Oklahoma City, OK. 73152-3448

**SURETY (Name and Principal Place of Business):**  
American Safety Casualty Insurance Co.  
909 S Meridian, #700  
Oklahoma City, OK 73108

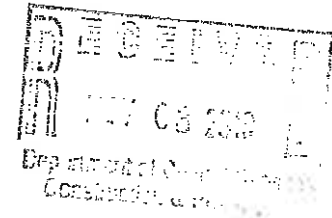


**CONSTRUCTION CONTRACT**

Date: October 21st, 2010

Amount: \$73,531.00

Description (Name and Location): Minco Armory Lead Remediation, Minco OK



**BOND:**

Date (Not earlier than Construction Contract Date): October 21st, 2010

Amount: \$73,531.00

**CONTRACTOR (Representative):**

Signature:

Name and Title: Mike Jenkinson, President

**SURETY (Representative):**

Signature:

Name and Title: Dee Lyles, Attorney-in-fact

(FOR INFORMATION ONLY-Name, Address and Telephone)

**AGENT or BROKER:**  
The Insurance Center Agency, Inc.  
709 Wall Street  
Norman, OK 73069

**OWNER'S REPRESENTATIVE (Architect, Engineer or other party):**

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 The Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than ten (10) days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor's Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than seven (7) days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4 When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions.

4.1 Arrange for a Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner, and as soon as practicable after the amount is determined, tender payment therefor to the Owner; or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefor.

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fourteen (14) days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

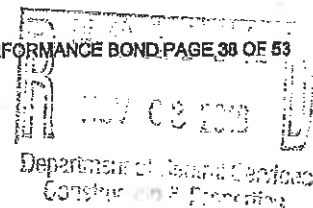
6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

8 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

9 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provisions in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.



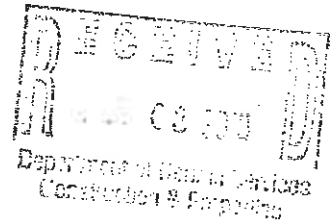
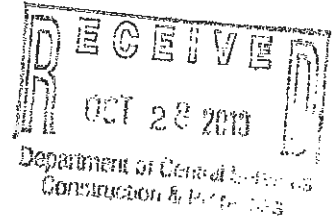
10 DEFINITIONS

10.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in Settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

10.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

10.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

10.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract.





State of Oklahoma  
Department of Central Services  
Construction and Properties Division

BOND #OKC607419

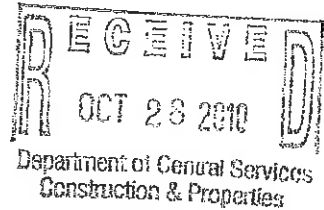
Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable. This document may not be altered or modified.

**CONTRACTOR** (Name and Address):  
Crystal Creek Environmental Solutions, Inc.  
Environmental Solutions Specialists, Inc.  
1401 Cornell Parkway  
Oklahoma City, OK 73108

**SURETY** (Name and Principal Place of Business):  
American Safety Casualty Insurance Co.  
909 S Meridian, #700  
Oklahoma City, OK 73108

**OWNER:** Construction and Properties Division  
Department of Central Services  
State of Oklahoma  
P.O. Box 53448  
Oklahoma City, OK. 73152-3448

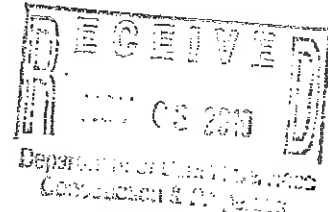


**CONSTRUCTION CONTRACT**

Date: October 21st, 2010

Amount: \$73,531.00

Description (Name and Location): Minco Armory Lead Remediation, Minco OK



**BOND:**

Date (Not earlier than Construction Contract Date): October 21st, 2010

Amount: \$ 73,531.00

**CONTRACTOR** (Representative):

**SURETY** (Representative):

Signature:

Name and Title: Mike Jenkinson, President

Signature:

Name and Title: Dee Lyles, Attorney-in-fact

(FOR INFORMATION ONLY-Name, Address and Telephone)

**AGENT or BROKER:**  
The Insurance Center Agency, Inc.  
709 Wall Street  
Norman, OK 73069

**OWNER'S REPRESENTATIVE** (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2 With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4 The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

.2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

.3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5 If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6 When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

10 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

11 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

12 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

OCT 23 2010  
Department of General Services  
Construction & Facilities

PAYMENT BOND PAGE 41 OF 53  
OCT 23 2010  
Department of General Services  
Construction & Facilities



13 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

14 DEFINITIONS

14.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

14.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

14.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract.

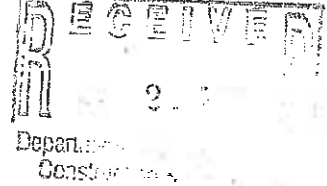
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Department of Central Services  
Construction & Properties

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OCT 28 2010  
Department of Central Services  
Construction & Properties



State of Oklahoma  
Department of Central Services  
Construction and Properties Division

Bond #OKC607419



**Statutory Defect Bond**  
61 O.S. 1991, Section 113 (B)(3)

**KNOW ALL MEN BY THESE PRESENTS :**

That Crystal Creek Environmental Solutions, Inc. &/or Environmental Solutions Specialists, Inc. as Principal and American Safety Casualty Insurance Co. a corporation organized under the laws of the State of Oklahoma and authorized to transact business in the State of Oklahoma, as Surety, are held and firmly bound unto the State of Oklahoma in the penal sum of Seventy-Three Thousand Five Hundred Dollars (\$ 73,531.00) in lawful money of the United States of America, said sum being equal to One Hundred percent (100%) of the Contract price, for the payment of which, well and truly to be made, we bind ourselves and each of us, our heirs, executors, administrators, trustees, successors, and assigns, jointly and severally, firmly by these presents:

The condition of this obligation is such that:

WHEREAS, said Principal entered into a written contract with the State of Oklahoma, dated October 21st, 2010 for Minco Armory Lead Remediation, Minco OK

DCS Project Number  
all in compliance with the plans and specifications therefore, made a part of said contract and on file in the Department of Central Services, Construction and Properties Division, 2401 N. Lincoln Blvd., Suite 106, Oklahoma City, Oklahoma 73105.

NOW, THEREFORE, if said Principal shall pay or cause to be paid to the State of Oklahoma all damage, loss, and expense which may result by reason of defective materials and/or workmanship in connection with said work, occurring within a period of one (1) year from and after the acceptance of said project by the State of Oklahoma; then this obligation shall be null and void, otherwise to be and remain in full force and effect.

It is expressly agreed and understood by the parties hereto that no changes or alterations in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligations of this Bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized so to do, the day and year set forth below.

DATED this 21st day of October, 20 10.

Principal: Crystal Creek Environmental Solutions, Inc.

By: Mike Jenkinson (Title) President

ATTEST:

Surety: Dee Lyles  
(Attorney-in-fact)

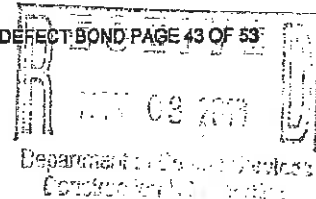
By: Dee Lyles

Name: The Insurance Center Agency, Inc.

Address: 709 Wall Street

City: Norman State: OK

Telephone: (405) 928-7533





NUMBER  
OKC607419

### POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that American Safety Casualty Insurance Company has made, constituted and appointed, and by these presents does make, constitute and appoints:

John Cate, Harold Stocksfill, Dee Lyles, John Gipson, Christy Walok of Norman, OK

its true and lawful attorney-in-fact, for it and its name, place, and stead to execute on behalf of the said Company, as surety, bonds, undertaking and contracts of suretyship to be given to

#### ALL OBLIGEEES

provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of

**\*\*\* TWO MILLION\*\*\* (\$2,000,000.00) DOLLARS\*\*\***

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company of the 6<sup>th</sup> day of August, 2009.

**RESOLVED**, that the President in conjunction with the Secretary or any Assistant Secretary may appoint attorneys-in-fact or agents with authority as defined or limited in the instrument evidencing the appointment in each case, for and on behalf of the Company, to execute and deliver and affix the seal of the Company to bonds, undertakings, recognizances, and suretyship obligations of all kinds; and said officers may remove any such attorney-in-fact or agent and revoke any power of attorney previously granted to such persons.

**RESOLVED FURTHER**, that any bond, undertaking, recognizance, or suretyship obligation shall be valid and binding upon the company when: (i) when signed by the President or any Vice-President and attested and sealed (if a seal is required) by any Secretary or Assistant Secretary or (ii) when signed by the President or any Vice-President or Secretary or Assistant Secretary, and counter-signed and sealed (if a seal is required) by a duly authorized attorney-in-fact or agent, or (iii) when duly executed and sealed (if a seal is required) by one or more attorney-in-fact or agents pursuant to and within the limits of the authority evidenced by the power of attorney issued by the Company to such person or persons.

**RESOLVED FURTHER**, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed.

**IN WITNESS WHEREOF**, American Safety Casualty Insurance Company has caused its official seal to be hereunto affixed, and these presents to be signed by its President and attested by its Secretary this 6<sup>th</sup> day of August, 2009

Attest:  
  
Ambuj Jain



Joseph D. Scolio, Jr.

STATE OF GEORGIA  
COUNTY OF COBB

On this 6<sup>th</sup> day of August, 2009, before me personally came Joseph D. Scolio, Jr., to me known, who, being by me duly sworn, did depose and say that he is the President of American Safety Casualty Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

JAMI BAILEY  
Notary Public, Hall Co., GA  
My Commission Expires Aug. 13, 2012

Jami Bailey, Notary Public

I, the undersigned, Secretary of American Safety Casualty Insurance Company, an Oklahoma corporation, DO HEREBY CERTIFY, that the foregoing and attached Power of Attorney remains in full force and has not been revoked; and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney, is now in force.

Signed and sealed in the City of Atlanta, in the State of Georgia Dated this 21<sup>st</sup> day of October, 2010.

Ambuj Jain

ORIGINALS OF THIS POWER OF ATTORNEY ARE PRINTED WITH RED NUMERICAL NUMBERS  
DUPLICATES SHALL HAVE THE SAME FORCE AND EFFECT AS AN ORIGINAL ONLY WHEN ISSUED IN CONJUNCTION WITH THE ORIGINAL



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
10/26/2010PRODUCER (405) 321-2727 FAX: (405) 321-3074  
The Insurance Center Agency, Inc.  
99 Wall Street

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

Norman OK 73069-6303

## INSURERS AFFORDING COVERAGE

NAIC #

INSURED  
Environmental Solutions Specialists, Inc.  
Crystal Creek Environmental Solutions, Inc.  
1401 Cornell Parkway, #100  
Oklahoma City OK 73108INSURER A: America Safety Indemnity Comp  
INSURER B: CompSource Oklahoma  
INSURER C: Hanover Insurance Co.  
INSURER D:  
INSURER E:

## COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY	ENV013101-10-05	4/3/2010	4/3/2011	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person) \$ 5,000
	<input checked="" type="checkbox"/> Contractor Pollution				PERSONAL & ADV INJURY \$ 1,000,000
GEN'L AGGREGATE LIMIT APPLIES PER:					GENERAL AGGREGATE \$ 2,000,000
<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC					PRODUCTS - COMPROP AGG \$ 2,000,000
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT (Ea accident) \$
	ANY AUTO				BODILY INJURY (Per person) \$
	ALL OWNED AUTOS				BODILY INJURY (Per accident) \$
	SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident) \$
	HIRE AUTOS				AUTO ONLY - EA ACCIDENT \$
	NON-OWNED AUTOS				OTHER THAN EA ACC AGG \$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT \$
	ANY AUTO				OTHER THAN EA ACC AGG \$
A	EXCESS / UMBRELLA LIABILITY	ENU019014-10-03	4/3/2010	4/3/2011	EACH OCCURRENCE \$ 4,000,000
	<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE \$ 4,000,000
	DEDUCTIBLE				\$
	<input checked="" type="checkbox"/> RETENTION \$ 10,000				\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	01327788 10 1	3/1/2010	3/1/2011	<input checked="" type="checkbox"/> W/C STATUTORY LIMITS <input type="checkbox"/> OTHER \$ 1,000,000
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)				E.L. EACH ACCIDENT \$ 1,000,000
	If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
A	OTHER Professional Liab.	ENV013101-10-05	4/3/2010	4/3/2011	Limit 1,000,000
C	Rented/Leased Equip.	LHT2908731-06	3/10/2010	3/10/2011	Limit \$300,000

## DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

RE: Minco Armory Lead Remediation, Minco OK  
Microbiological Decontamination and Microbiological Contamination consulting coverage is on a claims made form with each having a \$5,000 per claim SIR. General Liability has a \$5,000 deductible per occurrence. Professional liability is on a claims made form and has a \$5,000 deductible per claim.

## CERTIFICATE HOLDER

State of Oklahoma, Construction & Properties Division, Department of Central Services  
Will Rogers Office Building  
2401 N Lincoln, #106  
Oklahoma City, OK 73152

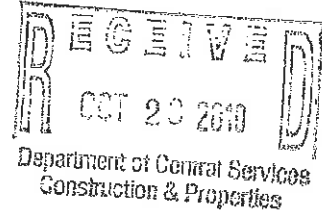
## CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

John Gipson/ADM

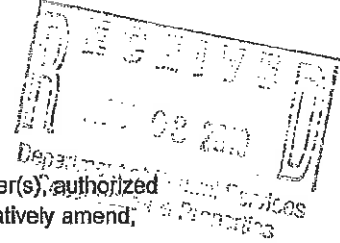
**IMPORTANT**



If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

**DISCLAIMER**



This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

## **SECTION 2**

### **Statement of Work And Addendums**

## **SECTION 3**

### **Minco Photos**

**Minco Armory  
407 West Pontotoc Street  
Minco, OK  
Lead Remediation 11042**



Photo: 1) Pre Lead Abatement



Photo: 2) Pre Lead Abatement



Photo: 3) Pre Lead Abatement



Photo: 4) Pre Lead Abatement



Photo: 5) Pre Lead Abatement

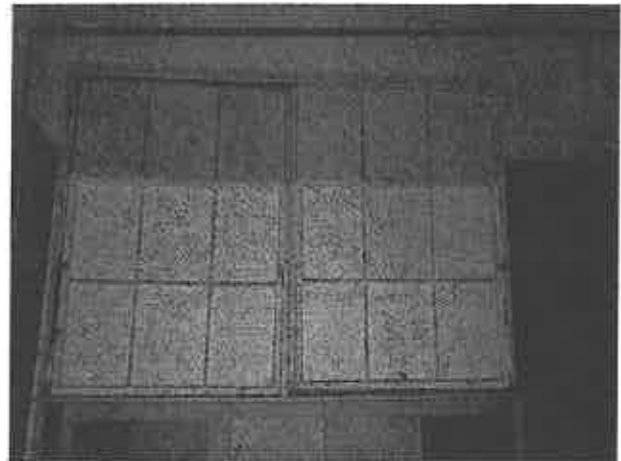


Photo: 6) Pre Lead Abatement





**Photo: 7) Post Lead Abatement; Lead-Based Paint Door and Door Frame with Paint Removed.**



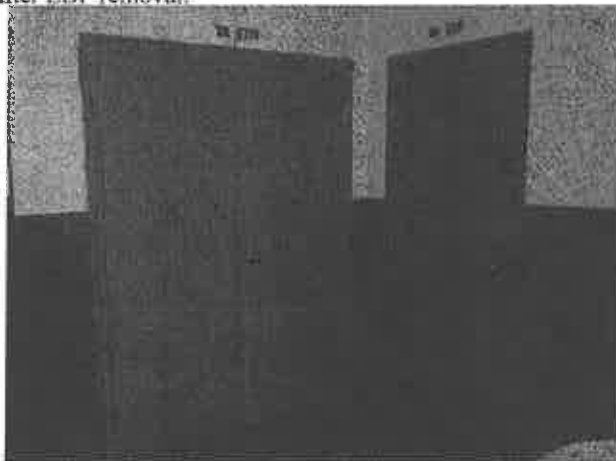
**Photo: 8) Post Lead Abatement; Lead-Based Paint Door Frame with Paint Removed.**



**Photo: 9) Post Lead Abatement; Primed Door and Frame after LBP removal.**



**Photo: 10) Post Lead Abatement; Primed door Frame after LBP Removal.**



**Photo: 11) Post Lead Abatement; New Door and Primed Door Frame after LBP Removal.**



**Photo: 12) Post Lead Abatement; Primed Stair Rails and Door Frame after LBP Removal.**

**Minco Armory  
407 West Pontotoc Street  
Minco, OK  
Lead Remediation 11042**



Photo: 13) Post Lead Abatement and Cleaning Activity



Photo: 14) Post Lead-Based Paint Abatement; Exterior Window Sills and Lintels.

