SITE SAFETY AND HEALTH PLAN

Prepared for:

The Westover Corp.
c/o Geo. Gradel Co.
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Toledo, Ohio 43605

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1.0 ORGANIZATIONAL STRUCTURE

(in compliance with 29 CFR 1910.120(b)(2))

This chapter of the Health and Safety Plan describes lines of authority, responsibility, and communication as they pertain to health and safety functions at this site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the site health and safety plan and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communication among them for safety and health matters.

The organizational structure of this site's safety and health program is consistent with OSHA requirements in 29 CFR 1910.120(b)(2) and provides the following site-specific information:

* the general supervisor who has the responsibility and authority to direct all hazardous waste operations
* the site safety and health officer who has the responsibility and authority to develop and implement this HASP and verify compliance
* other personnel needed for hazardous waste operations and emergency response and their general functions and responsibilities
* the lines of authority, responsibility, and communication for safety and health functions

This section is reviewed and updated as necessary to reflect the current organizational structure at this site.

1.1 Roles and Responsibilities

All personnel and visitors on this site must comply with the requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this site are detailed in the following paragraphs. A site organizational chart illustrating the hierarchy of personnel and lines of communication within this company and with additional contractors on site is found in Figure 1-1.

Project Manager (PM)

The Project Manager (PM) for this site is Marc Gradel. The PM has responsibility and authority to direct all work operations. The PM coordinates safety and health functions with the Site Safety and Health Officer (SSHO), has the authority to oversee and monitor the performance of the SSHO, and bears ultimate responsibility for the proper implementation of this HASP. The specific duties of the PM are:

Preparing and coordinating the site work plan; providing site supervisor(s) with work assignments and overseeing their performance; coordinating safety and health efforts with the SSHO; ensuring effective emergency response through coordination with the Emergency Response Coordinator (ERC); serving as primary site liaison with public agencies and officials and site contractors.

Site Safety and Health Officer (SSHO)

The Site Safety and Health Officer (SSHO) for this site is Craig S. Chall. The SSHO has full responsibility and authority to develop and implement this HASP and to verify compliance. The SSHO reports to the Project Manager. The SSHO is on site or readily accessible to the site during all work operations and has the authority to halt site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

Managing the safety and health functions on this site; serving as the site's point of contact for safety and health matters; ensuring site monitoring, worker training, and effective selection and use of PPE; assessing site conditions for unsafe acts and conditions and providing corrective action; assisting the preparation and review of this HASP; maintaining effective safety and health records as described in this HASP; coordinating with the Emergency Response Coordinator (ERC), Site Supervisor(s), and others as necessary for safety and health efforts.

Site Supervisor

The Site Supervisor for this site is Marc Gradel. The Site Supervisor is responsible for field operations and reports to the Project Manager (PM). The Site Supervisor ensures the implementation of the HASP requirements and procedures in the field. The specific responsibilities of the Site Supervisor are:

Executing the work plan and schedule as detailed by the PM; coordination with the Site Safety and Health Officer (SSHO) on safety and health; ensuring site work compliance with the requirements of this HASP.

Site Workers

Site workers are responsible for complying with this HASP, using the proper PPE, reporting unsafe acts and conditions, and following the work and safety and health instructions of the Project Manager (PM), Site Safety and Health Officer (SSHO), and Site Supervisor.

1.2 Identification of Other Site Contractors

There are no other contractors or subcontractors on this site.

1.3 Other local/State/Federal Agency Representatives and Their Roles & Responsibilities

EPA Representative

The EPA Representative for this site is Jon J. Gulch. Serving either in the capacity as On-Scene Coordinator (OSC) or Site Inspection Officer (SIO), the EPA Representative is responsible for overall project administration and contractor oversight. As part of that oversight function, EPA will ensure that project plans meet OSHA requirements at a minimum, and that the health and safety of all site personnel is a primary concern. As an OSC, EPA serves in the capacity of site supervisor.

Superfund Technical Assistance and Response Team Representative (START)

The Superfund Technical Assistance and Response Team Representative (START) for this site is Weston Solutions. The Superfund Technical Assistance and Response Team is responsible for providing the On-Scene Coordinator (OSC) with assistance and support in regards to all technical, regulatory, and safety aspects of site activity. The START is also available to advise the OSC on matters relating to sampling, treatment, packaging, labeling, transport, and disposal of hazardous materials.

2.0 JOB HAZARD ANALYSIS

(in compliance with 29 CFR 1910.120(b)(4)(ii)(A),and 1910.120(i))

This chapter of the HASP describes the safety and health hazards associated with site work and the control measures selected to protect workers. The purpose of a job hazard analysis (JHA) is to identify and quantify the health and safety hazards associated with each site task and operation, and to evaluate the risks to workers. Using this information, appropriate control methods are selected to eliminate the identified risks if possible, or to effectively control them. The control methods are documented in each task-specific JHA. The information contained in this chapter is essential to effective preparation of all other chapters of the HASP. This section of the HASP includes:

* a site description
* job hazard analysis
* hazardous substance information
* employee notification of hazards

The person responsible for ongoing job hazard analysis at this site is Craig S. Chall.

2.1 Site History

The following text describes the site and its conditions as they relate to the need to perform hazardous substance clean-up operations. The Westover Landfill is located at 820 Otter Creek Road in Oregon, Lucas County, Ohio and is approximately 10.5 acres in size. The site is a closed sanitary landfill currently owned by Mr. Seth Corley who bought the property at a Sherriff's sale in 2005. The property is bounded on the north by Old Millard Avenue and what appears to be a closed landfill. The site is bounded on the south by a Buckeye Pipeline pumping station and York Street. The site is bounded on the east by Otter Creek Road and Envirosafe Services of Ohio (landfill). The property is bounded on the west by Otter Creek and an undeveloped filled area that was part of the former Gulf Oil Refinery tank farm. Further to the west is the CSX rail yard servicing the Toledo-Lucas County Port Authority docks.

The sources used to provide the above description include:

* Administrative Order
* Phase I Site Assessment

2.2 Job Hazard Analysis

Each site-specific JHA appears on a separate copy of Table 2-2. Each JHA lists a task or operation required during site clean-up and the location(s) where that task or operation is performed. A single JHA may be used for a task/operation performed in multiple locations if the hazards, potential exposures, and controls are the same in each location.

Each JHA lists the chemical hazards associated with that task and their known or anticipated airborne concentrations during performance of the task. Each JHA also identifies anticipated physical and biological hazards and potential exposure levels or the likelihood of exposure. The final section of each JHA lists the control measures implemented to protect employees from exposure to the identified hazards. The information provided here is designed to satisfy the job hazard analysis requirements of 1910.120(b)(4)(ii)(A) and the workplace hazard assessment requirements of 1910.132(d).

Health hazard information for all chemical substance identified in site JHAs appears in hazard data sheets attached to this chapter.

Craig S. Chall modifies site-specific JHAs and the accompanying data sheets when:

* the scope of work is changed by adding, eliminating, or modifying tasks
* new methods of performing site tasks are selected
* observation of the performance of site tasks results in a revised characterization of the hazards
* new chemical, biological, or physical hazards are identified
* exposure data indicate changes in the concentration and/or likelihood of exposure
* new/different control measures are selected

When JHAs are modified, related provisions in other chapters of this HASP are modified as needed.

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Waste materials		After analysis of excavated soils	Soils in drums either waste or not

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: If waste materials are classified hazardous, upgrade to Tyvek with booties

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		After concrete is cured, remove forms	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Mobilization		Air sampling/monitoring	Methane monitoring at vents closest to work

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Biological Hazards

Name of Biological Hazard	Source	Exposure Potential
No Biological Hazards		Unlikely

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Air sampling/monitoring	Monitor any methane vents in area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Use goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Air sampling/monitoring	Monitor each methane vent

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Build concrete forms at pipe end	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Clean end of pipe of any debris	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Demobilization		Close and secure gates	Gate area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Revegetation		Compact new cap materials	Disturbed areas site-wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Compact soils placed	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Mobilization		Constructing soil erosion control measures	As needed or around excavations

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Revegetation		Cover disturbed areas with cap material	Disturbed areas site-wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Hook up all hoses	Generator and pump area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Waste materials		If not, contents returned to site and compacted	Compact soils in areas where necessary

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Waste materials		If waste, drums to appropriate site	Waste hauler transports to TSD

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Inspect concrete	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Install coupling and pipe stub	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Let concrete cure	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Mix concrete	Near pipe end

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Demobilization		Monitor any methane vents in area	Methane vents

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Place drum in storage area	Waiting for analysis

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Place excavated soil in storage drum	Close drum, label and date

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Place soils around end of pipe	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Pour concrete into wooden form	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Prepare pipe end for coupling	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Prepare to pump leachate	Lowest leachate sump area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Pump leachate as it accumulates in well	Lowest leachate sump area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Demobilization		Remove any equipment & materials	Site wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Repeat dewatering as necessary	Lowest leachate sump area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Revegetation		Reseed existing bare areas	Bare areas site-wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Revegetation		Seed compacted areas	Disturbed areas site-wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Waste materials		Seed compacted soils	Site-wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Set generator and pump	Lowest leachate sump area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Set rerod in wood form	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Mobilization		Site walk through	Site wide

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Soil excavation around end of pipe	Collect soil samples for analysis

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Mobilization		Staging supplies	As needed

