

Lead Paint Exposure – SOP for Employee and Environment Protection

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US Army Corps of Engineers
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Reasons for Lead (Heavy Metal) Awareness and Environmental Controls (OSHA and EPA)

- Protect the Employee, Employees Family, Coworkers and others that have contact with the employee both in the work place and outside of the work place.
- Lead Poisoning can occur to all age groups of population. Pre-School and School age children are most susceptible due to affect it has on brain development and other internal organs that are developing in young people.
- Lead is a Heavy Metal and has detrimental effects on internal organs.
- OSHA is Worker Protection Based Regulations and Guidelines
- EPA is Environment Based Regulations and Guidelines





Table 9.2 Worker Exposure Limits and Guidelines

Air lead	
OSHA Permissible Exposure Limit (PEL)	50 $\mu\text{g}/\text{m}^3$
OSHA action level	30 $\mu\text{g}/\text{m}^3$
Blood lead	
OSHA medical removal limit	50 $\mu\text{g}/\text{dL}$
OSHA recommended level to prevent reproductive problems	30 $\mu\text{g}/\text{dL}$
ACGIH proposed Threshold Limit Value	20 $\mu\text{g}/\text{dL}$

Table 9.3 Required Action Under the OSHA Standard by Exposure Level

CATEGORY I	CATEGORY II	CATEGORY III
30 $\mu\text{g}/\text{m}^3$ * and under (below the action level)	30–50 $\mu\text{g}/\text{m}^3$ (above the action level, but below the PEL).	50 $\mu\text{g}/\text{m}^3$ and over (above the PEL).
Train employees. Conduct exposure monitoring. Maintain records.	Same as category I, plus: Provide respirator at employee request. Conduct exposure monitoring every 3 months. Conduct blood lead monitoring.	Same as category II, plus: Enforce respirator use. Enforce use of protective clothing. Develop monitoring every 6 months. Enforce housekeeping. Provide hygiene facilities and enforce washing.

* All exposure levels are 8-hour, time-weighted averages.



Client Sample Results

Client: U.S. ARMY CORPS OF ENGINEERS - ROCK ISLAND
 Project/Site: Ill WW Proj Office - Starved Rock Gate Work

TestAmerica Job ID: CVA1076

Client Sample ID: IWW-BZ-01

Date Collected: 01/18/12 00:00

Date Received: 01/23/12 11:15

Sample Air Volume: 396 L

Sample Container: Air Cassette - MCEF

Lab Sample ID: CVA1076-01

Matrix: Air

Method: NIOSH 7300M - Metals

Analyte	Result ug/liter	Result ug/m3	Qualifier	RL ug/liter	MDL ug/liter	Analyst	Analyzed	Dil Fao
Lead	180	460		2.5		CJT	01/25/12 12:34	1.0

Client Sample ID: IWW-BZ-02

Date Collected: 01/18/12 00:00

Date Received: 01/23/12 11:15

Sample Air Volume: 375.9 L

Sample Container: Air Cassette - MCEF

Lab Sample ID: CVA1076-02

Matrix: Air

Method: NIOSH 7300M - Metals

Analyte	Result ug/liter	Result ug/m3	Qualifier	RL ug/liter	MDL ug/liter	Analyst	Analyzed	Dil Fao
Lead	100	270		2.5		CJT	01/25/12 12:35	1.0

Client Sample ID: IWW-BZ-03

Date Collected: 01/18/12 00:00

Date Received: 01/23/12 11:15

Sample Air Volume: 369.7 L

Sample Container: Air Cassette - MCEF

Lab Sample ID: CVA1076-03

Matrix: Air

Method: NIOSH 7300M - Metals

Analyte	Result ug/liter	Result ug/m3	Qualifier	RL ug/liter	MDL ug/liter	Analyst	Analyzed	Dil Fao
Lead	<2.5	<6.8		2.5		CJT	01/25/12 12:41	1.0