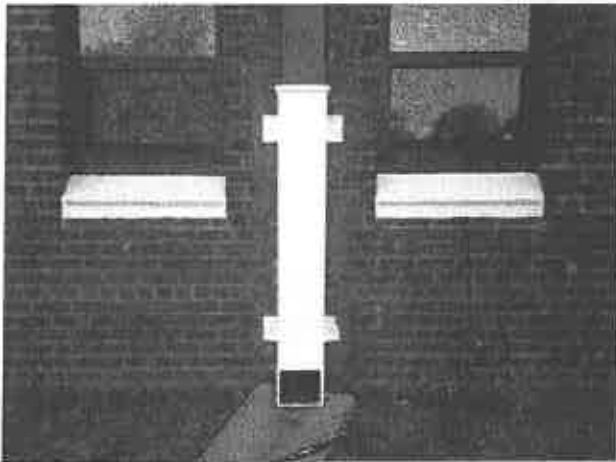


Photo: 15) Post Lead-Based Paint Abatement.

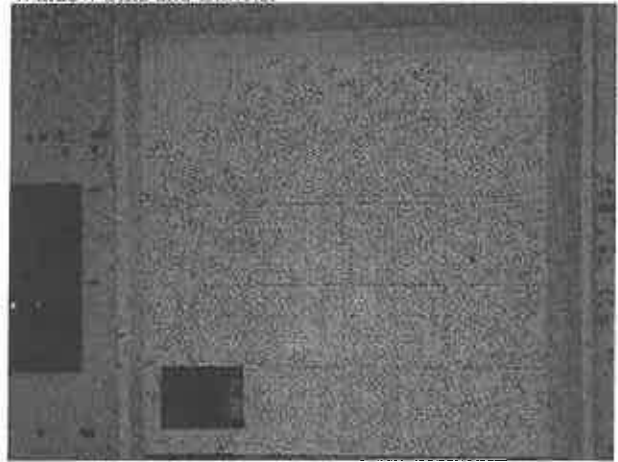


Photo: 16) Post Lead-Based Paint Abatement.



Photo: 17) Post Lead Abatement and Cleaning Activity; Primed Door Frame after LBP Removal and Floor After



Photo: 18) Post Lead Abatement and Cleaning Activity; Primed Door Frame after LBP Removal and Floor After

## **SECTION 4**

### **Minco Clearance Testing Results**

**ARMORY LEAD CONFIRMATION SAMPLING  
MINCO ARMORY  
500 NW PONTOTOC STREET  
MINCO, OKLAHOMA**

Prepared For:  
**Oklahoma Department of Environmental Quality  
Land Protection Division  
707 N. Robinson Avenue  
Oklahoma City, OK 73102**

April 11, 2011

 **ENERCON**  
ENERCON SERVICES, INC.  
6525 North Meridian, Suite 400  
Oklahoma City, Oklahoma 73116  
(405) 722-7693 Fax: (405) 722-7694

Prepared by:



---

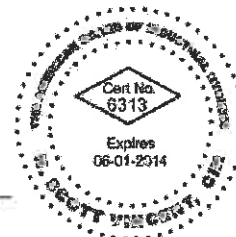
Emmett W. Muenker, M.E.  
Lead-Based Paint Inspector/Risk Assessor  
OKRASR-11260

Reviewed by:



---

H. Scott Vincent, CIH  
Senior Industrial Hygienist  
Lead-Based Paint Project Designer



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2.0 BACKGROUND	1
3.0 CONFIRMATION PROCEDURES	1
4.0 CONFIRMATION SAMPLING	2
5.0 CONCLUSIONS	4

## APPENDICES

- APPENDIX A – Scope of Work for Confirmation Lead Sampling
- APPENDIX B – Lead-Based Paint Firm and Individual Licenses
- APPENDIX C – Post-Remediation Initial Confirmation Sampling Results – IFR
- APPENDIX D – Post-Remediation Final Confirmation Results – IFR
- APPENDIX E – Post Remediation Initial Confirmation Sampling Results – Drill Floor & Office Area
- APPENDIX F – Post Remediation First Re-Sampling Confirmation Results – Drill Floor & Office Area
- APPENDIX G – Post Remediation Second Confirmation Re-Sampling Results – Drill Floor & Office Area
- APPENDIX H – Post Remediation Final Confirmation Sampling Results – Drill Floor & Office Area

## **1.0 PURPOSE AND SCOPE**

This clearance sampling was requested by the Oklahoma Department of Environmental Quality, Land Protection Division, in order to confirm that lead remediation at the Minco Armory, 500 NW Pontotoc Street, Minco, Oklahoma, had been satisfactorily completed. Enercon was contracted to conduct confirmation wipe samples following remediation using the sampling protocols described in the Scope of Work provided in Appendix A.

## **2.0 BACKGROUND**

The State of Oklahoma has determined that a number of armories located throughout the State that are not longer needed are to be transferred to local communities. Prior to these transfers, environmental investigations were conducted by the Oklahoma Department of Environmental Quality to determine if there are any environmental issues associated with these armories. As a result, inspections for lead contamination and lead-based paint have been conducted, resulting in contracts for remediation of lead contamination by private contractors. In order to determine if the contamination has been satisfactorily remediated, following remediation confirmation testing is being done by firms licensed by the State to conduct Lead-Based Paint Inspections and Clearance Tests. These firms are independent of the remediation contractor. The remediation contractor for the Minco Armory was Crystal Creek Environmental Solutions, Inc., 1401 Cornell Parkway, Suite 100, Oklahoma City, Oklahoma 73108.

## **3.0 CONFIRMATION PROCEDURES**

Confirmation of the adequacy of remediation is done by collecting wipe samples on the floors and/or walls of the armory on a room by room basis using the sampling criteria set forth in the Scope of Work (Appendix A). All wipe samples are collected by an Oklahoma-licensed LBP Inspector or Risk Assessor who is employed by an Oklahoma-licensed Lead-Based Paint Firm. Copies of these licenses are provided in Appendix B. The procedure involves using a floor plan layout of the armory to mark all sample locations and collecting samples using a 12" by 12" template and lead wipes to collect the samples. In the Indoor Firing Range (IFR), the walls, floor and ceiling were gridded using a 3x3 grid for ranges/rooms 50 feet long or less. For ranges longer than 50 feet, the range was divided into two halves, with each half using a 3x3 grid for sampling. For other areas of the armories, wipe samples were collected from the floor in areas where lead-based paint abatement had been completed and from a 3x3 gridded area for elevated lead dust levels. Following remediation, confirmation wipe samples were collected. If any sample within a 3x3 grid in an indoor firing range

or range storage room exceeded 200  $\mu\text{g}/\text{ft}^2$ , the entire 3x3 gridded area was re-cleaned and re-tested. Sample locations outside the IFR were collected within ten feet of the doorway for smaller rooms and larger rooms were sampled using a 3x3 grid. The Inspector marked the grid intersections and wipe sample locations with duct tape in preparation for sampling. Procedures for individual wipe samples as outlined for EPA/HUD dust wipe sampling were used for this project.

#### **4.0 CONFIRMATION SAMPLING**

##### **4.1 Results of Initial Confirmation Sampling Following Remediation in the Indoor Firing Range**

The initial round of clearance testing was conducted on December 13, 2010 following remediation in the Indoor Firing Range. The IFR was approximately 110 FT long; therefore, it was divided into two 55 FT long 3 x 3 gridded areas for wipe sampling. A total of 30 wipe samples were collected from the walls, floor and ceiling of the IFR. Two of the 30 samples collected from the IFR contained lead in excess of 200  $\mu\text{g}/\text{ft}^2$ . Appendix C contains a sketch showing the areas that exceeded the threshold during the initial round of sampling in the IFR. The laboratory report and chain of custody are located in Appendix E with the Drill Floor and Office Area results for the December 13 initial round of sampling.

##### **4.2 Results of Final Confirmation Sampling Following Re-cleaning in the Indoor Firing Range**

The areas that failed the initial clearance testing in the IFR were re-cleaned and then re-sampled on January 7, 2011. A total of six wipe samples were collected in the IFR. All six samples were below the 200  $\mu\text{g}/\text{ft}^2$  threshold; therefore no further remediation was required in the IFR. A sketch showing all areas cleared in provided in Appendix D. The laboratory report and chain of custody are in Appendix F with the Drill Floor and Office Area results for the January 7 re-sampling.

##### **4.3 Results of Initial Confirmation Sampling in the Drill Floor and Office Areas**

On December 13, 2010, initial confirmation wipe samples were collected in the Drill Floor and Office Areas. A total of 43 samples were collected, with 24 exceeding the 40  $\mu\text{g}/\text{ft}^2$  threshold. A floor plan layout showing the location of the wipe samples, and those rooms/areas that exceeded the threshold amount, the laboratory report and chain of custody are found in Appendix E.

##### **4.4 Results of First Confirmation Re-Sampling in the Drill Floor and Office Areas**

On January 7, 2011 following additional cleaning in the areas that exceeded the threshold, re-sampling confirmation wipe samples were collected in the Drill Floor and Office Areas. A total of 33

samples were collected, with eight exceeding the 40  $\mu\text{g}/\text{ft}^2$  threshold. A floor plan layout showing the location of the wipe samples, the rooms/areas that exceeded the threshold, the laboratory report and chain of custody are provided in Appendix F.

#### **4.5 Results of Second Confirmation Re-Sampling in the Drill Floor and Office Areas**

On February 14, 2011 following further additional cleaning in the eight areas that exceeded the threshold, re-sampling confirmation wipe samples were collected in the Drill Floor and Office Areas.

A total of 12 samples were collected, with only one exceeding the 40  $\mu\text{g}/\text{ft}^2$  threshold. A floor plan layout showing the location of the wipe samples, the area that exceeded the threshold, the laboratory report and chain of custody are found in Appendix G.

#### **4.6 Results of Final Confirmation Re-Sampling in the Drill Floor and Office Areas**

On February 23, 2011 following further additional cleaning in the one area that exceeded the threshold, a re-sampling confirmation wipe sample was collected in the stairwell area that exceeded the threshold. This sample was below the threshold. A floor plan layout showing the location of the wipe sample, the laboratory report and chain of custody are found in Appendix H.

### **5.0 CONCLUSIONS**

Based upon the foregoing confirmation sampling, it is concluded that the lead hazard associated with the walls, floor and ceiling in the IFR, and the floors in the Drill Room and Office Areas have been effectively mitigated.



**APPENDIX A**

**SCOPE OF WORK**  
**For**  
**Armory Lead Confirmation Sampling**

The Department of Environmental Quality will soon be hiring contractors to remediate lead-based paint and lead contaminated dust from former National Guard Armories located in Sulphur, Minco, Marlow, Pawhuska, Perry, and Kingfisher, Oklahoma. Once abatement is complete, confirmation wipe samples will need to be taken on floors in areas where lead-based paint abatement was performed and in rooms that previously tested high for lead dust on floors. Attached is the Confirmation Sampling Instructions (Attachment 1). Below is a detailed list of what will be required at each site.

- Perform each sampling event within five (5) days of notice from remediation contractor.
- Provide DEQ with sampling plan for approval prior to each sampling event. There will be up to five (5) sampling events per armory.
- Travel to the each site up to (5) times to take confirmation wipe samples.
- A total of 250 confirmation wipe samples will be taken per armory.
- A total of 1500 confirmation wipe samples will be taken for this project.
- Samples will be run with a 24 hour turnaround time and results with sample location map will be submitted to DEQ for review.
- Once all sampling is complete at an armory, a Confirmation Sampling Report will be submitted to DEQ for approval.
  - A total of six (6) Confirmation Sampling Reports shall be submitted.
  - One report will be submitted for each armory.

## Confirmation Sampling Instructions

### Protocol for Collecting Wipe Samples

1. Prepare a rough sketch of the area(s) or room(s), to be wipe sampled.
  - a. Mark all sample locations on map before sample event starts.
  - b. When possible DEQ will supply a floor plan map with sample locations marked.
2. A new set of clean, impervious gloves should be used for each sample to avoid cross contamination of samples.
3. Wipe Samples
  - a. If using Ghost Wipes™, tear open the individually sealed package. Remove the moistened wipe. Unfold the wipe.
  - b. If using a dry media such as MCE or Whatman™ filter, moisten the filter with distilled or deionized water prior to sampling.
4. Place a 12 inch by 12 inch, 1 foot square, template on the area to be wiped.
5. Apply uniform firm pressure while wiping the area inside the template.
6. To insure that all portions of the partitioned area are wiped, start at the outside edge and progress toward the center making concentric squares decreasing in size.
7. After collecting a sample, fold the filter or wipe inward and place into a container and number it. Note the number at the sample location on the sketch.
8. At least one blank filter treated in the same fashion but without wiping, should be submitted to the laboratory with every 10 samples.

### Confirmation Sampling Instructions

#### Indoor Firing Range

1. To properly sample the IFR, a 3 section by 3 section grid system shall be used. Samples shall not be collected on all one section or end of a grid. A total of 3 samples shall be collected per 3 section by 3 section grid.
  - Each range surface less than 50 feet in length shall be divided into a 3 section by 3 section grid. (Figure 1 and Figure 2)
  - Each range surface more than 50 feet in length shall be divided in half and a 3 section by 3 section grid shall be established on each half. (Figure 3 and Figure 4)
2. If a sample fails, the entire 3 section by 3 section grid shall be re-cleaned and re-sampled.
  - Confirmation samples taken *after remediation* are considered to have failed if results exceed **200 ug/ SF**.
  - Confirmation samples taken *after sealing* are considered to have failed if results exceed **40 ug/SF**.
3. If more than ten (10) confirmation samples fail, the entire IFR shall be re-cleaned.

4. DEQ reserves the right to take additional confirmation samples.

**Areas Where Lead-Based Paint Abatement Has Been Performed**

1. One (1) confirmation wipe sample shall be taken on the floor within ten feet of the abatement area.
  - a. If a confirmation sample for lead dust is located within ten feet of the lead-based paint abatement area, this sample can count as both the lead-based paint and lead dust confirmation sample (See below for details on lead dust confirmation sampling).
2. Sample results in excess of 40 ug/SF are considered to have failed. If a sample result fails, the area shall be re-cleaned and re-sampled.

**Areas Outside IFR with Elevated Lead Dust on Floor**

1. A 3 section by 3 section grid system shall be used. Samples shall not be collected on all one section or end of a grid. A total of 3 samples shall be collected per 3 section by 3 section grid.
  - Each floor surface less than 50 feet in length shall be divided into a 3 section by 3 section grid. (Figure 1 and Figure 2)
  - Each floor surface more than 50 feet in length shall be divided in half and a 3 section by 3 section grid shall be established on each half. (Figure 3 and Figure 4)
2. Sample results in excess of 40 ug/SF are considered to have failed. If a sample fails, the entire 3 section by 3 section grid shall be re-cleaned and re-sampled.
3. DEQ reserves the right to take additional confirmation samples.