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Chemical Hazards

Chemical Name	Source	Concentration	Exposure Limit
METHANE	Vent Pipes	1000 ppm	1000 ppm TLV-TWA ACGIH

** Chemicals added by user*

Physical Hazards

Name of Physical Hazard	Source	Exposure Level/ Potential	Exposure Limit
Cold Weather Operations	Cold	Likely	N/A
Earth Moving Equipment Operations		Equipment	Likely N/A
Electrical	Generator	Likely	N/A
Hand Tool Use	Pipe repair	Likely	N/A

Biological Hazards

Name of Biological Hazard	Source	Exposure Potential
No Biological Hazards		Unlikely

Control Measures Used

Engineering Controls: Cold - Workers dress for weather conditions or do not work
Earth moving equipment operations - Trained operators and laborers who are used to working together
Electrical - Generator is grounded to earth and GFCI is used
Hand tool use - Trained laborers using appropriate gloves and other PPE

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Start equipment and monitor leachate	Lowest leachate sump area

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Dewater leachate system		Take leachate to disposal site daily	Drive to disposal site

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No

PPE Downgrade: No

Table 2-2: Site-Specific Job Hazard Analysis

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Metal Pipe Repairs		Tighten bands on coupling	End of pipe

Date(s) this JHA Conducted	Employee Certifying this JHA Print Name	Signature
	Craig S. Chall	

Control Measures Used

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: Wear goggles and/or face shield

PPE Downgrade: No

2.3 Employee Notification of Hazards and Overall Site Information Program

The information in the JHAs and the attached data sheets is made available to all employees who could be affected by it prior to the time they begin their work activities. Modifications to JHAs and the accompanying data sheets are communicated during routine briefings.

Consistent with paragraph (i) of HAZWOPER, we also inform other contractors and subcontractors about the nature and level of hazardous substances at this site, and the likely degree of exposure to workers who participate in site operations.

The person responsible for providing site information, this HASP, and any modifications to the HASP to other contractors and subcontractors working on this site is: Craig S. Chall

CHEMICAL IDENTIFICATION

Chemical Name: METHANE
CAS #: 74-82-8 UN No: 1971 Formula: CH4
Synonyms: NA

PHYSICAL PROPERTIES

Physical Description:

BP:	NA	MW:	16.04	LEL:	NA	NFPA Fire Rating:	4
MLT:	NA	VP:	NA	UEL:	NA	NFPA Health Rating:	1
Fl.P:	NA	VD:	NA			NFPA Reactivity Rating:	0
Sp. Gr.:	NA	IP:	NA			NFPA Sp. Inst.:	NA

EXPOSURE GUIDELINES

OSHA		NIOSH		ACGIH		Related Information
PEL-TWA ppm:	NA	REL-TWA ppm:	NA	TLV-TWA ppm:	1000	AIHA Emergency Response
PEL-TWA mg/m3:	NA	REL-TWA mg/m3:	NA	TLV-TWA mg/m3:	NA	Planning Guidelines
PEL-STEL ppm:	NA	REL-STEL ppm:	NA	TLV-STEL ppm:	NA	(ERPGs)EPRG-1/EPRG-2/EPR
PEL-STEL mg/m3:	NA	REL-STEL mg/m3:	NA	TLV-STEL mg/m3:	NA	G-3: NA
PEL-C ppm:	NA	REL-C ppm:	NA	TLV-C ppm:	NA	
PEL-C mg/m3:	NA	REL-C mg/m3:	NA	TLV-C mg/m3:	NA	
Skin Notation:						
Notes: NA		Notes: NA		Notes: TLV-TWA HAS Varies mg/m3, SEE ALIPHATIC HYGROCABON GASES, ALKANE [C1-C4], "INERT" GAS OR VAPOR THAT ACTS PRIMARILY AS A SIMPLE ASPHYXIANT		Carcinogen Classifications: NA

IDLH Notes: NA
IDLH ppm: NA IDLH mg/m3: NA

HEALTH INFORMATION

Symptoms: NA
Health Effects: explosive; asphyxiant; if oxygen level is 18% or less by volume
Target Organ: NA

EMERGENCY RESPONSE INFORMATION

First Aid: EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. SKIN: CAUTION: Exposure of skin to compressed gases may result in freezing of the skin. Treatment for frostbite may be necessary. Remove the victim from the source of contamination. IMMEDIATELY wash affected areas gently with COLD water (and soap, if necessary) while removing and isolating all contaminated clothing. Dry carefully with clean, soft towels. If symptoms such as inflammation or irritation develop, IMMEDIATELY call a physician or go to a hospital for treatment. INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of Breathing, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing. INGESTION: This compound is a gas, therefore inhalation is the first route of exposure. (NTP, 1992)

Reactivity: CHEMICAL PROFILE: Liquid oxygen gives an explosive mixture when combined with liquid methane (NFPA 1991). Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container (Handling Chemicals Safely 1980). (REACTIVITY, 1999)

Nonfire Spill Response: Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Attempt to stop leak if without undue personnel hazard. Use water spray to knock-down vapors. (AAR, 1999) Fire Response: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. (AAR, 1999)

3.0 SITE CONTROL

(in compliance with 29 CFR 1910.120(b)(4)(ii)(F) and 29 CFR 1910.120(d))

This site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the site, and to deter vandalism and theft.

The site control program includes the elements specified in 29 CFR 1910.120(d) and provides the following site-specific information:

* a site map, indicating site perimeter and work zones
* site access procedures
* site security
* site work zones including standard operating procedures
* use of the buddy system
* both internal (on-site) and external communications

Craig S. Chall is responsible for evaluating site conditions and for verifying that the site control program functions effectively. The site control program is updated regularly to reflect current site conditions, work operations, and procedures.

3.1 Site Map

A map of this site, showing site boundaries, designated work zones, and points of entry and exit is provided in Figure 3-1, at the end of this chapter.

3. 2 Site Access

Access to this site is restricted to reduce the potential for exposure to its safety and health hazards. During hours of site operation, site entry and exit is authorized only at the point(s) identified in Figure 3-1. Entry and exit at these points is controlled by the following: Site Personnel. When the site is not operating, access to the site is controlled by the following:
Fencing.

Visitors to the site register with Craig S. Chall, and are escorted at all times. Visitors are expected to comply with the requirements of this HASP. Visitors who want to enter contaminated areas of the site must provide documentation that they have the required training and medical evaluation and must receive a site-specific briefing about protecting themselves from site hazards, recognizing site zones demarcations, and following emergency evacuation procedures. PPE for visitors is provided by Craig S. Chall.

3.3 Site Security

Security at this site is maintained during both working hours and non-working hours to prevent unauthorized entry; removal of contaminated material from the exclusion zone; exposure of unauthorized, unprotected people to site hazards; and increased hazards due to vandalism and theft.

Security During Working Hours

Marc Gradel is responsible for establishing and maintaining site security during working hours. This site takes the following measures for security during working hours:

1. Security is maintained in the Support Zone and at Access Control Points to ensure only authorized entrants access the site. Once the project is complete, the Site Security reverts back to the current owner of the Site.
2. A fence or other physical barrier is erected around the perimeter of the site to prevent unauthorized entry or exit.
3. Signs have been posted around the perimeter of the site to warn of the site dangers and prohibition of unauthorized entry.
4. Site personnel patrol the perimeter of the site.

Security During Non-working Hours

Marc Gradel is responsible for establishing and maintaining site security during non-working hours. The following measures have been taken for security during non-working hours:

1. The site is completely fenced and all entryways are locked. The site is only open when work is being performed. Site security will be maintained while the project is on-going and will revert to the current owner at its conclusion. Once Geo. Gradel Co. personnel have completed their work on the site remediation, we will secure the site and leave it to the security methods of the current owner.
2. An outside contractor is used for site surveillance.
3. A local police department is used for site surveillance.
4. All doors to buildings and/or trailers are locked and equipment is secured.

3.4 Site Work Zones

This site is divided into three (3) major zones, described below and shown in Figure 3-1. These zones are characterized by presence or absence of biological and chemical hazards and the activities performed within them. Zone boundaries are clearly marked at all times and the flow of personnel among the zones is controlled.

The site is monitored for changing conditions that may warrant adjustment of zone boundaries. Zone boundaries are adjusted as necessary to protect personnel and clean areas. Whenever boundaries are adjusted, zone markings are also changed and workers are immediately notified of the change.

The following criteria were considered in establishing the site work zones:

1. Required clean-up activities.
2. Sampling results for air and surface contaminants.
3. Potential for fire.
4. Physical, chemical, toxicological, and other characteristics of substances present.
5. Physical and topographical features of the site.
6. Weather conditions, particularly the direction of prevailing winds relative to the locations of the support zone and other uncontaminated areas onsite.

Exclusion Zone

The Exclusion Zone is the area where hazardous substance is known or suspected to be present and pose the greatest potential for exposure. Remediation operations (site clean-up) are performed in the Exclusion Zone. At this site, the Exclusion Zone boundaries are at the following areas:

- Area around the end of the pipe to be plugged (until plug is in place), and
- Area around the leachate pumping location

Personnel and equipment will enter and exit the Exclusion Zone from the designated access points in the Contamination Reduction Zone (CRZ), which is the balance of the site excluding the designed exclusion zones.