Client Sample ID: IWW-WA-04

Date Collected: 01/18/12 00:00

Date Received: 01/23/12 11:15

Sample Air Volume: 379 L

Sample Container: Air Cassette - MCEF

Lab Sample ID: CVA1076-04

Matrix: Air

Method: NIOSH 7300M - Metals

Analyte	Result ug/liter	Result ug/m3	Qualifier	RL ug/liter	MDL ug/liter	Analyst	Analyzed	Dil Fao
Lead	540	1400		7.5		CJT	01/25/12 13:27	3.0

Client Sample ID: IWW-WA-05

Date Collected: 01/18/12 00:00

Date Received: 01/23/12 11:15

Sample Air Volume: 351.4 L

Sample Container: Air Cassette - MCEF

Lab Sample ID: CVA1076-05

Matrix: Air

Method: NIOSH 7300M - Metals

Analyte	Result ug/liter	Result ug/m3	Qualifier	RL ug/liter	MDL ug/liter	Analyst	Analyzed	Dil Fao
Lead	210	550		2.5		CJT	01/25/12 12:44	1.0



**U.S. Army Corps of Engineers
Rock Island District**

**Lead Based Paint Removal
at
Operations Facilities**

Standard Operating Procedure

Draft

October 11, 2011



**US Army Corps
of Engineers** ®
Rock Island District



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12/23/11

U.S. Army COE Rock Island District
Lead Based Paint Removal at Operations Facilities
IWW Annex
Starved Rock Upper Miter Gates
Lead Paint Safety, Work Practice, and Personnel Protection Plan

Task/Activity

Installing Steel Plates and other Fabrications in the locations where previously removed. Miter Gate Frame and appurtenances immediately adjacent to surfaces of the Miter Gate have been laboratory tested and confirmed to contain Lead Based Paint/Coatings.

1. Normal PPE (Personnel Protective Equipment) is required for all workers and operators of equipment
2. All Signage for Lead Abatement/Mitigation as required by OSHA/EPA and IDPH will be posted as appropriate on the perimeter of the work location.
3. Procedures
 - A. Crew size will be (7) – Foreman, Crane Operator, Rigger, and 4 L&D Repairers. There will be 2 L&D Repairers on each gate doing the steel installation. These 4 L&D Repairers will wear appropriate lead PPE.
 - B. Crew will be trained on lead hazards and proper handling.
 - C. All members of the crew will be on an active Medical Surveillance Program and be medically cleared to wear a respirator. The crew will have Blood Level testing done. All personnel have already been fit tested and trained on proper respirator care. If additional crew members are needed they will be put into the Medical Surveillance Program.
 - D. Air monitoring will be established to define exposure limits. Based on those readings, PPE and procedures may be adjusted.