**Figure 1. ACCEPTABLE FOR SURFACES LESS THAN 50 FEET**

Wipe Sample		
	Wipe Sample	
		Wipe Sample

Figure 2. NOT ACCEPTABLE FOR SURFACES LESS THAN 50 FEET

Wipe Sample	<u>OR</u> Wipe Sample	Wipe Sample
Wipe Sample		
Wipe Sample		

Figure 3. ACCEPTABLE FOR SURFACES GREATER THAN 50 FEET

Wipe Sample					Wipe Sample
	Wipe Sample		Wipe Sample		
		Wipe Sample		Wipe Sample	

Surface Center

Figure 4. NOT ACCEPTABLE FOR SURFACES GREATER THAN 50 FEET

				Wipe Sample	
Wipe Sample	Wipe Sample	Wipe Sample		Wipe Sample	
				Wipe Sample	

Surface Center

**APPENDIX B**

# Department of Environmental Quality

This is to Certify That

## ENERCON SVC INC

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

### FIRM

Certification #: OKFIRM11152

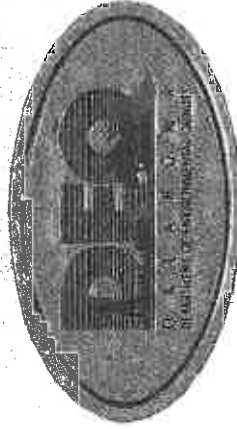
This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: **4/1/2010**

Expires on: **3/31/2011**



Division Director  
Air Quality Division



Environmental Programs Manager  
Air Quality Division

# Department of Environmental Quality

This is to Certify That

## ENERCON SVC INC

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

### FIRM

Certification #: OKFIRM11152


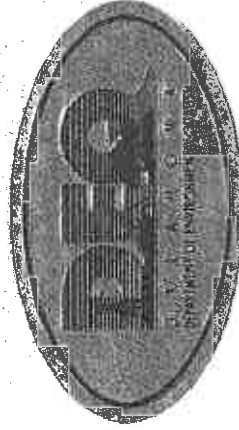
This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: 4/1/2013

Expires on: 3/31/2012



Division Director  
Air Quality Division



Environmental Programs Manager  
Air Quality Division



# Department of Environmental Quality

This is to Certify That

**EMMETT MUENKER**

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

**INSPECTOR/RISK ASSESSOR**

Certification #: OKRASR11260

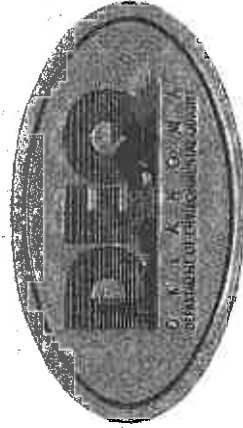
This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: **4/1/2010**

Expires on: **3/31/2011**

*[Signature]*

Division Director  
Air Quality Division



*[Signature]*

Environmental Programs Manager  
Air Quality Division

# Department of Environmental Quality

This is to Certify That

**EMMETT MUENKER**

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

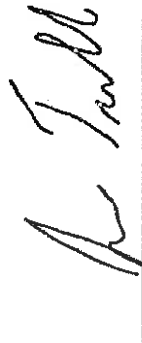
**INSPECTOR/RISK ASSESSOR**

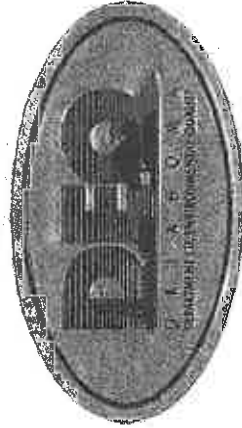
Certification #: OKRASR11260


This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: **4/1/2011**

Expires on: **3/31/2012**

  
Division Director  
Air Quality Division



  
Environmental Programs Manager  
Air Quality Division

# Department of Environmental Quality

This is to Certify That

**MARSHALL BRANSCUM**

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead-Based Paint

**INSPECTOR**

Certification #: OKINSR13415

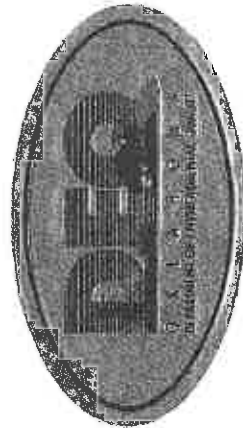
This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: **4/1/2010**

Expires on: **3/31/2011**

*[Signature]*

Division Director  
Air Quality Division



*[Signature]*

Environmental Programs Manager  
Air Quality Division

# Department of Environmental Quality

This is to Certify That

**MARSHALL BRANSCUM**

has met the specifications of the Oklahoma Lead-Based Paint Management Act  
and is certified as a Lead Based Paint

**INSPECTOR**

Certification #: OKINSR13415

This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: **4/1/2011**

Expires on: **3/31/2012**



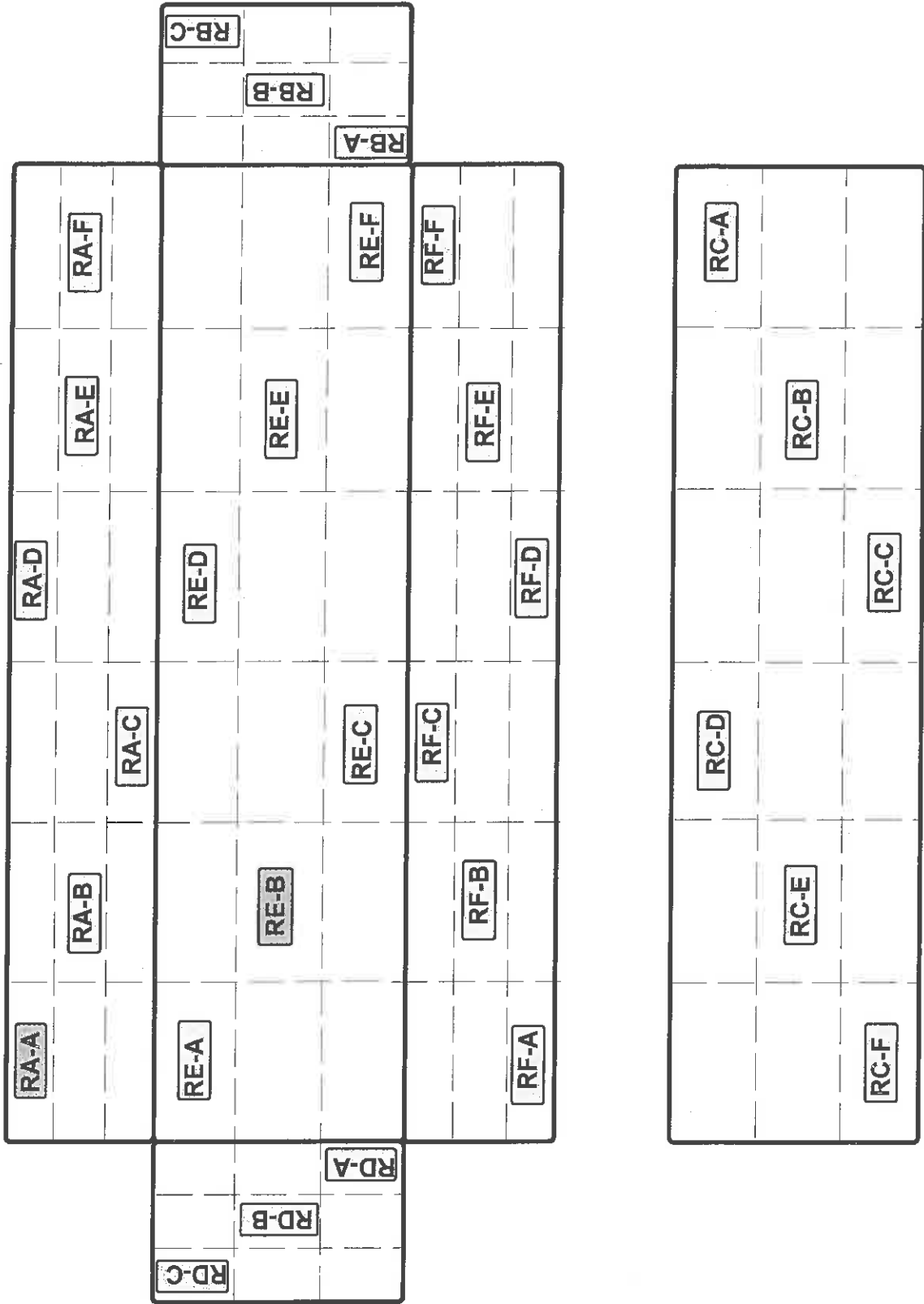
Division Director  
Air Quality Division