Personnel in the Exclusion Zone will adhere to the following SOPs:

Exclusion Zone (ExZ) SOPs

1. Check in and out of this zone at the designated access point(s).
2. Use the buddy system at all times.
3. Wear the PPE required for this zone (see PPE section of this HASP).
4. Perform air monitoring as required for this zone (see Exposure Monitoring section of this HASP).
5. No smoking, eating, or drinking.
6. No matches, lighters, or open flame.
7. Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
8. Alert supervisor to signs of changing or unanticipated hazards.
9. No horseplay.
10. Monitor self and buddy for PPE rips, tears, and/or damage.
11. Use monitoring equipment and tools that are safe for the working environment.
12. Use ground-fault circuit interrupters (GFCIs) when necessary to prevent electric shock.
13. Use three-wire grounded extension cords for portable electric tools and appliances.
14. Keep loose-fitting clothing or loose long hair away from moving machinery.
15. Use signaling to direct heavy equipment operating in tight quarters.
16. No refueling engines while equipment is running.
17. No ignition sources within 50 feet of refueling areas.
18. Lower all blades and buckets to the ground and set parking brakes before shutting off vehicles.
19. Never exceed the rated load capacity of a vehicle.

Contamination Reduction Zone (CRZ)

The CRZ is located between the Exclusion Zone and the Support Zone (clean zone). Its primary purpose is for decontamination of workers and equipment. The CRZ also serves as a buffer between the Exclusion Zone and Support Zone, to limit the potential for contamination to spread to the Support Zone and outlying areas. We will stage a small area near where we enter and exit the site to perform any dry decontamination of employees and equipment as necessary. Any contaminated equipment and/or clothing will be bagged or drummed at this location(s).

Based on monitoring results, the CRZ boundaries may be adjusted to ensure that the Support Zone remains uncontaminated. Workers and equipment exit the Exclusion Zone through the designated access point(s) into the CRZ. Workers and equipment are then decontaminated in the CRZ, according to the procedures specified in the Decontamination section of this HASP. Workers and equipment then exit the CRZ into the Support Zone through the designated access points.

If necessary, emergency decontamination procedures are implemented. Emergency decontamination procedures are described in the site's emergency response program.

Personnel in the CRZ will adhere to the following SOPs:

Contamination Reduction Zone (CRZ) SOPs

1. Check in and out of this zone at the designated access point(s).
2. Wear the PPE required for this zone (see PPE section of this HASP).
3. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).
4. Use monitoring equipment and tools that are safe for the working environment.
5. No smoking, eating, or drinking.
6. No matches, lighters, or open flame.
7. Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
8. Alert supervisor to signs of changing or unanticipated hazards.
9. No horseplay.
10. Monitor self and buddy for PPE rips, tears, and/or damage.

Support Zone

The Support Zone is the clean area of the site, beyond the outer boundary of the CRZ. There should be no contamination in this zone. Administrative, clerical, and other support functions are based in the Support Zone.

The Support Zone is shown in Figure 3-1 and its boundaries are marked by Property fence line.Air and surface monitoring are conducted in the Support Zone as needed to ensure that it remains uncontaminated. If contamination is detected, zone boundaries are adjusted until corrective action is taken and monitoring results indicate that this zone is again uncontaminated.

Within the Support Zone, personnel will adhere to the following SOPs:

Support Zone (SZ) SOPs

1. Check in and out of this zone at the designated site access point(s).
2. Alert supervisor to signs of changing or unanticipated hazards.
3. No horseplay.
4. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).

3.5 Buddy System

While working in the Exclusion Zone, site workers use the buddy system. The buddy system means that personnel work in pairs and stay in close visual contact to be able to observe one another and summon rapid assistance in case of an emergency. The responsibilities of workers using the buddy system include:

* remaining in close visual contact with partner,
* providing partner with assistance as needed or requested,
* observing partner for signs of heat stress or other difficulties,
* periodically checking the integrity of partner's PPE, and
* notifying the site manager or other site personnel if emergency assistance is needed. * periodically checking the integrity of partner's PPE, and
* notifying the site manager or other site personnel if emergency assistance is needed.

3.6 Site Communications

The following communication equipment is used to support on-site communications:

Telephones at this site are located in the following areas:

Each supervisor and the SSHO has a mobile telephone.

A current list of emergency contact numbers is posted in the following locations:

The Project Manager, Site Supervisor and Safety & Health Officer maintain the emergency contact info

3.7 Emergency Medical Assistance

The nearest emergency medical assistance for potentially life threatening medical emergencies selected for this site is:

Organization:	St. Vincent Mercy Medical Center
Address/Location	2213 Cherry Street, Toledo, OH
Telephone:	419-251-3232

The nearest emergency medical assistance selected to support this site for non-life threatening medical emergencies is:

Organization:	Occupational Care Consultants
Contact:	Angela Crosby
Address/Location:	3028 Navarre Ave., Oregon, OH 43616
Telephone:	419-697-6850

A map to this facility is located in the Emergency Response chapter of this HASP, Figure 11-3b.

Figure 3-1 Map of Site Boundaries, Work Zones, and Entry/Exit Points

Insert site map with zone boundaries and access points here.

4.0 TRAINING PROGRAM

(in compliance with 29 CFR 1910.120(e))

The site training program is designed to ensure that workers receive the training they need to work safely on this site. Site safety and health training requirements are based on the job hazard assessments contained in Chapter 2 of this HASP and relevant OSHA requirements. At this site, Craig S. Chall oversees the implementation of this training program and is responsible for ensuring that employees are adequately and currently trained for all tasks they are asked to perform. Employees who have not been trained to a level required by their job function and responsibility are not permitted to participate in or supervise field activities.

This training program is consistent with the requirements of 29 CFR 1910.120(e) and addresses the following site-specific information:

* training for site workers
* site briefings for visitors and workers
* initial HAZWOPER training (40 or 24 hr)
* supervised gield experience
* management and supervisor training
* qualification of trainers
* training certification
* emergency response training ##
* refresher training
* equivalent training
* training records

Emergency response training is addressed in HASP Chapter 11, Emergency Response Plan.

4.1a Training Elements to be Covered for Site Workers:

- names of personnel and alternates responsible for site safety and health
- safety, health and other hazards present on the site
- use of PPE
- work practices by which the employee can minimize risks from hazards
- safe use of engineering controls and equipment on the site
- medical surveillance requirements detailed in Chapter 5 of this HASP
- decontamination procedures detailed in Chapter 10 of this HASP
- the emergency response plan detailed in Chapter 11 of this HASP
- confined space entry procedures detailed in Chapter 13 of this HASP
- the spill containment program detailed in Chapter 9 of this HASP
- the site control plan detailed in Chapter 3 of this HASP

Other training received by workers that is in addition to required training elements described above is detailed below in the following table (Table 4-1a):

Table 4-1a Other Training for Site Workers

Benzene in accordance with 29 CFR 1910.1028
Portable fire extinguishers in accordance with 29 CFR 1910.157
Bloodborne pathogens in accordance with 29 CFR 1910.1030
Heat and cold stress prevention
Working safely around heavy equipment
Hazard communication, in accordance with 29 CFR 1910.1200
Lockout/tagout in accordance with 29 CFR 1910.147
Respirator use, in accordance with 29 CFR 1910.134
Hearing conservation, in accordance with 29 CFR 1910.95
Trenching and excavations, in accordance with 29 CFR 1926.651
Concrete and masonry construction, in accordance with 29 CFR 1926.701-706

4.1b Site-Specific Briefings for Visitors

A site-specific briefing is provided to all site visitors who enter this site beyond the site entry point. For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

4.1c HASP Information and Site-Specific Briefings for Workers

Site personnel review this HASP and are provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with this HASP and the information and requirements it contains. Additional briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing site characterization and analysis. Conditions for which we schedule additional briefings include, but are not limited to: changes in site conditions, changes in the work schedule/plan, newly discovered hazards, and incidents occurring during site work.

4.2 Initial Training

Initial training requirements are based on a worker's potential for exposure and compliance with the requirements of 29 CFR 1910.120(e)(3). Personnel at this site must successfully complete 40-hour initial HAZWOPER training consistent with the requirements of 29 CFR 1910.120(e)(3)(i) in order to work in contaminated areas. In addition, such personnel provide documentation of having received 3 days of supervised field experience applicable to this site, or receive three days of supervised field experience at this site. Exceptions to these initial training requirements are summarized in the following table (Table 4-2). These exceptions include the following workers or categories of workers, based on the duration of their work at this site and their potential for hazardous exposures.

Table 4-2 Exceptions to Initial Training Requirements

Worker or Category of Worker	Level of HAZWOPER training required	Reason for exception from general site requirements

4.3 Management and Supervisor Training

On-site managers and supervisors who are directly responsible for or who supervise workers engaged in hazardous waste operations receive, in addition to the appropriate level of worker HAZWOPER training described above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

Training received by managers and supervisors is summarized below in the following table (Table 4-3):

Table 4-3 Training for Managers and Supervisors

Employer's safety and health program

4.4 Qualification of Trainers

Only instructors qualified in accordance with 29 CFR 1910.120(e)(5) are used to train workers for this site. Qualified instructors have either completed a training program for teaching the subjects they are expected to teach or have the academic credentials and instructional experience necessary for teaching the subjects.