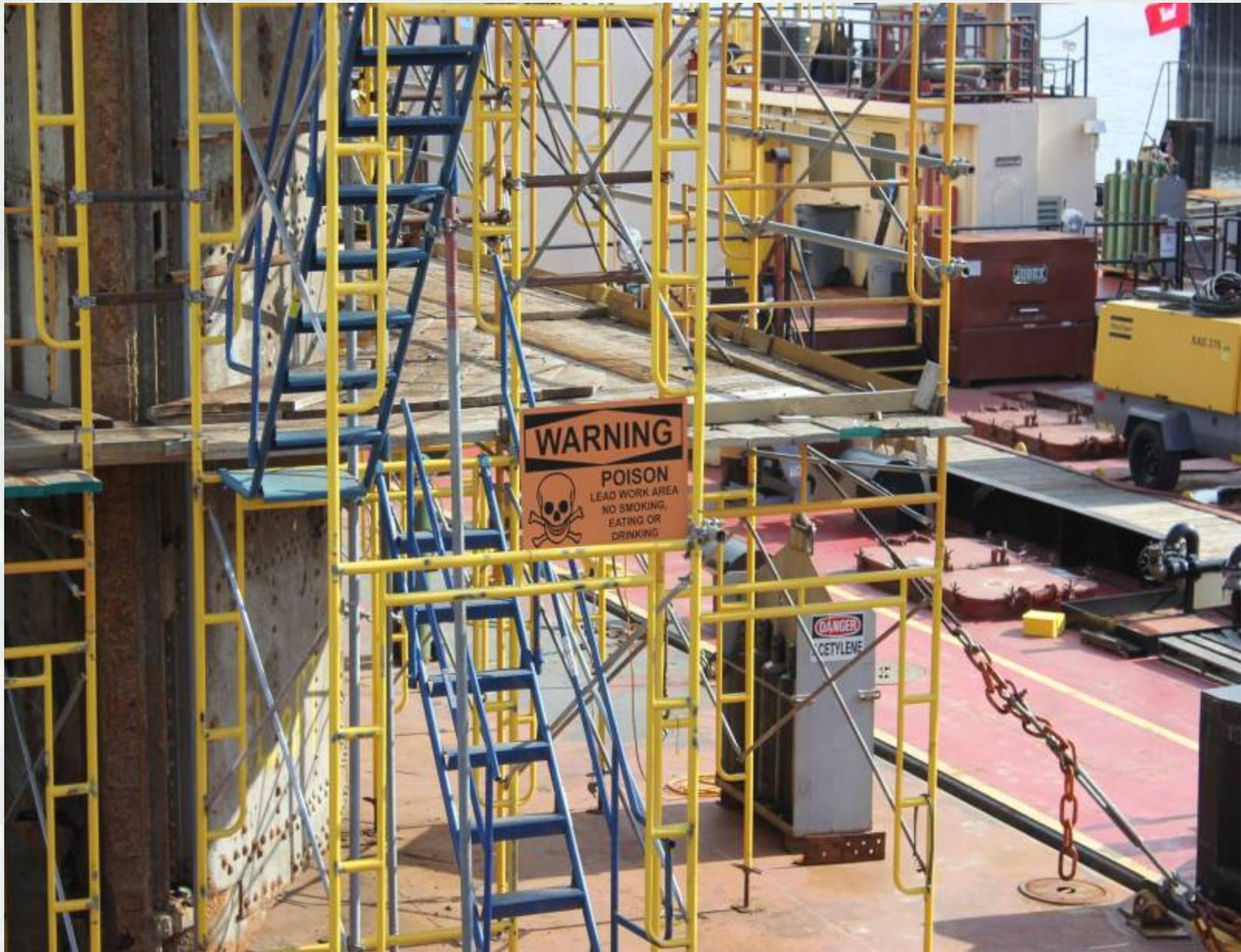
U.S. Army COE Rock Island District
Lead Based Paint Removal at Operations Facilities
IWW Annex
Starved Rock Upper Miter Gates
Lead Paint Safety, Work Practice, and Personnel Protection Plan

Task/Activity

Blasting and painting Starved Rock upper miter gates. Miter Gate Frame and appurtenances immediately adjacent to surfaces of the Miter Gate have been laboratory tested and confirmed to contain Lead Based Paint/Coatings.

1. Normal PPE (Personnel Protective Equipment) is required for all workers and operators of equipment
2. All Signage for Lead Abatement/Mitigation as required by OSHA/EPA and IDPH will be posted as appropriate on the perimeter of the work location.
3. Procedures
 - A. The gates will be covered in 9-10 mil poly sheeting with an industrial combination air handling/vacuum. One gate at a time will be done. Blasting will occur from 6AM – 4:30 PM. Cleaning and painting will occur from 11AM – 9 PM. Black Beauty will be the blast media. When the blasting is done, the blasters and painters will don tyvek suits, respirator, gloves, and rubber boots to vacuum the debris into a plastic lined dumpster. The debris will be tested and disposed of properly. The blast nozzles will be fitted with a LED light and there will be explosion proof LED lights on stands on the level that is being blasted.





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Hurricane 755 Trailer Mounted Vacuum
225 HP Diesel engine, 3600 CFM, Cyclonic separation, Baghouse



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