Environmental Programs Manager  
Air Quality Division

**APPENDIX C**

LEAD WIPE TESTING - POST-REMEDIATION  
 DATE OF TESTING - 12/13/2010



- AREA > 200 µg/ft²
- AREA < 200 µg/ft²

CEILING

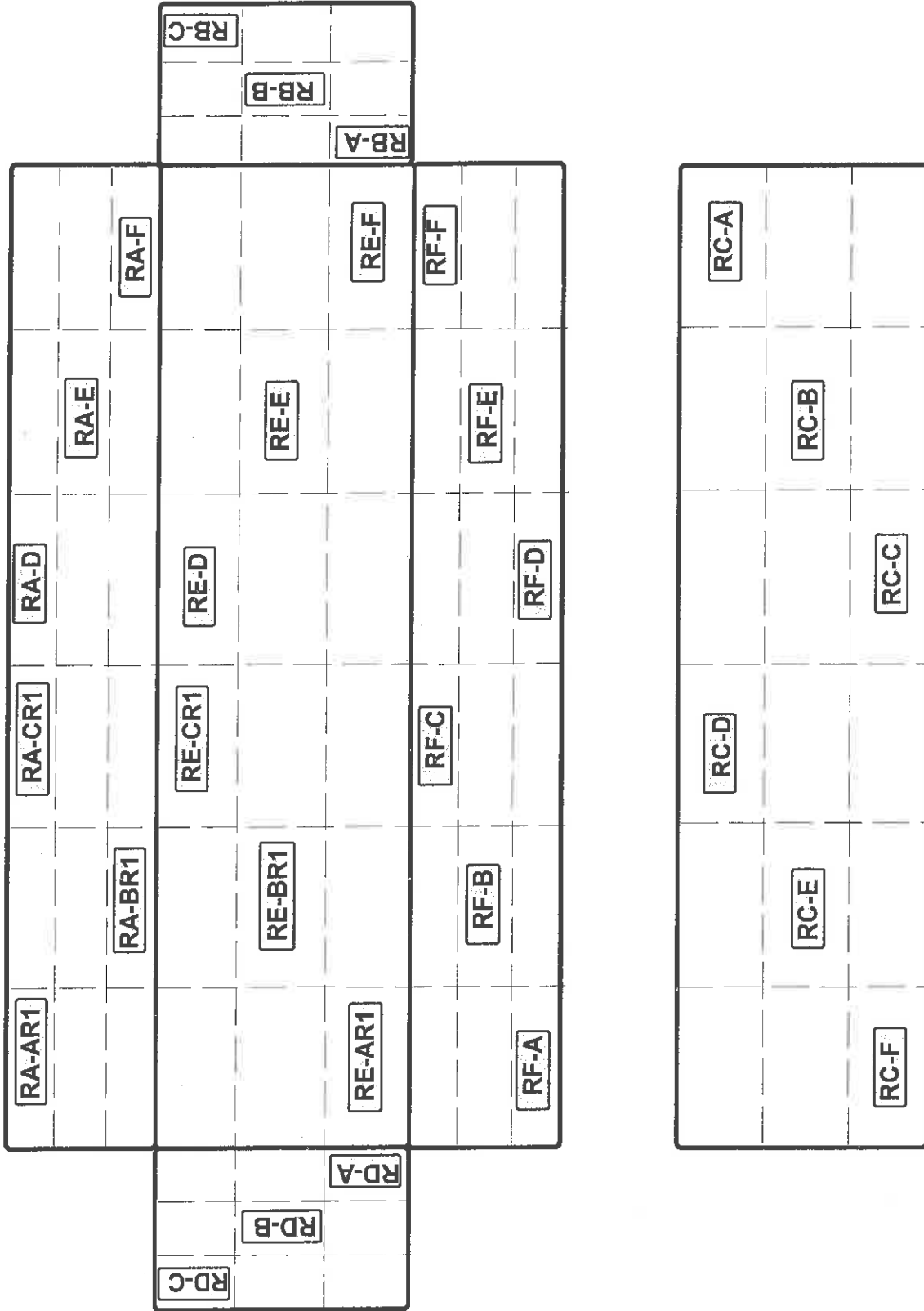
MINCO ARMORY - INDOOR FIRING RANGE



FIGURE 1

**APPENDIX D**

LEAD WIPE TESTING - POST-REMEDIATION  
 DATE OF TESTING - 1/7/2011



- AREA > 200 µg/ft<sup>2</sup>
- AREA < 200 µg/ft<sup>2</sup>

CEILING



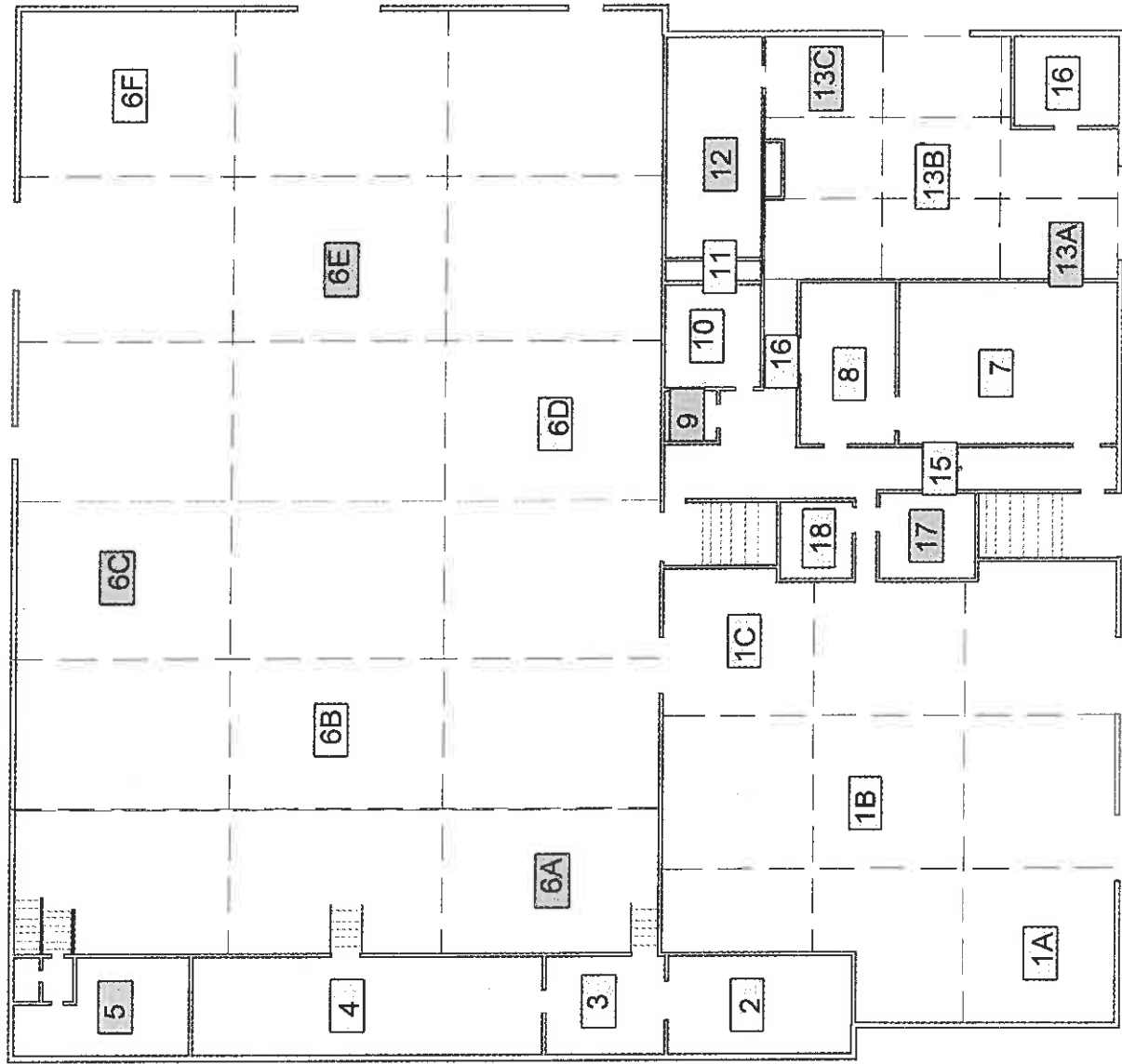
MINCO ARMORY - INDOOR FIRING RANGE

FIGURE 1



**APPENDIX E**

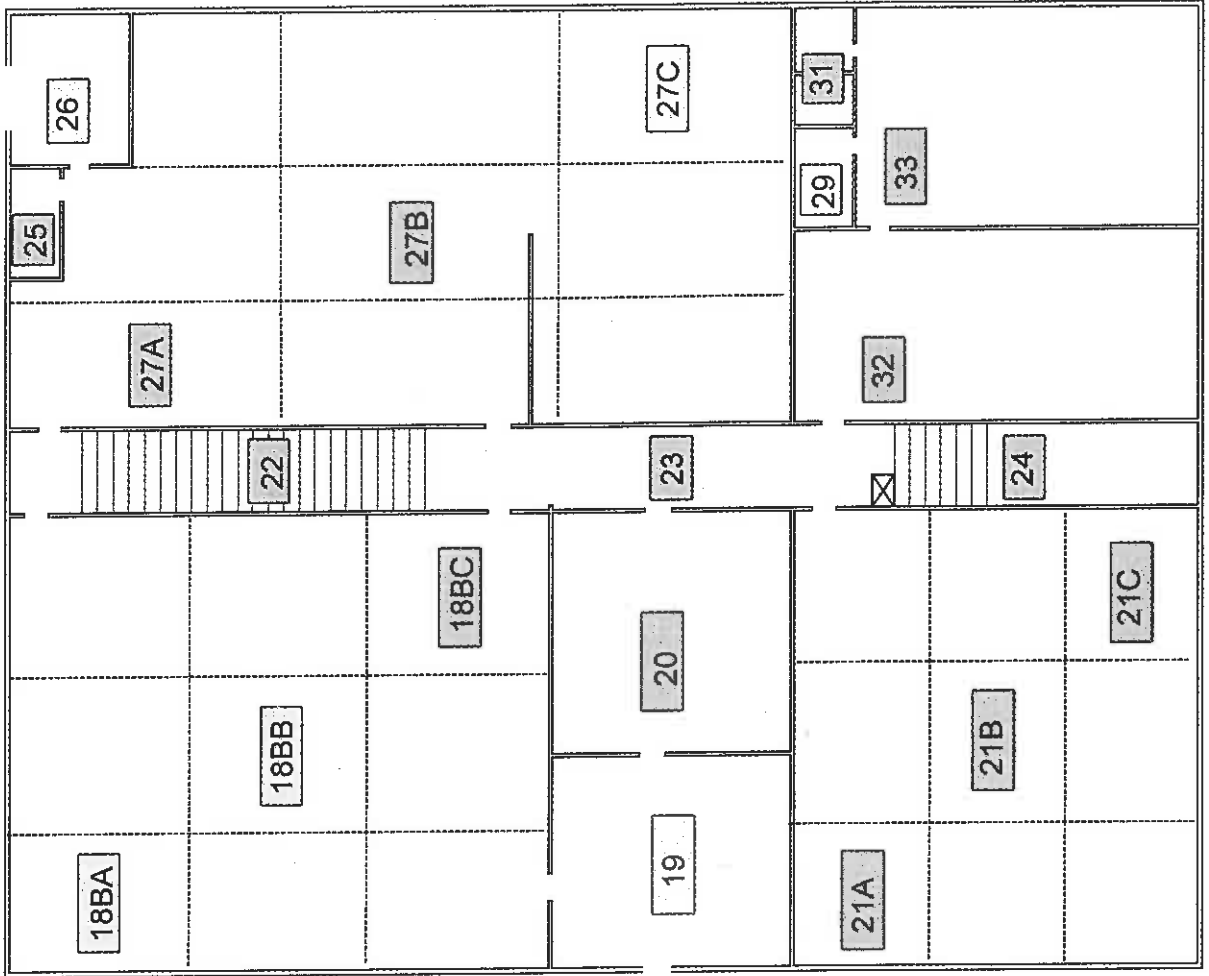
LEAD WIPE TESTING - POST REMEDIATION  
DATE OF TESTING - 12/13/2010



- SAMPLE > 40 µg/ft<sup>2</sup>
- SAMPLE < 40 µg/ft<sup>2</sup>

MINCO ARMORY - FIRST FLOOR

LEAD WIPE TESTING - POST REMEDIATION  
 DATE OF TESTING - 12/13/2010



SAMPLE > 40 µg/ft<sup>2</sup>  
 SAMPLE < 40 µg/ft<sup>2</sup>

NOTE:  
 NO SAMPLE WAS  
 COLLECTED IN  
 ROOM 29 THIS  
 ROUND

MINCO ARMORY - SECOND FLOOR



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuantEM Set ID: 190264  
Date Received: 12/14/10  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 12/14/2010

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116  
Acct. No.: A845  
Project: Minco Armory  
Location: 500 NW Pontoc Street, Minco, OK  
Project No.: N/A

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	MA-01A	Wipe	Lead	17.28	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
002	MA-01B	Wipe	Lead	18.35	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
003	MA-01C	Wipe	Lead	22.46	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
004	MA-02	Wipe	Lead	31.03	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
005	MA-03	Wipe	Lead	38.65	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
006	MA-04A	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
007	MA-04B	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
008	MA-04C	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
009	MA-05	Wipe	Lead	121.58	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
010	MA-06A	Wipe	Lead	45.19	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
011	MA-06B	Wipe	Lead	16.35	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuanTEM Set ID: 190264  
Date Received: 12/14/10  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 12/14/2010

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116  
Acct. No.: A845  
Project: Minco Armory  
Location: 500 NW Pontoc Street, Minco, OK  
Project No.: N/A

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
012	MA-06C	Wipe	Lead	361.67	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
013	MA-06D	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
014	MA-06E	Wipe	Lead	266.28	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
015	MA-06F	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
016	MA-13A	Wipe	Lead	43.38	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
017	MA-13B	Wipe	Lead	20.03	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
018	MA-013C	Wipe	Lead	58.08	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
019	MA-09	Wipe	Lead	217.02	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
020	MA-10	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
021	MA-12	Wipe	Lead	364.47	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
022	MA-14	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**QuanTEM Set ID:** 190264  
**Date Received:** 12/14/10  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 12/14/2010

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116

**Acct. No.:** A845

**Project:** Minco Armory  
**Location:** 500 NW Pontoc Street, Minco, OK  
**Project No.:** N/A

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
023	MA-17	Wipe	Lead	196.69	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
024	MA-18A	Wipe	Lead	35.69	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
025	MA-18BA	Wipe	Lead	18.07	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
026	MA-18BB	Wipe	Lead	20.40	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
027	MA-18BC	Wipe	Lead	61.55	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
028	MA-19	Wipe	Lead	35.44	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
029	MA-20	Wipe	Lead	60.09	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
030	MA-21A	Wipe	Lead	91.62	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
031	MA-21B	Wipe	Lead	58.93	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
032	MA-21C	Wipe	Lead	43.24	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
033	MA-022	Wipe	Lead	295.70	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**QuanTEM Set ID:** 190264  
**Date Received:** 12/14/10  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 12/14/2010

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116  
  
**Acct. No.:** A845  
**Project:** Minco Armory  
**Location:** 500 NW Pontoc Street, Minco, OK  
**Project No.:** N/A

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
034	MA-23	Wipe	Lead	85.37	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
035	MA-29	Wipe	Lead	63.49	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
036	MA-025	Wipe	Lead	49.46	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
037	MA-26	Wipe	Lead	88.27	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
038	MA-27A	Wipe	Lead	50.34	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
039	MA-27B	Wipe	Lead	59.56	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
040	MA-27C	Wipe	Lead	27.12	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
041	MA-31	Wipe	Lead	281.39	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
042	MA-32	Wipe	Lead	2154.05	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
043	MA-33	Wipe	Lead	310.57	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
044	RA-A	Wipe	Lead	572.65	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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## Environmental Chemistry Analysis Report

**QuantEM Set ID:** 190264  
**Date Received:** 12/14/10  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 12/14/2010

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116

**Acct. No.:** A845

**Project:** Minco Armory  
**Location:** 500 NW Pontoc Street, Minco, OK  
**Project No.:** N/A

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
045	RA-B	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
046	RA-C	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
047	RA-D	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
048	RA-E	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
049	RA-F	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
050	AB-A	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
051	AB-B	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
052	AB-C	Wipe	Lead	19.11	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
053	RC-A	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
054	RC-B	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
055	RC-C	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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## Environmental Chemistry Analysis Report

QuantEM Set ID: 190264  
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Time Sampled:  
Analyst: BM  
Date of Report: 12/14/2010

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116

Acct. No.: A845

Project: Minco Armory  
Location: 500 NW Pontoc Street, Minco, OK  
Project No.: N/A

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
056	RC-D	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
057	RC-E	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
058	RC-F	Wipe	Lead	18.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
059	RD-A	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
060	RD-B	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
061	RD-C	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
062	RE-A	Wipe	Lead	166.82	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
063	RE-B	Wipe	Lead	210.82	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
064	RE-C	Wipe	Lead	79.70	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
065	RE-D	Wipe	Lead	74.29	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
066	RE-E	Wipe	Lead	54.31	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

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## Environmental Chemistry Analysis Report

QuantEM Set ID: 190264  
Date Received: 12/14/10  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 12/14/2010

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116  
  
Acct. No.: A845  
  
Project: Minco Armory  
Location: 500 NW Pontoc Street, Minco, OK  
Project No.: N/A

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
067	RE-F	Wipe	Lead	96.64	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
068	RF-A	Wipe	Lead	90.40	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
069	RF-B	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
070	RF-C	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
071	RF-D	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
072	RF-E	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100
073	RF-F	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	12/14/10 14:45	EPA 3051 / NIOSH 9100

Authorized Signature: 

Benton Miller, Analyst

Note: Sample results have not been corrected for blank values.

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## Supplemental Report QAQC Results

QA ID: 8228  
Test: Lead

Date: 12/14/2010  
Matrix: Wipe

Lab Number: 190264  
Approved By: Benton Miller  
Date Approved: 12/14/2010

**Notes:**

**Blank Data:**

Type of Blank	Blank Value
Initial	0
Continuing	0
Final	0

**Standards Data:**

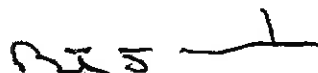
Standard	Low Limit	Obtained	High Limit
CCV	225	252	275
FCV	225	233	275
ICV	22.5	22.8	27.5
RLVS	12.8	12.8	19.2

**Duplicate Data:**

**Recovery Data:**

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
MSW1	0.000	5369.000	5705.677	106.3	5691.200	106.0	0.3
MSW2	0.000	5369.000	4907.569	91.4	5691.200	106.0	14.8
MSW3	0.000	5369.000	5192.729	96.7	5691.200	106.0	9.2
MSW4	0.000	5369.000	4987.749	92.9	5691.200	106.0	13.2

Authorized Signature: \_\_\_\_\_



Benton Miller, Analyst



# Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1650 (405) 755-7272 Fax: (405) 755-2058  
 www.quantem.com

Page 5 of 5  
 This Box for Lab Use Only  
 Lab No. \_\_\_\_\_  
 Accept \_\_\_\_\_  
 Reject \_\_\_\_\_

Company Name: Evercon Services, Inc Acct.#: \_\_\_\_\_  
 Project Location: Minco, OK Project Name: Minco Army  
 Project Number: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
61 RD-C	South Wall IFR	144 sq ft	C	X	mg / sq ft	A - Soil
62 RE-A	Floor IFR				mg / sq ft	B - Paint Chips
63					mg / sq ft	C - Surface / Dust Wipes
64					mg / sq ft	D - Bulk Miscellaneous
65					mg / sq ft	E - Air Cassette
66					mg / sq ft	F - Other (SPECIFY)
67 V-F					mg / sq ft	
68 RF-A	East Wall IFR			X	mg / sq ft	
69					mg / sq ft	
70					mg / sq ft	
71					mg / sq ft	
72					mg / sq ft	
73					mg / sq ft	

**LEGAL DOCUMENT**  
 Please Print Legibly

TURNAROUND TIME	
Same Day	<input type="checkbox"/>
24 Hour	<input checked="" type="checkbox"/>
3-Day	<input type="checkbox"/>
5-day	<input type="checkbox"/>

**CONTACT INFORMATION**

Name: Marshall Bramscum

Phone: 405-722-7693

Report Results VIA (CHOOSE ONE):  
 FAX  
 Quantem Website  
 E-Mail:

Requested by: Madell K. Bramscum Date: 12-14-10 Time: 8:05

Requested by: Dance Pruitt Date: 12-14-10 Time: 8:05

Sampled By: MLB

**Saturday FedEx Shipping - CALL TO SCHEDULE**  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



# Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1690 (405) 755-7272 Fax: (405) 755-2058  
 www.quantem.com

This Box for Lab Use Only  
 Lab No: 190264  
 Request

Company Name: Emicon Services, Inc  
 Project Name: Minco Armory

Project Location: 500 NW Pontotoc street, Minco, OK  
 Acct.#: \_\_\_\_\_  
 Project Number: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
1 MA-01A	West Bay	144 sq ft	C	X		A - Soil
2 -01B	↓					B - Paint Chips
3 -01C	↓					C - Surface / Dust Wipes
4 MA-02	Kitchen					D - Bulk Miscellaneous
5 ↓ -03	Serving Line					E - Air Cassette
6 MA-04A	Dining Hall					F - Other (SPECIFY)
7 -04B						
8 -04C						
9 MA-05	↓					
10 MA-06A	4th PET Room					
11 -06B						
12 -06C						
13 -06D						
14 -06E						
15 ↓ -06F						

Turnaround Time	Same Day	<input type="checkbox"/>
	24-Hour	<input checked="" type="checkbox"/>
	3-Day	<input type="checkbox"/>
	5-day	<input type="checkbox"/>

CONTACT INFORMATION	Name: <u>Marshall Branscum</u>
	Phone: <u>405-722-7693</u>
	Report Results VIA (CHOOSE ONE):
	<input type="checkbox"/> FAX
	<input checked="" type="checkbox"/> QUANTEM Website
	E-Mail:

Sampled By:	<u>MLB</u>
Date/Time:	<u>12-13 8:05</u>
Signature:	<u>John Bowman</u>
Date/Time:	<u>12-14-10 8:05</u>
Signature:	<u>Marshall Branscum</u>

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



# Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1660 (405) 756-7272 Fax: (405) 756-2058  
 www.quantem.com

This Box for Lab Use Only  
 Lab No. \_\_\_\_\_  
 Accepted \_\_\_\_\_  
 Rejected \_\_\_\_\_

Company Name: Evercon Services, Inc. Project Name: Minco Armory  
 Project Location: 500 NW Poncha Street, Minco, OK Project Number: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysts	Units Requested	Sample Matrix Codes	Turnaround Time
16 MA-13A	East Bay	144 in <sup>2</sup> C	X		mg / sq ft	A - Soil	Same Day
17 -13B	↓				mg / sq ft	B - Paint Chips	24 Hour
18 -13C	↓				mg / sq ft	C - Surface / Dust Wipes	3-Day
19 MA-09	closet				mg / sq ft	D - Bulk Miscellaneous	5-day
20 ↓ -10	Tent Room				mg / sq ft	E - Air Cassette	
21 ↓ -12	2 <sup>nd</sup> PFI Room				mg / sq ft	F - Other (SPECIFY)	
22 ↓ -14	Maint Room				mg / sq ft		
23 MA-17	Crewal Space				mg / sq ft		
24 MA-18A	Closet under Stairs				mg / sq ft		
25 MA-18BA	Classroom				mg / sq ft		
26 ↓ -18BB	↓				mg / sq ft		
27 ↓ -18BC	↓				mg / sq ft		
28 MA-19	Lecture 2 <sup>nd</sup> Floor				mg / sq ft		
29 ↓ 20	Shower Rm 2 <sup>nd</sup> Floor				mg / sq ft		
30 MA-21A	Training Rm 2 <sup>nd</sup> Floor				mg / sq ft		