4.5 Training Certification

Employees and supervisors that receive and complete the necessary training and field experience are certified when they complete the necessary training. A written certificate is given to each person so certified. Any person who has not been so certified or who does not meet the requirements of equivalent training is prohibited from engaging in hazardous waste operations on this site.

4.6 Emergency Response

Emergency response training is addressed in Chapter 11 of this HASP, Emergency Response Plan.

4.7 Refresher Training

All workers on this site including managers and supervisors receive annual HAZWOPER refresher training consistent with the requirements of 29 CFR 1910.120(e)(8). The following table (Table 4-7) details refresher training:

Table 4-7 Refresher Training Topics

Regulatory review including changes to pertinent provisions of EPA or OSHA standards or laws
Review of chemical hazards
Review of physical hazards
Review of toxicology
Review of biological hazards including bloodborne pathogens
Review of air monitoring equipment
Review of hazard communication
Review of confined space entry

Review of lock-out-tag-out
Review of PPE including levels of protection
Review of respiratory protection
Review of safety procedures
Review of fire protection
Review of emergency response procedures

4.8 Equivalent Training

This site accepts prior academic training or job site experience in lieu of HAZWOPER initial training for workers and supervisors, described in paragraphs (e)(1)-(e)(4) of the standard. In accordance with HAZWOPER (e)(9), we certify that the worker has equivalent training and provide a copy of that certification to the worker upon request.

4.9 Training Records

This site maintains written certification of the successful completion of applicable training requirements for each worker. Training records are maintained up-to-date and are retained onsite at the following location: Geo. Gradel Co.. Written certificates have been given to each person so certified. Additionally, an employee sign off sheet indicating that each worker has received a copy of this HASP and understands its contents is stored at the same location.

5.0 MEDICAL SURVEILLANCE

(in compliance with 29 CFR 1910.120(f) and other substance-specific medical surveillance requirements found in 29 CFR 1910.1001-1052)

The medical surveillance section of the Health and Safety Plan describes how worker health status is monitored at this site. Medical surveillance is used when there is the potential for worker exposure to hazardous substance at levels above OSHA permissible exposure limits or other published limits. The purpose of a medical surveillance program is to medically monitor worker health to ensure that personnel are not adversely affected by site hazards. The provisions for medical surveillance at this site are based on the site characterization and job hazard analysis found in Chapter 2 of this HASP and are consistent with OSHA requirements in 29 CFR 1910.120(f).

The medical surveillance program is consistent with 29 CFR 1910.120(f) and addresses the following information:

* provisions of the site medical surveillance program
* communication between the site, physicians, and workers
* medical recordkeeping procedures

The person with responsibility for ensuring this program is implemented and maintained is Craig S. Chall.

5.1 Site Medical Surveillance Program

Medical surveillance requirements are based on a worker's potential for exposure as determined by the site characterization and job hazard analysis documented in Chapter 2 of this HASP and on compliance with the requirements of 29 CFR 1910.120(f)(2).

Based on documented exposure levels below permissible exposure limits, limited use of respirators (less than 30 days per year), and the absence of an employee-staffed HAZMAT team, a limited medical surveillance program is required and implemented at this site. The medical surveillance program provides that:

1. workers assigned to tasks requiring the use of respirators receive medical examinations in accordance with 29 CFR 1910.134(e) to ensure they are physically capable to perform the work and use the equipment, and

2. if a worker is injured, becomes ill, or develops signs or symptoms of possible over-exposure to hazardous substance or health hazards, medical examinations are provided to that worker as soon as possible after the occurrence and as required by the attending physician.

These medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided to workers free of cost, without loss of pay, and at a reasonable time and place. In addition, the need to implement a more comprehensive medical surveillance program will be re-evaluated after any apparent over-exposure incident.

5.2 Communication Between the Site, Physicians, and Workers

The medical facility providing medical monitoring and overexposure examinations required by personnel at this site is:

Name: Occupational Care Consultants

Location: 3028 Navarre Ave., Oregon, OH 43616

Phone: 419-697-6850

The licensed attending physician for this site is:

Name: Drs. Paul Eby, Thomas Liester and Joel Yeasting

Phone: 419-697-6850

The site has provided information about site hazards and potential exposure levels, work activities, and PPE requirements, and other information as required by OSHA in 29 CFR 1910.120(f)(6) to the above-mentioned facility and physician. The site will also make this information available to site personnel and/or their personal physicians. A physician's written opinion of the results of these examinations is required for each worker and a copy is maintained on site. The contents of the written opinion is limited to:

* a statement of the worker's health status in relation to his or her job duties and a description of any detected medical condition that could put the worker at increased risk.

* notation of any recommended limitations in work activity or PPE use.

* confirmation that the physician has informed the employee of the examination results and any further examination or treatment required.

5.3 Medical Recordkeeping Procedures

(in compliance with 29 CFR 1910.120(f)(8) and 1910.1020)

Corporate medical recordkeeping procedures are consistent with the requirements of 29 CFR 1910.1020 and are described in the company's overall safety and health program. A copy of that program is available at Geo. Gradel Co. office.

The following items are maintained in worker medical records:

Respirator fit test and selection
Physician's medical opinion of fitness for respirator protection (pre-placement, periodic)
Exposure monitoring results

Records required under this medical surveillance program, consistent with 1910.120(f)(8), are kept accurate and updated and are available on site at the Safety Director's Office.

5.4 Program Review

Every other year, the medical program is reviewed to ensure its effectiveness. Craig .S. Chall is responsible for this review. At a minimum, this review consists of:

* review of accident and injury records and medical records to determine whether the causes of accidents and illness are promptly investigated and whether corrective measures are taken wherever possible,
* evaluation of the appropriateness of required medical tests on the basis of site exposures, and
* review of emergency treatment procedures and emergency contacts list to ensure they are site-specific, effective, and current.

6.0 PERSONAL PROTECTIVE EQUIPMENT

(in compliance with 29 CFR 1910.120(b)(4)(ii)(C) and 29 CFR 1910.120(g))

This chapter of the HASP describes how personal protective equipment (PPE) is used to protect against employee exposures to hazardous substances and hazardous conditions on this site. Exposure hazards from the decontamination process are also considered. The following topics are addressed in this chapter:

* PPE selection criteria
* Site-specific PPE ensembles
* Criteria for PPE upgrades and downgrades
* Procedures for determining work duration
* Training in use of PPE
* Respiratory protection
* Hearing conservation
* PPE maintenance && storage
* Evaluation of this program

The person with the overall responsibility for the PPE program is Craig S. Chall.

6.1 PPE Selection Criteria

Site safety and health hazards are eliminated or reduced to the greatest extent possible through engineering controls and work practices. Where hazards are still present, a combination of engineering controls, work practices, and PPE are used to protect employees.

An initial level of PPE is assigned to each task to provide an adequate barrier to exposure hazards. Initial PPE ensembles are selected based on the anticipated route(s) of entry of the hazardous substances on site and their concentration. Ensemble materials are selected using permeation data supplied by individual manufacturers. Materials providing the greatest duration of protection have been chosen. Tear and seam strength of the PPE are also considered to ensure ensemble durability while work is performed. When necessary, multiple layers of protection are used to accommodate the range of hazards that may be encountered. Where possible, employees are provided with a range of component sizes to ensure properly fitted PPE.

The following criteria are used in selecting PPE levels at this site.

<u>Use of Level D Protection</u>

Employees use Level D protection during tasks that have the following characteristics:

* The atmosphere contains no known or suspected hazardous substances at concentrations that meet or exceed the published exposure limit.
* Contact with hazardous levels of any chemicals through splashes, immersion, or by other means may occur.
* There is no potential for unexpected inhalation or contact with hazardous levels of any chemical.

6.2 Use of PPE

Site-specific PPE ensembles and materials are identified below in Table 6-2a. These ensembles are consistent with Appendix B of 29 CFR 1910.120. PPE is used in accordance with manufacturers' recommendations.

Table 6-2a Site-Specific PPE Ensembles

Equipment	Model	Material	Employee Purchased
<u>Level D</u>			
Coveralls/Standard Work Clothes			Yes
Boots/shoes, chemical-resistant safety toe and shank			Yes
Escape Mask:			N/A
Safety glasses			No
Hard hat			No
Gloves (rubber, water resistant)			No
Splash goggles (while working around splash hazards)			No
Face shield (over splash goggles while working around splash hazards)			No
Tyvek coveralls (if necessary)			No
Tyvek over boots (if necessary)			No

Criteria for PPE Upgrades and Downgrades

Table 6-2b below shows the action level(s) and/or conditions that result in a PPE upgrade or downgrade at this site. These upgrades and downgrades are required for any employee wearing the level of PPE described below. Since PPE is primarily used as a barrier to hazardous substance exposure, airborne concentrations are monitored routinely, in accordance with Chapter 7, Exposure Monitoring.

Table 6-2b Action Levels/Conditions for PPE Upgrades and Downgrades

PPE Upgrades

Initial Level of PPE	Upgrade Action Level/Conditions	PPE Modifications Required
Level D	None	

PPE Downgrades

Craig S. Chall has the authority to upgrade or downgrade PPE in a timely manner to respond to changing site conditions and to protect employee health and safety. Routine evaluation of the effectiveness of the PPE program is conducted as identified in Section 6.7 below.

Procedures for Determining Work Duration

Craig S. Chall identifies task-specific work duration based on the following:

* Physiological requirements of the task
* PPE level for the task
* Ambient temperature and humidity
* Respiratory protection capacity (air supply or cartridge change requirements)
* Chemical protective clothing capacity (permeation rate of on-site materials)
* Acclimatization of the work force

Employees are informed about task-specific work duration by the SSHO, during initial training and whenever a change is necessary Work duration is consistent with the requirements outlined in Chapter 8, Thermal Stress and the respiratory protection capacity for the assigned PPE. Work duration is continuously re-evaluated in response to changes in working conditions.

6.3 Training

Employees receive general training regarding proper selection, use and inspection of PPE during initial HAZWOPER training (or equivalent) and subsequent refresher training. Site-specific PPE requirements, including task-specific PPE, ensemble components, cartridge/canister service times, and inspection and maintenance procedures are communicated as identified in Chapter 4, Training.

6.4 Respiratory Protection

The type of respiratory protection used on site are identified in Table 6-2a. Respiratory protection is selected, fitted, used, stored and maintained in accordance with the Respiratory Protection Program. A copy of the Respiratory Protection Program is located at the Geo. Gradel Co. office. The written Respiratory Protection Program is consistent with the other requirements of this HASP.

6.5 Hearing Conservation

Employees must use hearing protection when noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 dBA. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JHA for the tasks/operation, and hearing protection is included as one of the control measures (PPE). Employees required to use hearing protection participate in a Hearing Conservation Program.

Currently, no site tasks have noise exposure that equals or exceeds the 85 dBA limit.

6.6 PPE Maintenance & Storage

6.7 Evaluation of PPE Program

Evaluation of the effectiveness of site PPE selections occurs throughout site activities in response employee exposure monitoring results and employee feedback. Surface samples are collected from the inside surfaces of used PPE to ensure that the equipment provides an adequate barrier throughout the work shift. Surface monitoring procedures are described in Chapter 7 of this HASP, Exposure Monitoring.

Craig S. Chall is responsible for modifying initially selected PPE. Affected employees are immediately informed about these modifications and are provided with additional training if necessary. The JHAs in Chapter 2 of the HASP are also updated as needed to reflect current information about job hazards and selected controls.

7.0 EXPOSURE MONITORING

(in compliance with 29 CFR 1910.120(b)(4)(ii)(E) and 29 CFR 1910.120(h))

This chapter of the HASP describes how employee exposures to hazardous substances are monitored. This chapter provides site-specific information about:

* air monitoring procedures,
* surface sampling procedures,
* equipment calibration and maintenance, and
* the handling and management of monitoring data.

Craig S. Chall is responsible for implementing site exposure monitoring procedures.

The following personnel are qualified to use the air monitoring instruments at this site and to interpret monitoring results:

BW 4-gas Monitor – All Gradel Personnel
FID/PID - SSHO

The following personnel are qualified to conduct surface sampling at this site and to interpret surface sampling results:

Bowser-Morner Personnel

7.1 Air Monitoring

Employee exposures to airborne hazardous substances are fully characterized throughout site operations to ensure that exposure controls are effectively chosen and modified as needed on a timely basis. The approach to air monitoring is consistent with OSHA requirements in HAZWOPER and includes:

* initial monitoring prior to the beginning of site activities to identify conditions that may cause death or serious harm and to permit preliminary selection of site controls,

* personal monitoring after site activities begin so that employee exposures are quantified and fully characterized, and

* periodic monitoring throughout site operations when conditions and employee exposures may change rapidly. This can include, but is not limited to, the following situations

-commencement of work on another portion of the site,
-exposure to or handling of contaminants/hazards not previously identified,
-commencement of a new task/operation,
-change in environmental conditions, and
-commencement of task/operation that is likely to increase airborne concentrations of hazardous substances.

Air monitoring is conducted using direct-reading instruments and by collecting and analyzing personal samples. Consistent with HAZWOPER, personal air samples are collected in the breathing zones of employees expected to have the highest exposure during the task or operation being evaluated. If exposures for these employees exceed the exposure limits, additional samples are collected in the breathing zones of all employees likely to have similar exposures. Full-shift and short-term samples are collected, providing quantitative results that can be compared to OSHA Permissible Exposure Limits and other published exposure limits. In addition, the results of lab-analyzed samples are correlated with direct-reading monitoring results to ensure that direct-reading results are interpreted correctly.

Table 7-1, Task-Specific Air Monitoring Procedures, summarizes the air monitoring procedures for this site based on tasks and operations conducted here. This table includes action levels and required actions we have established based on the direct-reading instruments we use and the contaminants we measure.

Table 7-1: Task-Specific Air Monitoring Procedures

Task/Operation:	Metal pipe caping operations and Leachate collection operations		
Monitored Hazard:	METHANE	Exposure Limit:	1000 ppm TLV-TWA ACGIH

Lab-Analyzed Sampling	Real-Time Monitoring

Sample Type:	Personal	Sample Type:	Personal and area monitors
Location(s):	Vent locations	Location(s):	Vent locations, metal pipe and leachate collection
Method:		Equipment:	Combustible gas meter and PID/FID
Equipment:	Personal sampling meters	Response Factor:	10% LEL or 1000 ppm
Frequency:		Frequency:	Continuous while work is being performed
Analyte:		Action Level:	
		Required Action:	

7.2 Surface Sampling

Surface sampling is used as needed in contaminated areas to evaluate potential employee exposures. Surface sampling is used in the CRZ and SZ to evaluate the effectiveness of decontamination methods and exposure controls, including hygiene practices, and to ensure that zone boundaries accurately reflect the presence or absence of contamination. Surface sample locations, methods, and permissible contamination limits are listed in Table 7-2. Surface concentrations in excess of the established limits may result in adjustments of PPE, decontamination procedures, site zone boundaries, and other exposure controls. Craig S. Chall is responsible for evaluating surface sampling results and determining corrective actions if sample results indicate contaminant levels in excess of permissible surface concentration.

Table 7-2 Surface Monitoring Procedures

7.3 Equipment Calibration and Maintenance

Table 7-3 lists the specific monitoring instruments and the calibration procedures used on this site. Instruments are calibrated and maintained according to the manufacturers' recommendations. Copies of the manufacturers' recommendations and instrument calibration and maintenance records are maintained in the following location(s): At Gradel trailer at BP.

Table 7-3 Equipment Calibration & Maintenance

7.4 Handling and Maintenance of Monitoring Data

Procedures for collecting, handling, and shipping laboratory samples are included Chapter 12, Standard Operating Practices and in the sampling methods identified in Table 7-1. Documentation procedures for analytical results and direct-reading monitoring data are also addressed in Chapter 12. Samples are shipped to and analyzed by the laboratories listed in Table 7-4 below:

Table 7-4 Laboratory Information

7.5 Noise Monitoring

Currently, no site tasks have noise exposure that equals or exceeds the 85 dBA limit so noise monitoring is not conducted.

8.0 COLD STRESS PREVENTION PROGRAM

(in compliance with 29 CFR 1910.120(h))

This section of the HASP describes how the site-specific environmental conditions (temperature, humidity, air movement), work loads, and PPE may expose workers to hazards resulting in injury or illness related to cold stress. This Cold Stress Prevention Program outlines exposure controls designed to protect workers working in cold environments. The elements of this program are outlined in this section and include the following:

* Implementation criteria
* Prevention strategies
* Medical management
* Employee training

Craig S. Chall is responsible for implementing this program.

8.1 Implementation Criteria

The Cold Stress Prevention Program is implemented when the work area temperature falls below 10 degrees F air. Throughout each work shift, air temperatures in the work area are measured, the adjusted temperature is calculated, and the values are recorded on the Foreman's Daily Report.

8.2 Prevention Strategies

Cold Stress

Work practices and exposure controls are used to reduce the risk of lowering a worker's core body temperature. These work practices and exposure controls include the following:

* monitoring for physiological signs of cold stress
* providing and requiring the use of warm garments or other PPE
* other engineering controls and/or work practices

Monitoring

Workers monitor each other's actions, speech, and appearance for signs and symptoms of cold-related injury including hypothermia and frostbite. The first symptoms of hypothermia are uncontrollable shivering and the sensation of cold. Cool skin, muscle rigidity, low blood pressure, slowed or irregular pulse and apparent exhaustion and fatigue after rest manifest as hypothermia progresses and the core body temperature falls. Frostbite can occur without hypothermia when extremities do not receive sufficient heat from central body stores. Frostbite occurs when the fluids around the tissue cells freeze and usually affects the extremities, nose, and cheeks. Damage from frostbite can result in tissue death.

Physical signs and symptoms of hypothermia and frost bite are discussed with workers daily and reviewed as necessary.

Use of Cold Temperature Clothing:

Workers don layered thermal protective clothing based on the guidelines provided in Table 8-2cc.

Table 8-2cc Use of Cold Temperature Clothing

Work Area Temperature Range	Task/Location	PPE Level	Cold Temperature Clothing
10 and above	All	Level D	Insulated clothing

Physical signs and symptoms of heat stress are discussed with workers 10 and above and reviewed as necessary.

Other Engineering Controls and Work Practices

The following additional methods are used to control cold stress:

During days that are less than 10 degrees F., we will determine if work will proceed at the beginning of the day or the day before the weather is to occur. If the weather is too cold to work, we will notify the crew members to either stay home or to report to a different site.