Requested by: Marshall H. Branson Date: 12-14-10 Time: 8:05  
 Approved by: John Branson Date: 12-13 Time: 8:05  
 Sampled By: MLB

LEGAL DOCUMENT  
 Please Print Legibly

TURNAROUND TIME  
 Same Day \_\_\_\_\_  
 24 Hour  \_\_\_\_\_  
 3-Day \_\_\_\_\_  
 5-day \_\_\_\_\_

CONTACT INFORMATION  
 Name: Marshall Branson  
 Phone: 405-722-7693  
 Report Results VIA (CHOOSE ONE):  
 FAX:  \_\_\_\_\_  
 Quantem Website: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



# Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1850 (405) 765-7272 Fax: (405) 765-2055  
 www.quantem.com

This Box for Lab Use Only  
 Lab No. \_\_\_\_\_  
 Account \_\_\_\_\_  
 Refill \_\_\_\_\_

Company Name: Evercon Services, Inc Project Name: Mince Army  
 Project Location: Minco, OK Project Number: \_\_\_\_\_  
 Acct.#: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes	TURNAROUND TIME
31 MA-21B	Training Rm	144 sq ft		X	100%	A - Soil	Same Day
32 ↓ -21C	↓					B - Paint Chips	X 24 Hour
33 MA -022	North Stairs					C - Surface / Dust Wipes	3-Day
34 MA -23	2nd Floor Hallway					D - Bulk Miscellaneous	5-day
35 MA-29	South Stairs					E - Air Cassette	
36 MA-025	Closest					F - Other (SPECIFY)	
37 MA-26	Vault						
38 MA-27A	Supply Rm						
39 ↓ -27B	↓						
40 ↓ -27C	↓						
41 MA-31	Latrine						
42 ↓ 32	TLC Classroom						
43 ↓ 33	↓						
44 RA-A	West wall IFR						
45 ↓ -B	↓						

**LEGAL DOCUMENT**  
 Please Print Legibly

**CONTACT INFORMATION**  
 Name: Marshall Branscum  
 Phone: 405-722-7693  
 Report Results VIA (CHOOSE ONE):  
 FAX  
 Quantem Website  
 E-Mail: \_\_\_\_\_

Received By: Marshall H. Branscum Date/TIME: 12-14-10 08:05  
 Analyzed By: Jim Burant Date/TIME: 12-13 8:05  
 Scratched By: \_\_\_\_\_ Date/TIME: \_\_\_\_\_  
MLB

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



# Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1650 (405) 755-7272 Fax (405) 755-2058  
 www.quantum.com

This Box for Lab Use Only

Lab No. \_\_\_\_\_

ACCEPT \_\_\_\_\_

REJECT \_\_\_\_\_

Company Name: Emercon Services, Inc

Project Name: Mingo Armory

Acct.#: \_\_\_\_\_

Project Number: \_\_\_\_\_

Project Location: Mingo, OK

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
46 RA-C	West Wall IFR	141 m <sup>2</sup>	✓	TP	PPM	A - Soil
47 -D	↓					B - Paint Chips
48 -E	↓					C - Surface / Dust Wipes
49 -F	↓					D - Bulk Miscellaneous
50 AB-A	North Wall IFR					E - Air Cassette
51 -B	↓					F - Other (SPECIFY)
52 -C	↓					
53 RC-A	Ceiling IFR					
54 -B	↓					
55 -C	↓					
56 -D	↓					
57 -E	↓					
58 -F	↓					
59 RD-A	South Wall IFR					
60 -B	↓					

LEGAL DOCUMENT  
Please Print Legibly

TURNAROUND TIME

Same Day

24 Hour

3-Day

5-day

CONTACT INFORMATION

Name: Marshall Branscum

Phone: 405-722-7693

Report Results Via (CHOOSE ONE):

FAX

QUANTUM WebSite

E-Mail

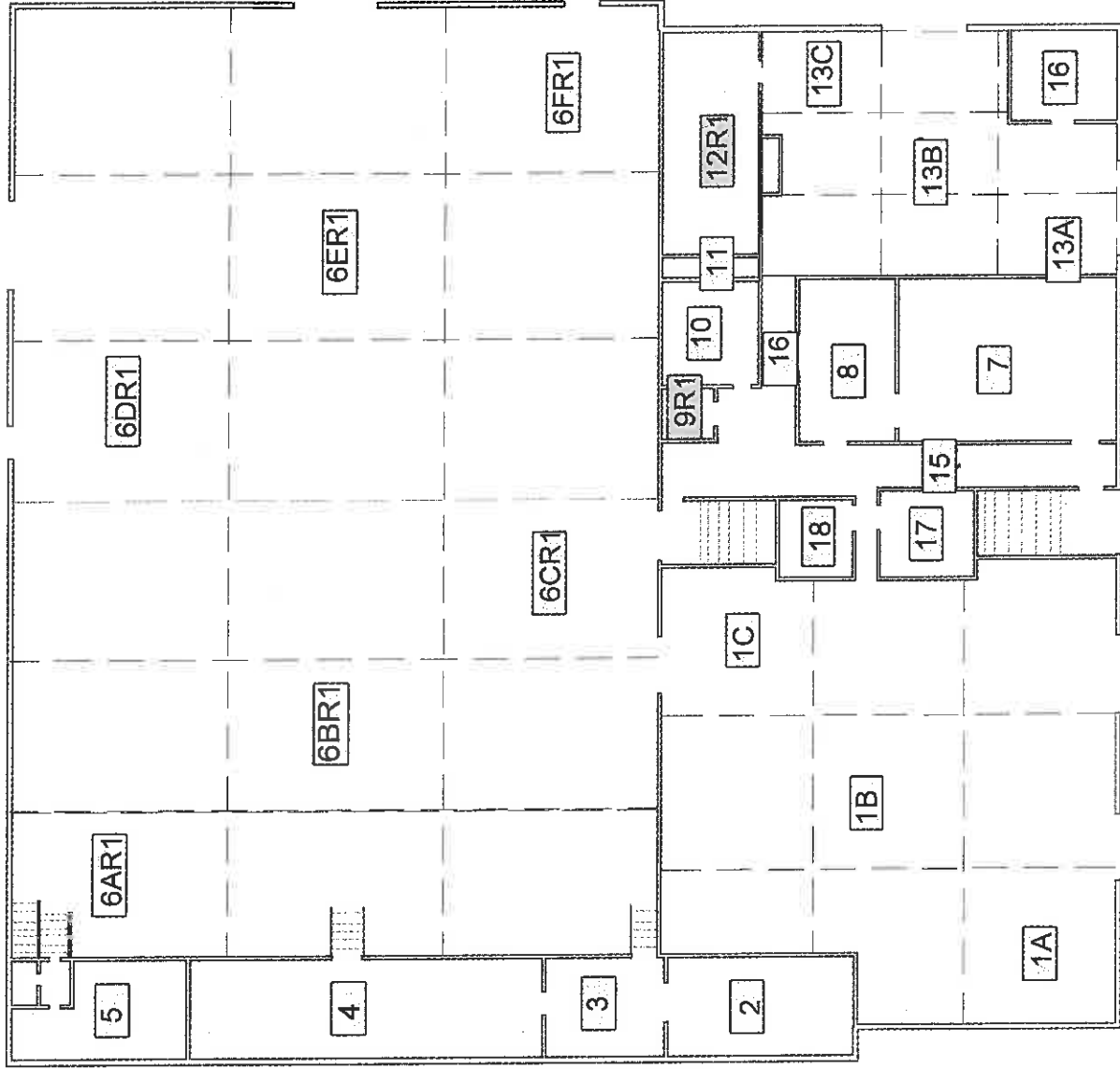
Prepared By: <u>Marshall H. Branscum</u>	Reviewed By: <u>John Branscum</u>	Can accept: <u>12-13</u>	Sampled By: <u>MLB</u>
Quantity: <u>12-1410805</u>	Quantity: <u>127440</u>	Quantity: <u>8:05</u>	

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



**APPENDIX F**

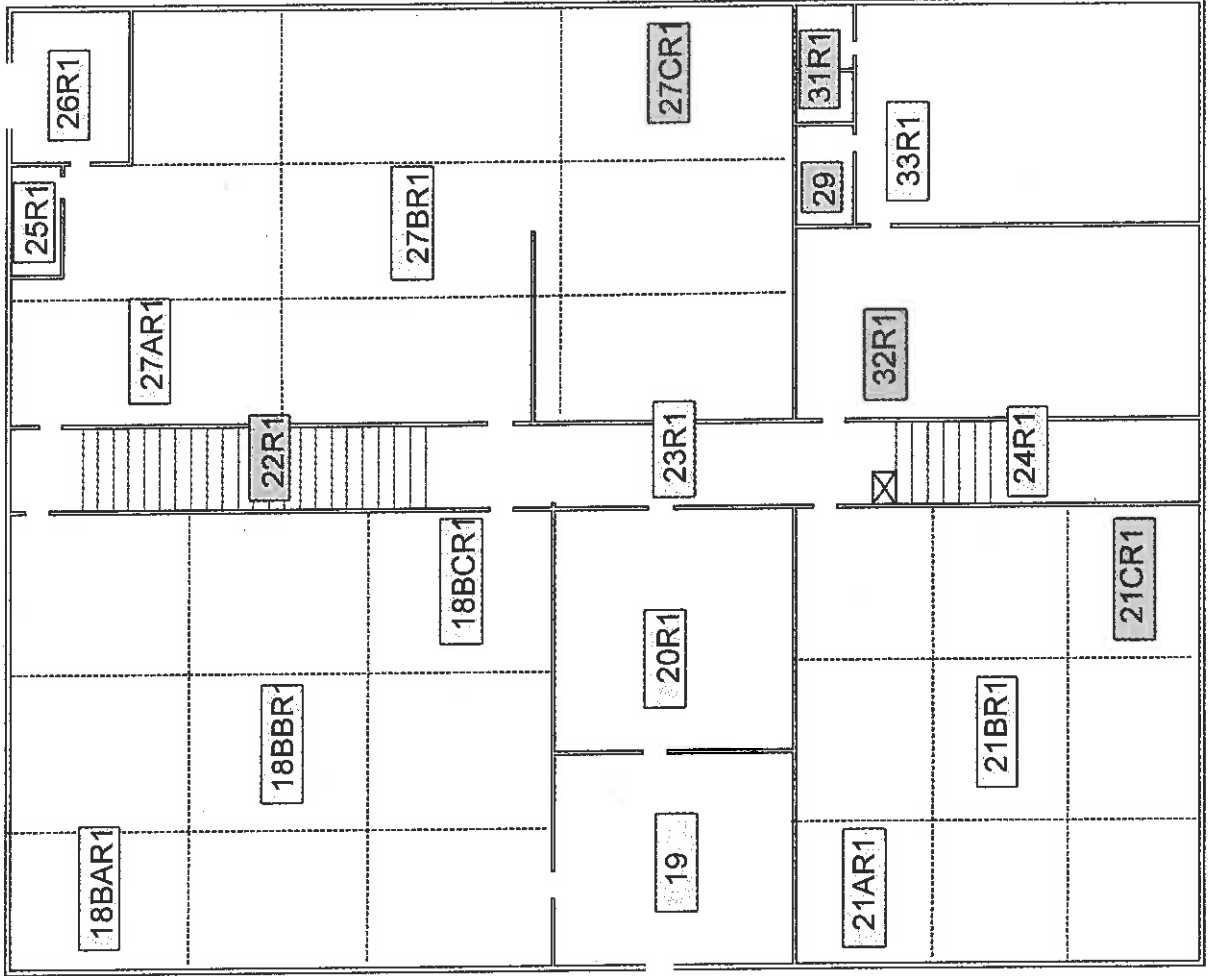
LEAD WIPE TESTING - POST REMEDIATION  
DATE OF TESTING - 1/7/2011



-  SAMPLE > 40 µg/ft²
-  SAMPLE < 40 µg/ft²

MINCO ARMORY - FIRST FLOOR

LEAD WIPE TESTING - POST REMEDIATION  
DATE OF TESTING - 1/7/2011



■ SAMPLE > 40 µg/ft²  
□ SAMPLE < 40 µg/ft²

MINCO ARMORY - SECOND FLOOR



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**QuantEM Set ID:** 190897  
**Date Received:** 01/07/11  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 1/10/2011

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116

**Acct. No.:** A845

**Project:** Minco Armory

**Location:** Minco, OK

**Project No.:** ENMISC2174

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	5-R1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
002	6-AR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
003	6-BR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
004	6-CR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
005	6-DR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
006	6-ER1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
007	6-FR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
008	9-R1	Wipe	Lead	47.64	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
009	12-R1	Wipe	Lead	96.24	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
010	13-AR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
011	13-BR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**Quantem Set ID:** 190897  
**Date Received:** 01/07/11  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 1/10/2011

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116

**Acct. No.:** A845  
**Project:** Minco Armory  
**Location:** Minco, OK  
**Project No.:** ENMISC2174

AIHA ID: 101352

Quantem ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
012	13-CR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
013	17-R1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
014	18-BAR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
015	18-BBR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
016	18-BCR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
017	20-R1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
018	21-AR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
019	21-BR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
020	21-CR1	Wipe	Lead	51.08	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
021	22-R1	Wipe	Lead	48.77	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
022	23-R1	Wipe	Lead	17.79	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**QuanTEM Set ID:** 190897  
**Date Received:** 01/07/11  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 1/10/2011

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116

**Acct. No.:** A845  
**Project:** Minco Armory  
**Location:** Minco, OK  
**Project No.:** ENMISC2174

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
023	24-R1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
024	25-R1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
025	26-R1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
026	27-AR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
027	27-BR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
028	27-CR1	Wipe	Lead	98.21	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
029	29-R	Wipe	Lead	52.37	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
030	31-R1	Wipe	Lead	75.17	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
031	32-R1	Wipe	Lead	72.69	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
032	33-R1	Wipe	Lead	18.24	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
033	RA-AR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100

Note: Sample results have not been corrected for blank values.

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2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuanTEM Set ID: 190897  
Date Received: 01/07/11  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 1/10/2011

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116  
Acct. No.: A845  
Project: Minco Armory  
Location: Minco, OK  
Project No.: ENMISC2174

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
034	RA-BR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
035	RA-CR1	Wipe	Lead	20.17	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
036	RE-AR1	Wipe	Lead	140.87	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
037	RE-BR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100
038	RE-CR1	Wipe	Lead	<16.00	16.00	ug/sq. Ft.	01/10/11 14:00	EPA 3051 / NIOSH 9100

Authorized Signature: \_\_\_\_\_

Benton Miller, Analyst

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.



# Lead Chain-of-Custody

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1650 (405) 755-7272 Fax: (405) 755-2058  
 www.quantem.com

This Box for Lab Use Only

Lab No. 90897

Accept  Reject

Company Name: Emercon Services, Inc. Project Name: Minco Armory  
 Project Location: Minco, OK Project Number: ENMFSC2174  
 Acc.#: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
1	S-R1	14422C		P	X	A - Soil
2	6-ARI					B - Paint Chips
3	6-BR1					C - Surface / Dust Wipes
4	6-CR1					D - Bulk Miscellaneous
5	6-DR1					E - Air Cassette
6	6-ER1					F - Other (SPECIFY)
7	6-FR1					
8	9-R1					
9	12-R1					
10	13-ARI					
11	13-BR1					
12	13-OR1					
13	17-R1					
14	18-BAR1					
15	18-BBR1					

Signature: <u>Michael H. Bantman</u>	Date/Time: <u>4:12pm</u>	Signature: <u>[Signature]</u>	Date/Time: <u>1-7-11</u>
Print Name: <u>Michael H. Bantman</u>	Print Name: <u>FH</u>	Print Name: <u>MLB</u>	Print Name: _____

**LEGAL DOCUMENT**  
Please Print Legibly

**TURNAROUND TIME**

Same Day \_\_\_\_\_  
 24 Hour   
 3-Day \_\_\_\_\_  
 5-day \_\_\_\_\_

**CONTACT INFORMATION**

Name: Marshall Branscum  
 Phone: \_\_\_\_\_  
 Report Results VIA (CHOOSE ONE):  
 FAX \_\_\_\_\_  
 QUANTEM Website  
 E-Mail: \_\_\_\_\_

**Saturday FedEx Shipping - CALL TO SCHEDULE**  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'





**Lead Chain-of-Custody**  
 2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1650 (405) 755-7272 Fax: (405) 755-2058  
 www.quantem.com

This Box for Lab Use Only  
 Lab No. 190897  
 Account [Signature] Report

Company Name: Enerscon  
 Project Name: Minco Army  
 Project Number: ENMSE2174

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
16	18-BERI	144mc		Pb X	mg / lb	A - Soil
17	20-R1				mg / cu ft	B - Paint Chips
18	21-ARI				mg / sq ft	C - Surface / Dust Wipes
19	21-BRI				mg / lb	D - Bulk Miscellaneous
20	21-CRI				mg / kg	E - Air Cassette
21	22-R1				Wt %	F - Other (SPECIFY)
22	23-R1				ppm	
23	24-R1					
24	25-R1					
25	26-R1					
26	27-ARI					
27	27-BRI					
28	27-CRI					
29	29-R					
30	31-R1					

LEGAL DOCUMENT  
 Please Print Legibly

TURNAROUND TIME

Same Day	<input type="checkbox"/>
24 Hour	<input checked="" type="checkbox"/>
3-Day	<input type="checkbox"/>
5-day	<input type="checkbox"/>

CONTACT INFORMATION

Name: Marshall  
Branseum

Phone: \_\_\_\_\_  
 Report Results VIA (CHOOSE ONE):  
 FAX:  
 QUANTEM WEBSITE  
 E-Mail

Signature: Marshall M. Branseum Date: 7-7-11 Time: 9:12pm  
 Date Sampled: 1-7-11 Sampled By: MLB

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-6517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



**Lead Chain-of-Custody**  
 2033 Heritage Park Drive, Oklahoma City, OK 73120-7502  
 (800) 822-1650 (405) 755-7272 Fax: (405) 755-2058  
 www.quantem.com

Lab No. 190897  
 Accept  Reject

Company Name: Enercon Project Name: Mingo Army  
 Project Location: ENMISC 2174

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
31	32-R1	144 in <sup>2</sup>	C	Pb	mg / cm <sup>2</sup>	A - Soil
32	33-R1				ug / cu. ft.	B - Paint Chips
33	RA-ARI				ug / sq. ft.	C - Surface / Dust Wipes
34	RA-BRI				mg / l	D - Bulk Miscellaneous
35	RA-CRI				mg / kg	E - Air Cassette
36	RE-ARI				WA %	F - Other (SPECIFY)
37	RE-BRI				PPM	
38	RE-CRI					

Turned In By: <u>M. J. Brantner</u>	Date Turned In: <u>4/16/09</u>	Turned In Via: <u>YS</u>	Date Sampled: <u>1-7-09</u>	Sampled By: <u>MBB</u>
Received By: <u>[Signature]</u>	Date Received: <u>[Signature]</u>	Received Via: <u>[Signature]</u>	Order No: <u>17-1</u>	Client No: <u>17-1</u>

**LEGAL DOCUMENT**  
 Please Print Legibly

TURNAROUND TIME

Same Day

24 Hour

3-Day

5-day

CONTACT INFORMATION

Name: Marshall Dion Sum

Phone: \_\_\_\_\_

Report Results VIA (CHOOSE ONE):

FAX:

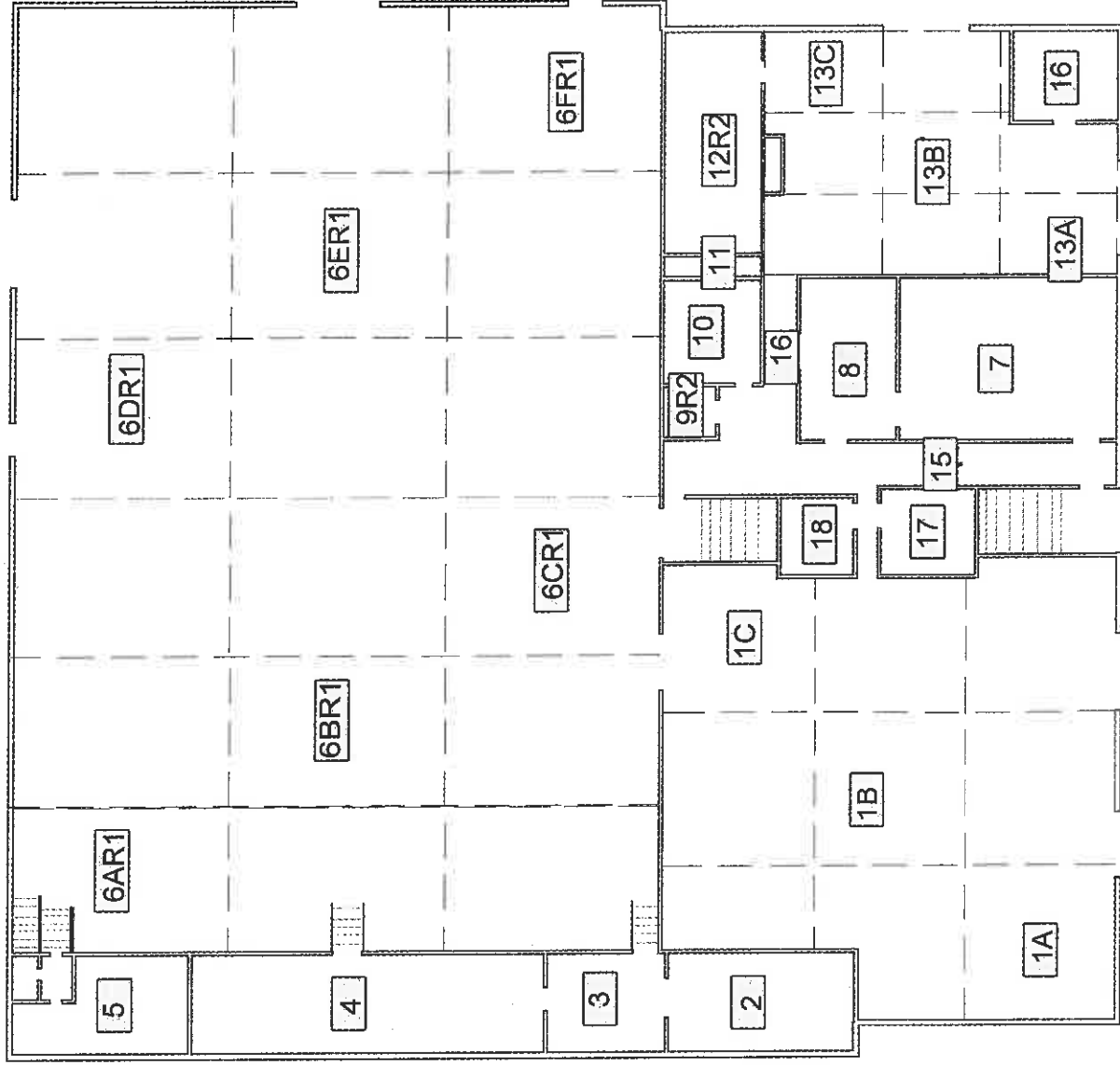
QUANTEM WEBSITE

E-Mail: \_\_\_\_\_

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package HOLD FOR SATURDAY PICKUP

**APPENDIX G**

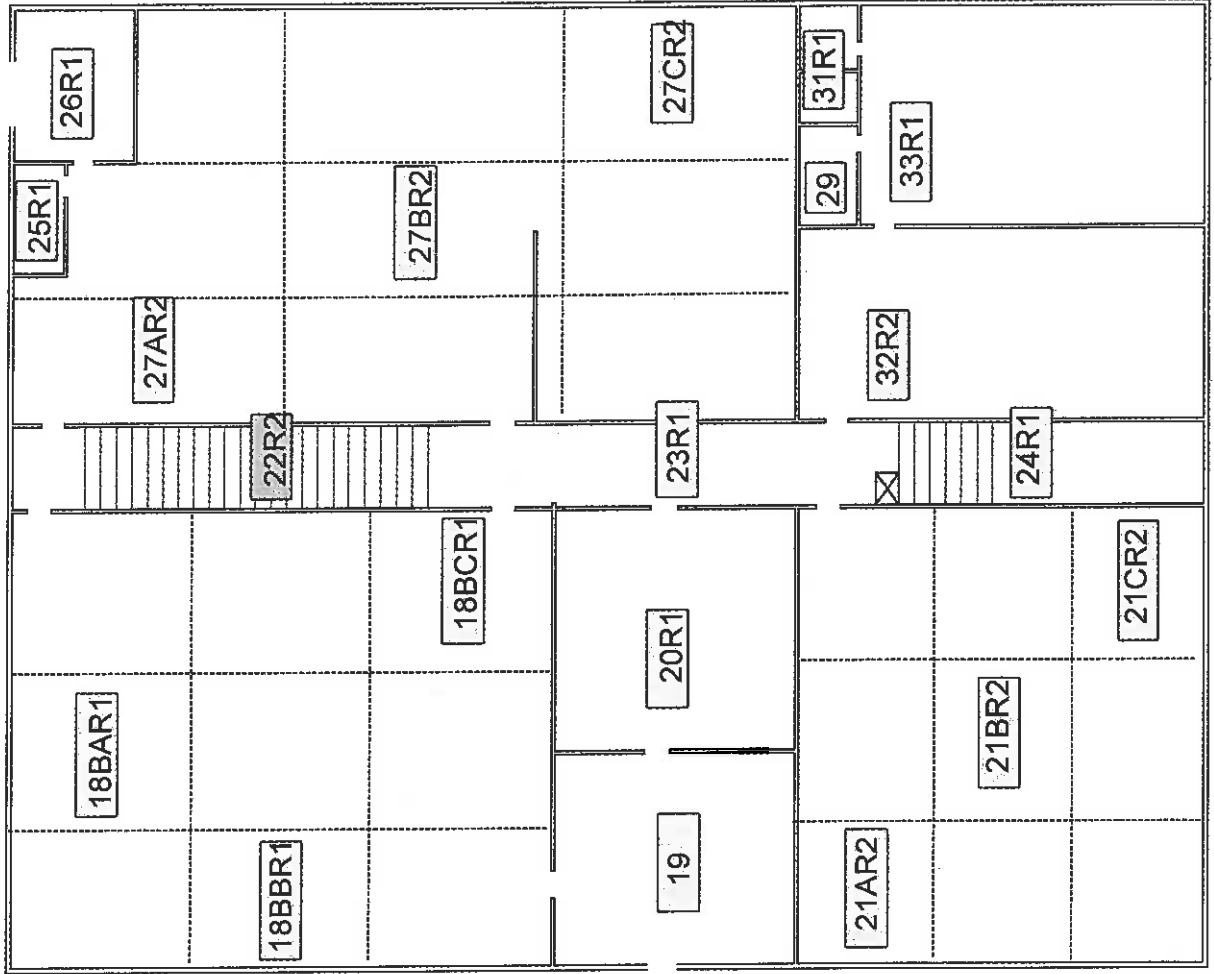
LEAD WIPE TESTING - POST REMEDIATION  
DATE OF TESTING - 2/14/2011



-  SAMPLE > 40 µg/ft²
-  SAMPLE < 40 µg/ft²

MINCO ARMORY - FIRST FLOOR

LEAD WIPE TESTING - POST REMEDIATION  
 DATE OF TESTING - 2/14/2011



SAMPLE > 40 µg/ft<sup>2</sup>  
 SAMPLE < 40 µg/ft<sup>2</sup>

MINCO ARMORY - SECOND FLOOR



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

**Quantem Set ID:** 191855  
**Date Received:** 02/14/11  
**Received By:** Barbara Holder  
**Date Sampled:**  
**Time Sampled:**  
**Analyst:** BM  
**Date of Report:** 2/15/2011

**Client:** Enercon Services, Inc.  
 6525 N. Meridian, Suite 400  
 Oklahoma City, OK 73116

**Acct. No.:** A845

**Project:** Minco Armory

**Location:** Minco, OK

**Project No.:** ENMISC2174

AIHA ID: 101352

Quantem ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	9-RZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
002	12-RZ	Wipe	Lead	25.7	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
003	21-ARZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
004	21-BRZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
005	21-CRZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
006	22-RZ	Wipe	Lead	121	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
007	27-ARZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
008	27-BRZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
009	27-CRZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
010	29-RZ	Wipe	Lead	23.9	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100
011	31-RZ	Wipe	Lead	25.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuantEM Set ID: 191855  
Date Received: 02/14/11  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 2/15/2011

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116

Acct. No.: A845  
Project: Minco Armory  
Location: Minco, OK  
Project No.: ENMISC2174

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
012	32-RZ	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/15/11 15:30	EPA 3050B / NIOSH 9100

Authorized Signature: \_\_\_\_\_

Benton Miller, Analyst

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

## Supplemental Report QAQC Results

QA ID: 8452  
Test: Lead

Date: 2/15/2011  
Matrix: Wipe

Lab Number: 191855  
Approved By: Benton Miller  
Date Approved: 2/15/2011

Notes:

### Blank Data:

Type of Blank	Blank Value
FCB	0
ICB	0
Matrix Blank	0

### Standards Data:

Standard	Low Limit	Obtained	High Limit
CCV	4.5	4.9	5.5
FCV	4.5	4.8	5.5
ICV	4.5	4.9	5.5
RLVS	0.256	0.321	0.384

### Duplicate Data:

### Recovery Data:

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
MS-W2	0.000	5.427	5.354	98.6	5.209	96.0	2.7
MS-W1	0.000	5.438	5.312	97.7	5.408	99.4	1.8

Authorized Signature: \_\_\_\_\_

  
Benton Miller, Analyst





# Lead Chain-of-Custody

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Page 1 of 1  
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 Lab No. 191855  
 Request

Company Name: Emercon Services, Inc Project Name: Mingo Army  
 Project Location: Macey, OK Project Number: EMMSX2174

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analyte	Units Requested	Sample Matrix Codes
1						
2	Dust Wipes - Floor	144in <sup>2</sup>	C	X	mg / Bu	A - Soil
3					µg / Bu	B - Paint Chips
4					µg / Sn	C - Surface / Dust Wipes
5					µg / Sn	D - Bulk Miscellaneous
6					µg / Bu	E - Air Cassette
7					µg / Sn	F - Other (SPECIFY)
8					µg / Sn	
9					µg / Sn	
10					µg / Sn	
11					µg / Sn	
12					µg / Sn	

LEGAL DOCUMENT  
 Please Print Legibly

TURNAROUND TIME	
Same Day	<input type="checkbox"/>
24 Hour	<input checked="" type="checkbox"/>
3-Day	<input type="checkbox"/>
5-day	<input type="checkbox"/>