8.3 Medical Management

If a worker exhibits signs or symptoms of hypothermia or frost bite, we use the following procedures:

- If an employee should show signs of hypothermia or frost bite to an extremity then:

* 1. The SHO will put the employee in his truck and take him to the office
* 2. The employee will rest and get warm at the office
* 3. Once warm, the SHO will take the employee to OCC, if necessary, for medical treatment
* 4. If no medical treatment is indicated or necessary, the employee may end the workday or return to work.
* 5. If the employee returns to work, the SHO will monitor his/her condition until the end of the day.
* 6. If medical treatment is indicated, the SHO will begin medical management of the claim to return the employee to work as soon as medically feasible.

The physician's written opinion specifically addresses fitness for duty under cold stress conditions. This evaluation is described in Chapter 5, Medical Surveillance.

8.4 Training

Workers receive general training regarding thermal stress-related injuries and illnesses during initial HAZWOPER training and subsequent refresher training. The site-specific program and procedures are described in Chapter 4, Training.

10.0 DECONTAMINATION

(in compliance with 29 CFR 1910.120(b)(4)(ii)(G) and 1910.120(k))

The decontamination section of the Health and Safety Plan describes how personnel and equipment are decontaminated when they leave the Exclusion Zone. This section also describes how residual waste from decontamination processes is disposed. The site decontamination procedures are designed to achieve an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. They also extend the useful life of PPE by reducing the amount of time that contaminants contact and can permeate PPE surfaces. The decontamination procedures described below are designed to meet the requirements of 1910.120(k) and include site-specific information about:

* the location and type of site decontamination facilities
* general and specific decontamination procedures for personnel and PPE
* general and specific decontamination procedures for equipment
* disposal of residual waste from decontamination
* decontamination equipment and solvents
* monitoring the effectiveness of decontamination procedures

Emergency decontamination procedures are detailed in the Emergency Response section of this HASP. Craig S. Chall oversees implementation of site decontamination procedures and is responsible for ensuring their effectiveness.

10.1 Site Decontamination Facilities

Decontamination on this site is conducted in the contamination reduction zone (CRZ). The CRZ acts as a buffer between the hot-zone and the support zone. The location and design of decontamination stations minimize the spread of contamination beyond these stations. Separate facilities are used for personnel and for equipment.

10.2 Decontamination Procedures for Personnel and PPE

Decontamination procedures on this site are designed for the level of PPE used. Site-specific procedures for personnel and PPE decontamination minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

Based on the nature of the hazards and duration of work, showers and change rooms are not necessary and are not provided for workers.

The following are general decontamination procedures established and implemented at this site. More specific procedures for personnel and PPE decontamination are provided in Table 10-2.

1. Procedures for disposal of decontamination waste meet applicable local, State, and Federal regulations.
2. We do not anticipate the need for formal decontamination at this location.

Tables 10-2a and -2b lists site-specific procedures for personnel decontamination and handling of personnel decontamination waste.

Table 10-2a Level D Storage && Cleaning Procedures

Level D Storage Procedures:

Level D Cleaning Procedures:

- Using dry decon to clean any residue from boots, clothing
- Any contaminated clothing/PPE will be bagged for disposal

Other Level D Special Handling Requirements:

10.3 Decontamination Procedures for Equipment

All tools, equipment, and machinery from the Exclusion Zone or CRZ are decontaminated in the CRZ prior to removal to the Support Zone. Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

The following are general equipment decontamination procedures established and implemented at this site. More specific procedures for equipment decontamination are provided in Table 10-3a and 10-3b.

General Equipment Decontamination Procedures:

1. Particular attention is given to decontaminating tires, scoops, and other parts of heavy equipment that are directly exposed to contaminants and contaminated soil.

Tables 10-3a and -3b lists site-specific procedures for equipment decontamination and handling of equipment decontamination wastes.

Table 10-3a Equipment Decontamination Procedures

Type of Equipment	Decontamination Solution	Decontamination Procedure
Vehicles/Heavy equipment	Tap water	Scrubbing/wiping/scraping/brushing

Table 10-3b Waste Handling for Equipment Decontamination

10.4 Monitoring the Effectiveness of Decontamination Procedures

Visual examination and sampling are used to evaluated the effectiveness of decontamination procedures, in compliance with 29 CFR 1910.120(k)(2)(iv). Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or for contaminant permeation of PPE.

Sampling, both air sampling and surface sampling, are used to verify the effectiveness of decontamination. Air samples are taken in the clean zone to ensure that airborne contaminants have not spread to clean areas of the site. Surface samples are taken from the inside surfaces of PPE, from decontaminated heavy equipment, and from surfaces within clean areas of the site to ensure that site decontamination and control procedures are performing as anticipated. The type and frequency of air and surface sampling used to ensure the effectiveness of decontamination procedures are detailed in the Exposure Monitoring section of this HASP.

Results of the inspections of decontamination procedures and documentation of any action taken to correct deficiencies are recorded and stored at Geo. Gradel Co. Office. Personnel who work in contaminated areas of the site, either the Contamination Reduction Zone (CRZ) or the Exclusion Zone, are trained in the principles and practices of decontamination described in this section of the HASP and in related SOPs. If site procedures are changed as a results of inspection and monitoring, all affected employees are notified of these changes.

11.0 EMERGENCY RESPONSE PLAN

(in compliance with 29 CFR 1910.120(l) and 1910.120(b)(4)(ii)(H)

This is the site-specific emergency response plan. This chapter of the Health and Safety Plan describes potential emergencies at this site, procedures for responding to those emergencies, roles and responsibilities during emergency response, and training that workers must receive in order to follow emergency procedures. This plan also describes the provisions this site has made to coordinate its emergency response planning with other contractors on site and with off-site emergency response organizations.

This emergency response plan is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

* pre-emergency planning
* personnel roles, lines of authority, and communication
* emergency recognition and prevention
* safe distances and places of refuge
* site security and control
* evacuation routes and procedures
* decontamination procedures
* emergency medical treatment and first aid
* emergency alerting and response procedures
* critique of response and follow-up
* PPE and emergency equipment

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted to ensure that this plan is compatible and integrated with the plans of those organizations. Documentation of the dates of these consultations and the names of individuals contacted is kept at Geo. Gradel Co. Office.

11.1 Pre-emergency Planning

This site has been evaluated for potential emergency occurrences, based on site hazards, the tasks within the work plan, the site topography, and prevailing weather conditions. The results of that evaluation are shown in Table 11-1 below.

Table 11-1 Potential Site Emergencies

Type of Emergency	Source of Emergency	Location of Source
Fire	Faulty equipment	Mobile equipment
Fire	Site contaminants	Methane vents
Explosion	Site contaminants	Methane vents
Collision (person/equipment or equipment/equipment)	Operator error	Mobile equipment
Spill	Operator error	Mobile equipment
Spill	Faulty connections	Pumping system
Lightning	Weather	Site wide
High winds - microbursts	Weather	Site wide
Acute chemical exposure	Site contaminants	Pumping system
Acute chemical exposure	Site contaminants	Excavation area
Heat stress/worker collapses	Weather	Site wide

11.2 On-Site Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean-up. Emergency response equipment stocked on this site is listed in Table 11-2. The equipment inventory and storage locations are based on the potential emergencies described in Table 11-1. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this site but not ordinarily stocked.

Any additional PPE required and stocked for emergency response is also listed in Table 11-2 below. During an emergency, the Emergency Response Coordinator is responsible for specifying the level of PPE required for emergency response. At a minimum, personal protective equipment used by emergency responders will comply with Chapter 6, Personal Protective Equipment, of this HASP.

Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Table 11-2 Emergency Equipment and Emergency PPE

Emergency Equipment	Specific Type	Quantity Stocked	Location Stored
First aid kit	Foreman's kit		Foreman's truck
Fire extinguisher	ABC	1 each	All mobile equipment
Fire extinguisher	ABC	1 each	Foreman's truck

Emergency PPE	Specific Type	Quantity Stocked	Location Stored
None			

11.3 Emergency Planning Maps

Figure 11-3a provides a map of the site with key on-site emergency planning information clearly marked. Emergency evacuation route(s), places of refuge, assembly point(s), and the locations of key site emergency equipment are identified on this map. Site zone boundaries are shown to alert responders to known areas of contamination. Major topographical features and the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on this map. Figure 11-3a is posted at site entry points and at locations throughout the work site.

Figure 11-3b indicates the route to the nearest emergency medical assistance. Figure 11-3b is posted at the following Locations. Foreman's truck

11.4 Roles and Responsibilities for On-Site and Off-Site Personnel

Craig S. Chall is responsible for implementing the emergency response plan and coordinates emergency response activities on this site. He provides specific direction for emergency action based upon information available regarding the incident and response capabilities and initiates emergency procedures, including protection of the public and notification of appropriate authorities.

In the event of an emergency, site personnel are evacuated and do not participate in emergency response activities, except as indicated below.

Limited On-Site Emergency Response Activities

Coordinate communication with those outside site
Initial responder/notifier
Fire fighting- incipient
First aid
Initiate evacuation procedures

11.5 Emergency Alerting and Evacuation

Upon discovering an emergency situation, personnel notify Craig S. Chall, who will evaluate available information and initiate response. Site workers are alerted to emergencies through the use of an employee alarm system. The employee alarm systems at this site are listed in Table 11-5.