CONTACT INFORMATION

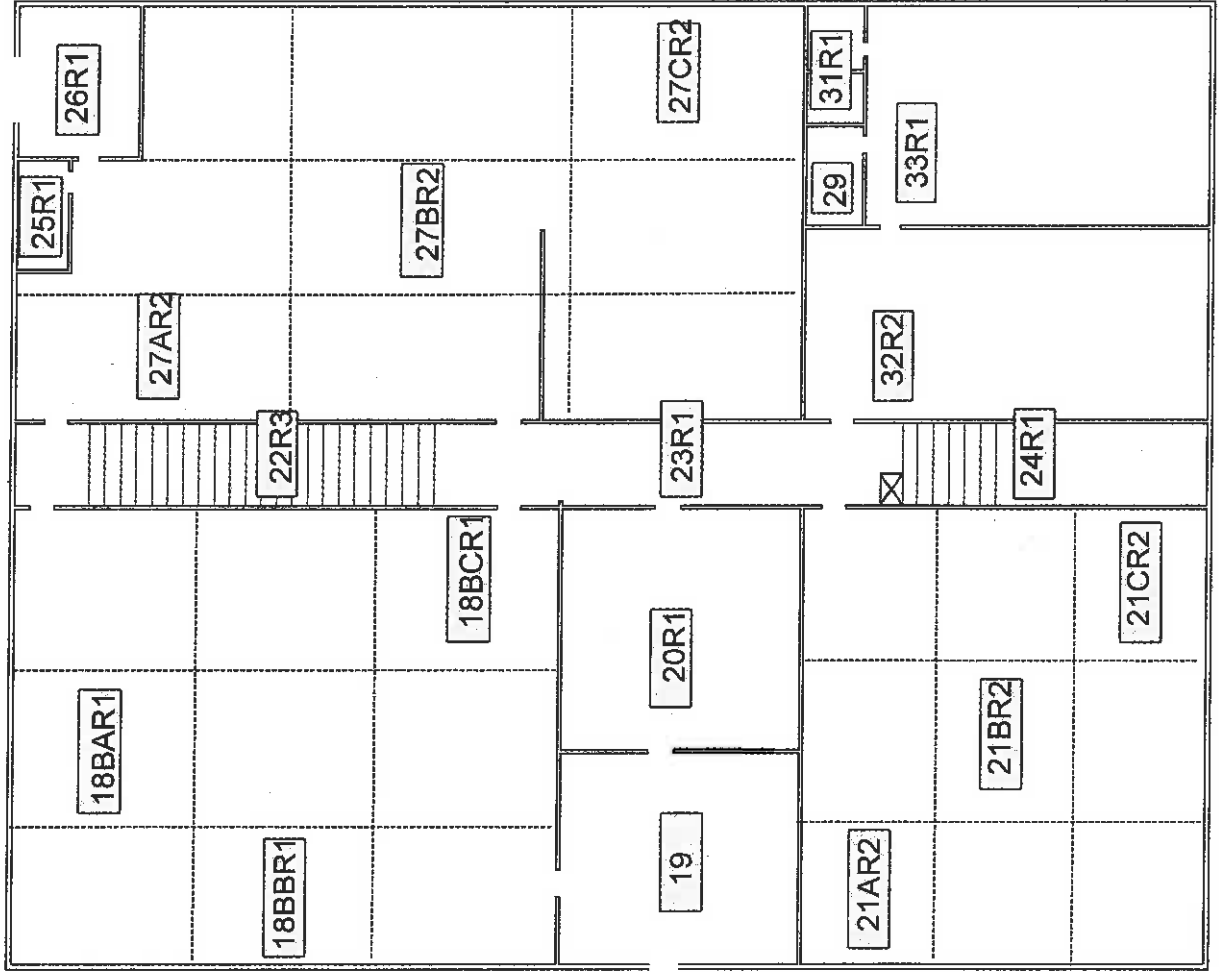
Name: Marshall Branscum  
 Phone: 405-722-7693  
 Report Results VIA (CHOOSE ONE):  
 FAX  
 Quantem Website  
 E-Mail

Prepared By: Marshall Branscum Date/Time: 2-11-12 1:28 PM  
 Reviewed By: Hand Date/Time: 2/14/12 1:28  
 Sampled By: MLB Date/Time: 2-14

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package "HOLD FOR SATURDAY PICKUP"

**APPENDIX H**

LEAD WIPE TESTING - POST REMEDIATION  
DATE OF TESTING - 2/23/2011



■ SAMPLE > 40 µg/ft<sup>2</sup>  
□ SAMPLE < 40 µg/ft<sup>2</sup>

MINCO ARMORY - SECOND FLOOR



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuanTEM Set ID: 192219  
Date Received: 02/23/11  
Received By: Barbara Holder  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 2/24/2011

Client: Enercon Services, Inc.  
6525 N. Meridian, Suite 400  
Oklahoma City, OK 73116

Acct. No.: A845

Project: Minco Armory

Location: Minco Armory

Project No.: N/A

AIHA ID: 101352

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	ZZ-R3	Wipe	Lead	<16.0	16	ug/sq. Ft.	02/24/11 13:00	EPA 3050B / NIOSH 9100

Authorized Signature: 

Benton Miller, Analyst

Note: Sample results have not been corrected for blank values.

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Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

## Supplemental Report QAQC Results

QA ID: 8473  
Test: Lead

Date: 2/24/2011  
Matrix: Wipe

Lab Number: 192219  
Approved By: Benton Miller  
Date Approved: 2/24/2011

Notes:

**Blank Data:**

Type of Blank	Blank Value
FCB	0
ICB	0
Matrix Blank	0

**Standards Data:**

Standard	Low Limit	Obtained	High Limit
CCV	4.5	4.9	5.5
FCV	4.5	5	5.5
ICV	0.8	1.1	1.2
RLVS	0.256	0.28	0.384

**Duplicate Data:**

**Recovery Data:**

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
MS-W1	0.000	5.470	5.560	101.7	5.870	107.3	5.4

Authorized Signature: 

Benton Miller, Analyst



# Lead Chain-of-Custody

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First Box for Lab Use Only  
 Lab No. 192219  
 Request

Company Name: Enrico Services, Inc Project Name: Minco Army  
 Project Location: Minco Army Project Number: \_\_\_\_\_  
 Acct.#: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes
22-R3	step-wipe	194 <sup>sq</sup> ft	C	P	mg / cm <sup>2</sup> ug / cm <sup>2</sup> M ug / sq ft mg / l mg / kg M % PPM	A - Soil B - Paint Chips C - Surface / Dust Wipes D - Bulk Miscellaneous E - Air Cassette F - Other (SPECIFY)

**LEGAL DOCUMENT**  
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TURNAROUND TIME

Same Day  
 24 Hour  
 3-Day  
 5-day

**CONTACT INFORMATION**

Name: Marshall Branscum  
 Phone: 722-2693  
 Report Results VIA (CHOOSE ONE):  
 FAX  
 Quantem Website  
 E-Mail: \_\_\_\_\_

Shipped By: MUR

Date: 2-23-11

Signature: [Signature]

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

## Environmental Chemistry Analysis Report

QuantEM Set ID: 194044  
Date Received: 04/13/11  
Received By: Sherrie Leftwich  
Date Sampled:  
Time Sampled:  
Analyst: BM  
Date of Report: 4/14/2011

Client: State of Oklahoma  
DEQ Land Protection  
Attn: Dustin Davidson  
707 N. Robinson  
Oklahoma City, OK 73102  
Acct. No.: B486  
Project: Minco Armory  
Location: Minco Armory  
Project No.: N/A

AIHA ID: 101352

QuantEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	1	Wipe	Lead	<16.0	16	ug/sq. Ft.	04/14/11 12:30	EPA600/R-93/200 (Mod.) / EPA 7420 (Mod.) W
002	2	Wipe	Lead	<16.0	16	ug/sq. Ft.	04/14/11 12:30	EPA600/R-93/200 (Mod.) / EPA 7420 (Mod.) W
003	3	Wipe	Lead	<16.0	16	ug/sq. Ft.	04/14/11 12:30	EPA600/R-93/200 (Mod.) / EPA 7420 (Mod.) W
004	4	Wipe	Lead	24.7	16	ug/sq. Ft.	04/14/11 12:30	EPA600/R-93/200 (Mod.) / EPA 7420 (Mod.) W

Authorized Signature: \_\_\_\_\_

  
Beaton Miller, Analyst

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

## Supplemental Report QAQC Results

QA ID: 8635  
Test: Lead

Date: 4/14/2011  
Matrix: Wipe

Lab Number: 194044  
Approved By: Benton Miller  
Date Approved: 4/14/2011

### Notes:

### Blank Data:

Type of Blank	Blank Value
FCB	0
ICB	0
Matrix Blank	0

### Standards Data:

Standard	Low Limit	Obtained	High Limit
CCV	4.5	5	5.5
PCV	4.5	5.1	5.5
ICV	0.8	1	1.2
RLVS	0.256	0.353	0.384

### Duplicate Data:

### Recovery Data:

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
MS-W1	0.000	5.470	5.566	101.7	5.744	105.0	3.2

Authorized Signature: 

Benton Miller, Analyst





**Lead Chain-of-Custody**  
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Page 1 of 1  
 This Box for Lab Use Only  
 Lab No. 194044  
 Accepted \_\_\_\_\_  
 Rejected \_\_\_\_\_

Company Name: DEQ Project Name: Minco Armory  
 Project Location: Minco Armory Project Number: \_\_\_\_\_  
 Acct #: \_\_\_\_\_

Sample Number	Sample Description	Volume of Area	Sample Matrix	Analysis	Units Requested	Sample Matrix Codes	TURNAROUND TIME
1		1ft <sup>2</sup> C		X	1 / BU	A - Soil	Same Day
2		1ft <sup>2</sup> C		X	2 / BU	B - Paint chips	24-Hour
3		1ft <sup>2</sup> C		X	3 / BU	C - Surface / Dust Wipes	3-Day
4		1ft <sup>2</sup> C		X	4 / BU	D - Bulk Miscellaneous	5-day
						E - Air Cassettes	
						F - Other (SPECIFY)	

**LEGAL DOCUMENT**  
 Please Print Legibly

**CONTACT INFORMATION**  
 Name: Dustin Davidson  
 Phone: 405-702-5115  
 Report Results VIA (CHOOSE ONE):  
 FAX  
 Quantem Website  
 E-Mail: dustin.davidson@deq.ok.gov

Maintained by: Dust Davidson Date: 4/13/11  
 Submitted by: Spencer Date: 4/13/11  
 Sampled By: Dustin Davidson

Saturday FedEx Shipping - CALL TO SCHEDULE  
 Use this address for Saturday FedEx only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517  
 Mark Package 'HOLD FOR SATURDAY PICKUP'

## **SECTION 5**

### **Minco Disposal Waste Profile & Test Results**



4619 N. Santa Fe, OKC, OK 73118 - (405) 488-2400 - (405) 488-2404 fax

Analytical Report

Report Date: 11/30/2010
Order #: 2010110427
Project #: 10-149

Laboratory Certificate # 7211

Client: Mr. Michael Jenkinson
Crystal Creek Environmental Solutions
1401 Cornell Parkway
Oklahoma City, OK 73127

Project: Minco

Analytical Results

Client Sample ID: Dumpster

ETI ID: 1

Sample Collected : 11/24/2010 @ 10:00

Matrix: Solids

Table with 6 columns: Parameter, Result, Units, Analyzed On, Analyst, Method. Row 1: TCLP Lead, 0.128, mg/L, 11/30/2010 03:21:02 PM, JZ, 6010C

Respectfully Submitted:

Handwritten signature of Russell Britten

Russell Britten

President

Unless ETI receives prior notification, all sample material not consumed in analysis will be retained for a period of 30 days before disposal.

4619 N. Santa Fe, OKC, OK 73116 - (405) 488-2400 - (405) 488-2404 fax

Laboratory Certificate # 7211

## Quality Control

### Solids

#### Blank

Parameter	QC Value	Units	ETI ID
TCLP Lead	<0.1	mg/L	1

#### Duplicate

Parameter	QC Value	Units	ETI ID
TCLP Lead	17.6	% dif.	1

#### LCS

Parameter	QC Value	Units	ETI ID
TCLP Lead	98	% rec.	1

#### Matrix Spike

Parameter	QC Value	Units	ETI ID
TCLP Lead	110	% rec.	1

#### Matrix Spike Dup

Parameter	QC Value	Units	ETI ID
TCLP Lead	116	% rec.	1

E = Estimated Value (above linear range)  
 M = Out of Control Due to Matrix Effect  
 D = Surrogate or Matrix Spike Diluted Out  
 Q = Outside of QC Limits on Both Original and Rerun  
 C = Possible Laboratory Contamination  
 \* = Out of Control

J = Estimated Value (below linear range)  
 \*TA = Lab ID: 9412  
 \*ER = Lab ID: 8727





**Analytical Report**

Report Date: 12/06/2010  
Order # 2010110239  
Project # 10-149

4619 N. Santa Fe, OKC, OK 73118 - (405) 488-2400 - (405) 488-2404 fax

Laboratory Certificate # 7211

Client: **Mr. Michael Jenkinson**  
Crystal Creek Environmental Solutions  
1401 Cornell Parkway  
Oklahoma City, OK 73127

Project: **Minco**

# Analytical Results

Client Sample ID: **W1 Filtered**

ETI ID: 1

Sample Collected : **11/15/2010 @ 16:00**

Matrix: **Aqueous**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Analyzed On</u>	<u>Analyst</u>	<u>Method</u>
Lead <small>Sample not preserved with nitric acid.</small>	0.527	mg/L	11/16/2010 03:37:23 PM	JZ	200.7
Phosphorus, Total	1.10	mg/L	11/22/2010 01:40:00 PM	DS	4500-P B 5

Respectfully Submitted:

**Russell Britten**  
**President**

Unless ETI receives prior notification, all sample material not consumed in analysis will be retained for a period of 30 days before disposal.

# Quality Control

### Aqueous

#### Blank

Parameter	QC Value	Units	ETI ID
Lead	<0.01	mg/L	1

#### Duplicate

Parameter	QC Value	Units	ETI ID
Lead	0.0	% dif.	1

#### LCS

Parameter	QC Value	Units	ETI ID
Lead	95	% rec.	1

#### Matrix Spike

Parameter	QC Value	Units	ETI ID
Lead	123M	% rec.	1

#### Matrix Spike Dup

Parameter	QC Value	Units	ETI ID
Lead	125M	% rec.	1

E = Estimated Value (above linear range)  
M = Out of Control Due to Matrix Effect  
D = Surrogate or Matrix Spike Diluted Out  
Q = Outside of QC Limits on Both Original and Rerun  
C = Possible Laboratory Contamination  
\* = Out of Control

J = Estimated Value (below linear range)  
\*TA = Lab ID: 9412  
\*ER = Lab ID: 8727

CHAIN OF CUSTODY RECORD



4619 NORTH SANTA FE  
OKLAHOMA CITY, OK 73118  
(405) 488-2400  
FAX: (405) 488-2404



SAMPLE SERIES #: 2010110239

DUE DATE: \_\_\_\_\_

COMPANY: Crystel Creek Env. Sol.  
1401 Conway Hill Park east  
OKC OK 73108  
PHONE #: 942-2233  
P.O. #: 10-149  
CLIENT CONTACT: M. Johnson  
PROJECT #: 10-149 / MANAGER:  
SITE LOCATION: Miaco

SAMPLE TYPE

- 1. WATER
- 2. SOIL
- 3. SLUDGE
- 4. OIL
- 5. OTHER

CONTAINER TYPE

- P - PLASTIC
- G - GLASS
- V - VOA
- O - OTHER
- T - TEFLON

PRESERVATIVES

ANALYSES

Table with columns for ANALYSES and LAB COMMENTS. Includes handwritten entry 'Total Lead' and 'X'.

SAMPLER:

FIELD PH: \_\_\_\_\_

TIME: \_\_\_\_\_

CALIB: 4 7 10

received at  
TEMP: 20.4  
COND: E00184

SPECIAL INSTRUCTIONS:

RUSH DATE REQUIRED  
(ADDITIONAL COST MAY APPLY)

REGULAR

COMMENTS:

Table with columns: ETI SAMPLE #, CLIENT SAMPLE IDENTIFICATION, SAMPLE TYPE, CONTAINER SIZE, TYPE, #, SAMPLING DATE, TIME. Includes handwritten entry 'W1 Filtered'.

SAMPLE CONDITION:

RELINQUISHED BY: [Signature]  
DATE: 11-16-10 TIME: 8:30  
RECEIVED BY: Ronald Wicker  
DATE: 11-16-10 TIME: 9:30  
RECEIVED BY: Cassandra Wicker





**WASTE CONNECTIONS INC.**  
*Connect with the Future*

**SPECIAL WASTE PROFILE**

**Disposal Site** \_\_\_\_\_

Generator name and address: ODEQ, Minco Armory, 407 West Pontotoc, Minco Ok

Billing name & address: Crystal Creek Environmental Solutions, Inc., 1401 Cornell Parkway, Oklahoma City, OK 73108

Waste description: Water From Clean The Armory.

Quantity: ~1000, gallons > Frequency of disposal:  One-time  Monthly  Other: \_\_\_\_\_

Process generating waste: Water From Cleaning The Armory

Waste address (include county & zip code): Minco Armory, 407 West Pontotoc, Minco Ok

Contact: Micheal Jenkinson Phone: 405/942-2233 Fax: 405/949-5482

Transporter: \_\_\_\_\_ Phone: \_\_\_\_/\_\_\_\_/\_\_\_\_ Fax: \_\_\_\_/\_\_\_\_/\_\_\_\_

**PHYSICAL CHARACTERISTICS AND DOCUMENTATION**

Physical state:  Solid  Semi-solid  Dusty  Sludge  Color: Clear to White

Analytical results:  TPH (PCS)  Volatiles  pH  TCLP-Metals  
 BTEX  Pesticides  PCB  Other: Lead and Phosphorous

Sample source:  Pile  In-ground  Pit bottom  Other: Tank

Sample Type  Grab Sample  Composite Sample

Additional information:  MSDS  Process knowledge  Other: \_\_\_\_\_

**NON-HAZARDOUS DETERMINATION**

Under 40 CFR Part 261, is this a Listed or Characteristic waste?  Yes  No

Is waste classified as a state-only hazardous or dangerous waste?  Yes  No

Is waste covered or restricted from landfilling by any permit?  Yes  No

Basis for non-hazardous determination: Process Knowledge / Analytical Results

**WASTE CERTIFICATION STATEMENT**

I hereby certify that all information contained herein is true and correct, and the material described is properly identified, classified, packaged, labeled, and prepared as indicated. I certify this waste is not hazardous or dangerous as defined by the U.S. EPA, the State of Washington, or the state or province of origin. I certify this waste does not contain any regulated radioactive materials. I certify that all samples used for this analysis are representative of the materials described herein. I will notify the company if there is a change in the composition of, or process generating this waste stream.

Michael Jenkinson  
 Name (print)

Engineer  
 Title

[Signature]  
 Authorized representative's signature

12-9-10  
 Date

Form EC1004200



WASTE CONNECTIONS INC.  
Connect with the Future

## REPRESENTATIVE SAMPLE CERTIFICATION

**INSTRUCTIONS:** This form must be completed in order to determine the acceptability of the waste described in the Special Waste Permit Application for disposal at a municipal solid waste landfill. Analytical data for certain wastes is required for an adequate assessment of waste composition and regulatory status. This form is used to certify that the analytical data presented was derived from testing a *representative* sample, which reflects the physical characteristics and chemical components in the same proportion as the total waste stream. A representative sample may be obtained using methods specified in federal (40 CFR Part 261, Appendix I) or state regulations.

### SECTION A: DESCRIBE SAMPLING POINT OR LOCATION

Pile     In-ground     Pit bottom     Drum     Other: Tank

### SECTION B: SAMPLING METHOD

- I have obtained a representative sample of the waste material described in the attached special waste permit application according to the sampling methods specified in 40 CFR Part 261.
- I have obtained a representative sample of the waste material described in the attached special waste permit application by an equivalent method.

### SECTION C: REPRESENTATIVE DATA CERTIFICATION

Generators' name: Minco Armory

Waste type: Water from cleaning the Armory which had a firing range which generated lead dust.

Date sample collected: 11/15/2010

Samplers' name: Michael Jenkinson

Samplers' employer: Crystal Creek Environmental Solutions, Inc.

### SECTION D: REPRESENTATIVE SAMPLE CERTIFICATION

I hereby certify that the analytical data presented was derived from testing a representative sample taken in accordance with one of the methods listed in Section A of this form.

Michael Jenkinson  
Name

[Signature]  
Authorized representative's signature

Engineer  
Title

12-9-10  
Date



# WASTE MATERIAL PROFILE SHEET

# RECEIVED

## Clean Harbors Profile No. CH478748

JAN 03 2011

### A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # \_\_\_\_\_  
 GENERATOR CODE (Assigned by Clean Harbors) \_\_\_\_\_  
 ADDRESS **407 West Pontotoc Street**  
 CUSTOMER CODE (Assigned by Clean Harbors) **CR1898**  
 ADDRESS **1401 Cornell Parkway #100**

CESQG **OK0185**

GENERATOR NAME: \_\_\_\_\_  
 CITY **Minco**

**Oklahoma Department of Environmental Quality**  
 STATE/PROVINCE **OK** ZIP/POSTAL CODE **73108**

CUSTOMER NAME: \_\_\_\_\_  
 CITY **Oklahoma City**

PHONE: **(405) 317-4856**  
**Crystal Creek Environmental Solutions**  
 STATE/PROVINCE **OK** ZIP/POSTAL CODE **73108**

### B. WASTE DESCRIPTION

WASTE DESCRIPTION: **Lead Based Paint Chips, Debris and Lead Dust**

PROCESS GENERATING WASTE: **Paint removal and dust cleaning**

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER? **No**

### C. PHYSICAL PROPERTIES (at 25C or 77F)

<b>PHYSICAL STATE</b> <input checked="" type="checkbox"/> SOLID WITHOUT FREE LIQUID POWDER MONOLITHIC SOLID LIQUID WITH NO SOLIDS LIQUID/SOLID MIXTURE % FREE LIQUID % SETTLED SOLID % TOTAL SUSPENDED SOLID SLUDGE GAS/AEROSOL	<b>NUMBER OF PHASES/LAYERS</b> 1 2 3 TOP <b>0.00</b> MIDDLE <b>0.00</b> BOTTOM <b>0.00</b>			<b>VISCOSITY (if liquid present)</b> 1 - 100 (e.g. Water) 101 - 500 (e.g. Motor Oil) 501 - 10,000 (e.g. Molasses) > 10,000		<b>COLOR</b> <b>various</b>
	<b>ODOR</b> <input checked="" type="checkbox"/> NONE MILD STRONG Describe: _____		<b>BOILING POINT °F (°C)</b> <= 95 (<=35) 95 - 100 (35-38) 101 - 129 (38-54) >= 130 (>54)		<b>MELTING POINT °F (°C)</b> < 140 (<60) 140-200 (60-93) <input checked="" type="checkbox"/> > 200 (>93)	<b>TOTAL ORGANIC CARBON</b> <input checked="" type="checkbox"/> <= 1% 1-9% >= 10%
<b>FLASH POINT °F (°C)</b> < 73 (<23) 73 - 100 (23-38) 101 - 140 (38-60) 141 - 200 (60-93) > 200 (>93)	<b>pH</b> <= 2 2.1 - 6.9 <input checked="" type="checkbox"/> 7 (Neutral) 7.1 - 12.4 >= 12.5	<b>SPECIFIC GRAVITY</b> <input checked="" type="checkbox"/> < 0.8 (e.g. Gasoline) 0.8-1.0 (e.g. Ethanol) 1.0 (e.g. Water) 1.0-1.2 (e.g. Antifreeze) > 1.2 (e.g. Methylene Chloride)	<b>ASH</b> < 0.1 0.1 - 1.0 1.1 - 5.0 5.1 - 20.0		<b>BTU/LB (MJ/kg)</b> <input checked="" type="checkbox"/> < 2,000 (<4.6) 2,000-5,000 (4.6-11.6) 5,000-10,000 (11.6-23.2) > 10,000 (>23.2) Actual: _____	

**COMPOSITION** (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	MAX	UOM
DUST, DEBRIS, DIRT, RAGS	15.0000000	25.0000000	%
LEAD BASED PAINT CHIPS	50.0000000	75.0000000	%
LEAD DUST	25.0000000	50.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES  NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES  NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING: ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES  NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. **G13** SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. **W319**



CONSTITUENTS

these values based on testing or knowledge?  Knowledge  Testing

If based on knowledge, please describe in detail, the rationale applied to identify and characterize the waste material. Please include reference to Material Safety Data Sheets (MSDS) when applicable. Include the chemical or trade name represented by the MSDS, and or detailed process or operating procedures which generate the waste.
customer knowledge- Removal of lead-based paint and clean lead dust from old firing range.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

Table with columns: RCRA, REGULATED METALS, REGULATORY LEVEL (mg/l), TCLP mg/l, TOTAL, UOM, NOT APPLICABLE. Rows include ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER, VOLATILE COMPOUNDS (BENZENE, CARBON TETRACHLORIDE, etc.), SEMI-VOLATILE COMPOUNDS (o-CRESOL, m-CRESOL, etc.), and PESTICIDES AND HERBICIDES (ENDRIN, LINDANE, etc.).

ADDITIONAL HAZARDS DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES  NO (If yes, explain)

CHOOSE ALL THAT APPLY

- DEA REGULATED SUBSTANCE EXPLOSIVE FUMING OSHA REGULATED CARCINOGENS
POLYMERIZABLE RADIOACTIVE REACTIVE MATERIAL NONE OF THE ABOVE



REGULATORY STATUS

YES  NO USEPA HAZARDOUS WASTE?  
 D008

YES  NO DO ANY STATE WASTE CODES APPLY?  
 Texas Waste Code

YES  NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES  NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?  
 LDR CATEGORY: *This is subject to LDR.*  
 VARIANCE INFO:

YES  NO IS THIS A UNIVERSAL WASTE?

YES  NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES  NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES  NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES  NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES  NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES  NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES  NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES  NO IS THIS CERCLA REGULATED (SUPERFUND ) WASTE ?

YES  NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?  
 Hazardous Organic NESHAP (HON) rule (subpart G)      Pharmaceuticals production (subpart GGG)

YES  NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?  
 YES  NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?  
 YES  NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?  
 What is the TAB quantity for your facility?      Megagram/year (1 Mg = 2,200 lbs)  
 The basis for this determination is: Knowledge of the Waste Or Test Data      Knowledge      Testing  
 Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:  
NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (LEAD), 9, PG III

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY  OTHER *as needed*

<input checked="" type="checkbox"/> CONTAINERIZED		BULK LIQUID		BULK SOLID		
1-20 CONTAINERS/SHIPMENT		GALLONS/SHIPMENT: 0 Min -0 Max	GAL.	SHIPMENT UOM:	TON	YARD
STORAGE CAPACITY: 55						
CONTAINER TYPE:				TONS/YARDS/SHIPMENT: 0 Min - 0 Max		
CUBIC YARD BOX	PALLET					
TOTE TANK	<input checked="" type="checkbox"/> DRUM					
OTHER:	DRUM SIZE: 55					

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:  
route to LG

GENERATOR'S CERTIFICATION

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
	Michael Jankison	Consultant	1-13-11

## **SECTION 6**

### **Waste Manifest**

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number 012345	2. Page 1 of 1	3. Emergency Response Phone 800-368-5717	4. Manifest Tracking Number <b>000098910 MWI</b>	
5. Generator's Name and Mailing Address City of New York, New York 10001			Generator's Site Address (if different than mailing address) NAME			
6. Transporter 1 Company Name City of New York, New York			U.S. EPA ID Number 34A1234567890			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address City of New York, New York 10001			U.S. EPA ID Number 0000000000000			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
1	1. HAZARDOUS WASTE, SOLID, FLAMMABLE, LIQUID, N.O.S.	2	DRUM	1000	1	2991
2						
3						
4						
14. Special Handling Instructions and Additional Information None						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offeror's Printed/Typed Name				Signature		Month Day Year
16. International Shipments <input type="checkbox"/> Export to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name				Signature		Month Day Year
Transporter 2 Printed/Typed Name				Signature		Month Day Year
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number: _____						
18b. Alternate Facility (or Generator)				U.S. EPA ID Number		
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator)						Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.	2.	3.	4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name				Signature		Month Day Year



Land Disposal Restriction  
Notification Form

Printed Date :Feb 15, 2011

MANIFEST INFORMATION

Generator : Oklahoma Department of Environmental Quality

Address: 407 West Pontotoc Street  
Minco,OK 73059

EPA ID#: CESQG

Manifest Tracking Info.

000098810MWI

Sales Order No: 7T3311623

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH478748	NON-WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code	EPA Waste SubCategory
D008	Toxicity Characteristic for Lead

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached:

Signature :

*[Handwritten Signature]*  
Supv

Print Name

*[Handwritten Name]*

Title :

Date :

2-16-11



<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number 011110	2. Page 1 of 1	3. Emergency Response Phone (800) 442-8716	4. Manifest Tracking Number 011110 MWI	
5. Generator's Name and Mailing Address Waste Management of Connecticut 207 West River Street Middletown, CT 06457				Generator's Site Address (if different than mailing address) SAME		
Generator's Phone: (860) 227-8888						
6. Transporter 1 Company Name New Harbor Environmental Services Inc				U.S. EPA ID Number 04R137880000		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address New Harbor Environmental Services Inc 10 miles west of 1 mile north of I-95 Highway 291 & 112 Middletown, CT 06457				U.S. EPA ID Number 060085436379		
Facility's Phone: (860) 887-3525						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
1.	HAZARDOUS WASTE SOLID W.D.S. (LEAD) 9 PG III	2	DM	300	P	RD00
2.						
3.						
4.						
14. Special Handling Instructions and Additional Information NONE						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offoror's Printed/Typed Name James B. ...				Signature <i>[Signature]</i>		Month Day Year 2 16 11
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name Daniel ...				Signature <i>[Signature]</i>		Month Day Year 2 16 11
Transporter 2 Printed/Typed Name James ...				Signature <i>[Signature]</i>		Month Day Year 2 17 11
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number: _____						
18b. Alternate Facility (or Generator)				U.S. EPA ID Number		
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator)						Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. _____		2. _____		3. _____		4. _____
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name				Signature		Month Day Year

GENERATOR

TRANSPORTER INT'L

DESIGNATED FACILITY

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b> (Continuation Sheet)		21. Generator ID Number	22. Page	23. Manifest Tracking Number		
24. Generator's Name						
25. Transporter _____ Company Name				U.S. EPA ID Number		
26. Transporter _____ Company Name				U.S. EPA ID Number		
27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers		29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
		No.	Type			
32. Special Handling Instructions and Additional Information						
33. Transporter _____ Acknowledgment of Receipt of Materials						
Printed/Typed Name				Signature		Month Day Year
34. Transporter _____ Acknowledgment of Receipt of Materials						
Printed/Typed Name				Signature		Month Day Year
35. Discrepancy						
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						

GENERATOR

TRANSPORTER

DESIGNATED FACILITY TO GENERATOR

<b>UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)</b>		21. Generator ID Number	22. Page	23. Manifest Tracking Number		
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		No.	Type			
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Printed/Typed Name				Signature		Month Day Year
34. Transporter _____ Acknowledgment of Receipt of Materials						
Printed/Typed Name				Signature		Month Day Year
35. Discrepancy						
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						

GENERATOR

TRANSPORTER

DESIGNATION

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number

22. Page

23. Manifest Tracking Number

24. Generator's Name

25. Transporter Company Name

U.S. EPA ID Number

26. Transporter Company Name

U.S. EPA ID Number

27a. HM 27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))

28. Containers

No. Type

29. Total Quantity

30. Unit Wt./Vol.

31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

33. Transporter Acknowledgment of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

34. Transporter Acknowledgment of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

TRANSPORTER

DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b> (Continuation Sheet)		21. Generator ID Number	22. Page	23. Manifest Tracking Number		
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25. Transporter _____ Company Name				U.S. EPA ID Number		
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27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers		29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
		No.	Type			
32. Special Handling Instructions and Additional Information						
33. Transporter _____ Acknowledgment of Receipt of Materials						
Printed/Typed Name			Signature		Month	Day Year
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Printed/Typed Name			Signature		Month	Day Year
35. Discrepancy						
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GENERATOR

TRANSPORTER

DESIGNALITY