Table 11-5 Employee Alarm Systems

Type of Alarm	Location	How Alarm is Used
Air horn	Supervisor & SSHO	Signals emergency evacuation to main gate

This alarm system meets the requirements of 29 CFR 1910.165 and is tested monthly under normal site operating conditions to ensure that it is in good working order and can effectively alert all persons on-site. A log of alarm tests is kept by Craig S. Chall. If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Chapter 10 of this HASP are followed to the extent practical without compromising the safety and health of site personnel.

Appropriate primary and alternate evacuation routes and assembly areas have been identified and are discussed daily. The routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations.

Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds.

Personnel exiting the site gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly site. If any worker cannot be accounted for, notification is given to Craig S. Chall so that appropriate action can be initiated. Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

11.6 Emergency Response

The Emergency Response Team Leader, after investigating the incident and reviewing relevant information, determines the level of Response required for containment, rescue, medical care and clean-up. The emergency response team is mobilized to the incident site and supplied with sufficient members, PPE, and emergency equipment.

When the Team Leader determines that on-site emergency response is inadequate for the emergency or that outside assistance is needed or otherwise required, the applicable off-site organization shown in Table 11-4 is contacted. The Emergency Response Team Leader provides relevant information to the responding organizations, including hazards associated with the emergency incident, potential containment problems, and missing site personnel.

11.7 Emergency Medical Treatment and First Aid

This site has 2 workers with current first aid certification assigned to provide first aid during each shift. Because of this practice, the site has an exposure control plan in accordance with OSHA's bloodborne pathogens standard, 1910.1030 (c)(1)(i). The site also offers Hepatitis B vaccinations to workers who are assigned to provide first aid. A record of those vaccinations or the employee's declination of the vaccination is kept in her/his medical records file.

Personnel who require medical care and/or who are transferred to a medical facility are accompanied by MSDSs and other applicable hazard data to apprise caregivers of the chemicals and hazards to which the victim has been potentially exposed. The emergency medical care facility for this site is Occupational Care Consultants for non-life threatening injuries and St. Vincent Mercy Medical Center for life threatening medical emergencies. The route to these facilities is shown in Figure 11-3b.

The closest hospital is St. Vincent Mercy Medical Center and the route to the facility is shown in Figure 11-3b.

11.8 Emergency Response Critique and Plan Updates

After every emergency incident or evacuation of this site, Craig S. Chall will evaluate the quality and safety of response activities. Any deficiencies in response actions will be included in a specific follow-up plan and corrected. This emergency response plan is evaluated periodically throughout site operations and updated for accuracy. Changes made to emergency response procedures as the result of rehearsals or actual response incidents are recorded in this Plan. Site workers receive notification and training on changes to the Plan by Verbal communication After revisions are made, during the pre-shift meeting..

11.9 Emergency Response Training

All persons who enter this worksite, including visitors, receive a site-specific briefing about anticipated emergency situations and the emergency procedures. Prior to the commencement of work and in accordance with the Training Section of this HASP, site personnel are trained in the contents of this emergency response plan, including potential emergencies, personnel roles and responsibilities, evacuation routes and procedures, and the location of medical assistance. Additionally, site workers participate in emergency response rehearsals as required in HAZWOPER paragraph (l)(3)(iv). Off-site emergency response organizations participate in the rehearsals as necessary. Rehearsals are held monthly. A log of the evacuation rehearsals is kept in Geo. Gradel Co. office.

Where this site relies on off-site organizations for emergency response (see Table 11-4), the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site. Site personnel designated as emergency responders complete emergency response training in accordance with 29 CFR 1910.120(q)(6), according to the level of their responsibilities.

The site maintains written up-to-date certification of the successful completion of applicable training requirements of each worker. Training records are maintained at Geo. Gradel Co. office.

Table 11-4 Emergency Contact Information

The list of telephone numbers below are the emergency contact numbers for this site. These emergency numbers are verified to be accurate, working numbers. Site personnel are trained and rehearsed in site-specific emergency calling procedures. A copy of this contact information is posted at the following locations:

The Project Manager, Site Supervisor and Safety & Health Officer maintain the emergency contact info

SITE PERSONNEL

Title	Contact	Telephone
Project Manager (PM)	Marc Gradel	419-261-0000
Site Safety and Health Officer (SSHO)	Craig S. Chall	419-261-1127
Site Supervisor	Marc Gradel	419-261-0000
On-Scene Coordinator (U.S. EPA)	Jon J. Gulch	734-740-9017

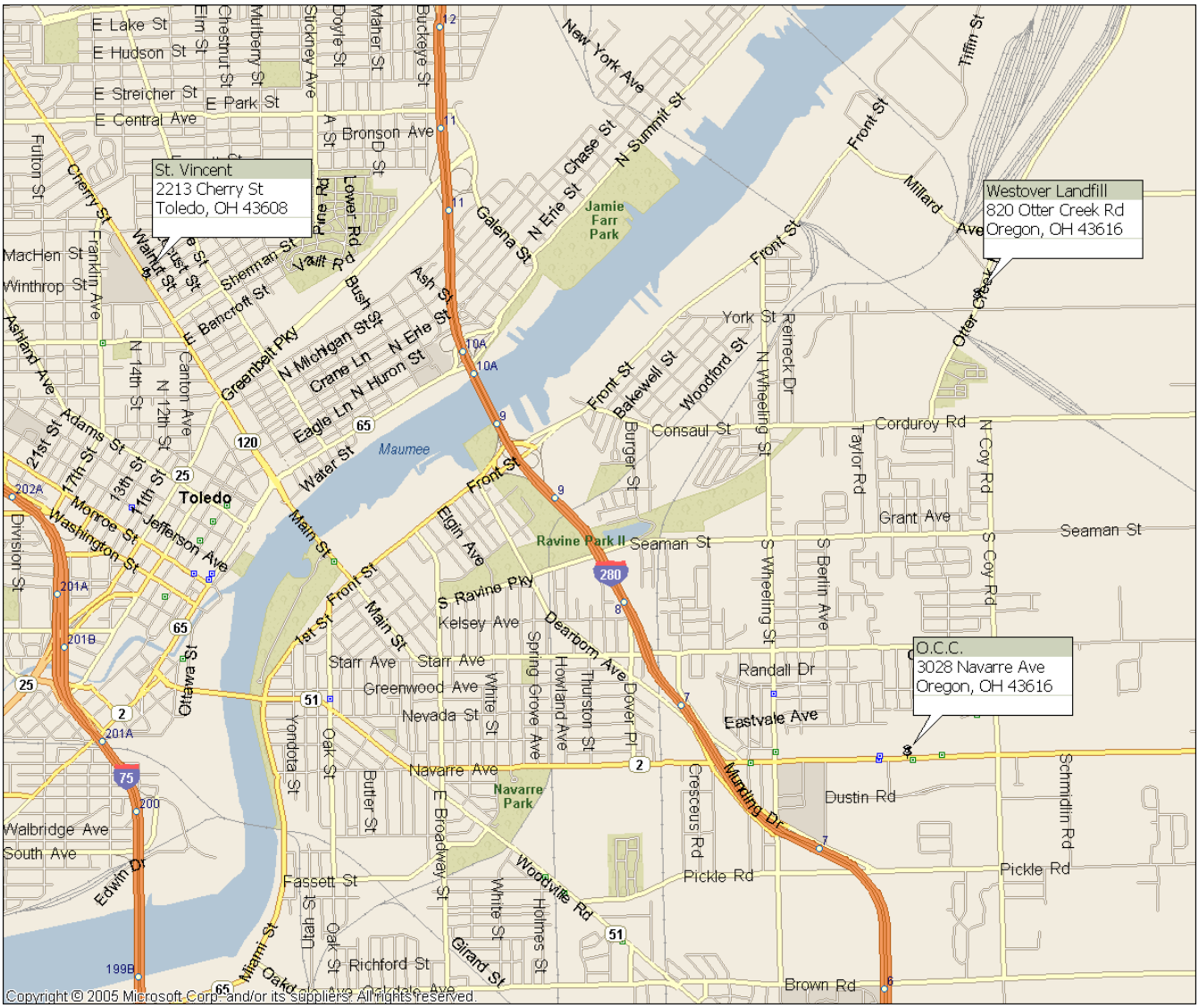
OUTSIDE ASSISTANCE

Agency	Contact	Address/Location	Telephone
Ambulance/EMS			911
Police			911
Fire			911
Oregon Police (Non emergency)			419-698-7064
Oregon Fire (Non emergency)			419-698-7064
National Reponse Center			800-424-8802
Ohio State Highway Patrol			419-865-5544
Lucas County Sheriff			419-213-4941
Ohio EPA			800-282-9378
Emergency Medical Assistance	Angela Crosby – OCC	3028 Navarre Ave., Oregon, OH 43616	419-697-6850
Poison Control Center			800-222-1212
Secondary Medical Facility – St. Charles Mercy Hospital, 2600 Navarre Ave., Oregon, OH 43616			419-696-7200
U.S. Coast Guard			419-729-2020
Center for Disease Control			800-232-4636
Chemtrec			800-424-9300
Geo. Gradel Co. Office			419-691-7123

Figure 11-3a Emergency Planning Map

Insert emergency planning map here.

Figure 11-3b Driving Route to Emergency Medical Assistance
Insert map of driving route to Emergency Medical Assistance.



Clinic: **Occupational Care Consultants**
3028 Navarre Avenue
Oregon, OH 43616
419-697-6850

Hospital: **St. Vincent Mercy Medical Center**
2213 Cherry Street
Toledo, OH
419-251-3232

12.0 Standard Operating Procedures (SOPs)

(in compliance with 29 CFR 1910.120(b)(1)(ii))

Work at this site will be conducted in accordance with the following SOPs, which have been attached for reference.

13.0 PERMIT-REQUIRED CONFINED SPACES

(in compliance with 29 CFR 1910.120(b)(4)(ii)(I) and 1910.146)

This section of the Health and Safety Plan represents the site-specific written confined space entry program. The purpose of this section of the Health and Safety Plan is to identify all permit-required confined spaces (permit spaces) on site and to describe the procedures that have been developed and implemented to ensure worker safety and health in permit-required confined spaces. In compliance with the requirements of 29 CFR 1910.120(b)(4)(ii)(I), this section of the HASP is included even when no permit-required confined spaces are present on site in order to indicate that a site-specific evaluation for permit spaces has been made.

This permit-required confined space program (permit space program) includes the elements specified in 29 CFR 1910.146 and provides the following site-specific information:

* identification and evaluation of permit spaces
* measures to prevent unauthorized entry
* entry permit system
* entry equipment and personal protective equipment
* entry procedures
* permit spaces training
* rescue and emergency procedures
* employee participation

The person with overall responsibility for the permit space program is Craig S. Chall. The permit space program is modified to reflect changing site conditions or work operations. This program is reviewed if any of the following conditions occur:

* occurrence of unauthorized entry of a permit space
* discovery of a permit space hazard not covered by the permit
* detection of a condition prohibited by the permit
* occurrence of a injury or near-miss during entry
* change in the use or configuration of a confined space
* employee complaints of permit space program ineffectiveness

Additionally, an annual review of all entries performed during the previous 12 month period is conducted. If no entries were made into a permit space, then no annual review is performed.

13.1 Identification and Evaluation of Permit Spaces

This site has been carefully evaluated by Craig S. Chall on 01/27/2011 and there are no confined spaces on this site.

14.0 HOT WORK

(in compliance with 29 CFR 1910.252(a))

An evaluation concluded that no welding or cutting would occur on this site. For that reason, no hot work program is implemented for this site.

15.0 Hazardous Energy Control or Lockout/Tagout Program

(in compliance with 29 CFR 1910.147)

This is a site-specific Hazardous Energy Control or Lockout/Tagout program (LOTO program). This chapter of the HASP describes our procedures to help ensure the control of hazardous energy while equipment and machinery are serviced and maintained at this site. Our LOTO Program consists of procedures, training, and periodic inspections. The program requires the control of hazardous energy by isolating machines and equipment from their energy source(s), rendering them inoperative before any servicing or maintenance is performed.

The LOTO program includes the elements specified in 1910.147 and provides the following site-specific information:

* energy control procedures
* isolation procedures
* energy isolation devices and lockout/tagout devices
* group lockout/tagout and shift change procedures
* periodic inspection procedures
* training requirements

This site was carefully evaluated by Craig S. Chall on 01/27/2011 and it was determined that LOTO procedures are necessary for machines or equipment to protect site employees from hazardous energy. The person with the overall responsibility for the LOTO program is Craig S. Chall.

15.1 HAZARDOUS ENERGY CONTROL PROCEDURES

Energy control procedures are established for each machine and piece of equipment on this site that requires isolation prior to service or maintenance. Those procedures are located in Appendix B. The procedures help to ensure that our employees follow company procedures that will protect their health and safety. They include the following:

* intended use of the procedure
* steps to shut down and isolate machine/equipment
* steps to place, remove, or transfer lockout and/or tagout devices
* steps to test equipment and verify energy control measures

The steps for applying hazardous energy control to each machine and piece of equipment include the following:

* preparation for shutdown
* shutting down
* isolating machine or equipment
* applying lockout and/or tagout devices
* releasing any residual stored energy, with continual verification if potential for reaccumulation of energy exists
* verifying energy isolation

Prior to re-energizing and operating equipment, the energy control procedures for each machine and piece of equipment include the following steps:

* inspecting work area to make sure nonessential items have been removed, machine or equipment components are operationally intact, and employees are safely positioned
* removing lockout and/or tagout devices

In situations where lockout and/or tagout devices have to be temporarily removed and the machine or equipment is energized to test or position the machine or equipment, the following actions are followed:

* removing unnecessary tools, materials, and personnel from work area
* removing lockout and/or tagout devices
* energizing and testing/positioning machine or equipment
* de-energizing and re-applying energy control devices (as previously detailed)

Employees who could be affected by specific LOTO procedures (“affected employees”) are notified as follows: 1) before the controls are applied and 2) after the controls are removed and before the machine or equipment is re-started. “Authorized employees” understand the type, magnitude, and hazards of the energy to be controlled and the methods to control the energy (see Section 15.3, Employee Training, below). See Appendix A for a definition of these and other technical terms used in this chapter.

Appendix A: Definitions

Affected employee - An employee whose job requires him/her to operate or use a machine or equipment on which servicing or aintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee - A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. A person who uses energy control procedures is considered to be authorized. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under 1910.147.

Capable of being locked out - An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized - Connected to an energy source or containing residual or stored energy.

Energy isolating device - A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Hot tap - A procedure used in the repair, maintenance and services activities that involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or other fixtures. Such a procedure is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Lockout - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device - A device that uses a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Normal production operations - The use of a machine or equipment to perform its intended production function.

Servicing and/or maintenance - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to hazardous energy.

Tagout - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device - A prominent warning device, such as a tag and a means of attachment, that can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Appendix B: Energy Control Procedures for Specific Machinery, Circuits, & Pieces of Equipment

Equipment Identification and Location

Name of Machine/Equipment	Location of Machine/Equipment
Generator	Near lowest sump area

Location of Energy Sources

Energy Source	Location
Chemical	Engine
Electrical	Cords

Hazardous Energy Control Procedures

Reason for locking out /tagging out equipment:
Minor repair or maintenance

Equipment Shutdown Procedures:
Step 1

Isolation Procedures:
Step 1

Procedures for Application of LOTO Device:
Step 1

Procedures for Stored Energy Release:
Step 1

Procedures for Verification of Isolation:
Step 1

Equipment Re-energization Procedures:
Step 1

Procedures for Shift/Personnel Changes:
Step 1

Energy Isolation Devices and LOTO Devices

Energy Isolation Devices:

Chemical	Other (disconnect battery)
	Other (remove key from ignition)
Electrical	Other (Unplug cord)

LOTO Device(s) Used by Our Employees:

Chemical	Other (Tag on battery cable)
	Other (Tag on controls)
Electrical	Plug lockout

Means of Identifying Devices:

Means of Identifying Employees:

Chemical	Printed name
Electrical	Printed name

Authorized Employee(s):
Foreman
Mechanic

Equipment Identification and Location

Name of Machine/Equipment	Location of Machine/Equipment
Pump	Near lowest sump area

Location of Energy Sources

Energy Source	Location
Electrical	Cords to pump
Other (water pressure)	Hose

Hazardous Energy Control Procedures

Reason for locking out /tagging out equipment:
Minor repair or maintenance

Equipment Shutdown Procedures:
Step 1

Isolation Procedures:
Step 1

Procedures for Application of LOTO Device:
Step 1

Procedures for Stored Energy Release:
Step 1

Procedures for Verification of Isolation:
Step 1

Equipment Re-energization Procedures:
Step 1

Procedures for Shift/Personnel Changes:
Step 1

Energy Isolation Devices and LOTO Devices

Energy Isolation Devices:

Electrical	Other (disconnect cord)
Other (water pressure)	Other (open valve to relieve pressure)

LOTO Device(s) Used by Our Employees:

Electrical	Plug lockout
Other (water pressure)	Ball valve lockout

Means of Identifying Devices:

Means of Identifying Employees:

Electrical	Printed name
Other (water pressure)	Printed name

Authorized Employee(s):
Foreman

Equipment Identification and Location

Name of Machine/Equipment	Location of Machine/Equipment
Mobile equipment	Site wide

Location of Energy Sources

Energy Source	Location
Electrical	Battery
Hydraulic	Hyd. Hoses and vavles
Pneumatic	Tires
Chemical	Fuel system
Other (Gravity)	Raised parts on machine

Hazardous Energy Control Procedures

Reason for locking out /tagging out equipment:

Minor repair or maintenance
Servicing
Inspection
Adjustment

Equipment Shutdown Procedures:

Step 1

Isolation Procedures:

Step 1

Procedures for Application of LOTO Device:

Step 1

Procedures for Stored Energy Release:

Step 1

Procedures for Verification of Isolation:

Step 1

Equipment Re-energization Procedures:

Step 1

Procedures for Shift/Personnel Changes:

Step 1

Energy Isolation Devices and LOTO Devices

Energy Isolation Devices:

Chemical	Other (Disconnect battery cable)
	Other (Remove key from ignition)
Electrical	Other (Disconnect battery cable)
Hydraulic	Other (Relieve line pressure or valve pressure)
Other (Gravity)	Other (None)
Pneumatic	Other (Relieve air pressure)

LOTO Device(s) Used by Our Employees:

Chemical	Tag
Electrical	Tag
Hydraulic	Hydraulic lockout
Other (Gravity)	Other (Block to prevent movement)
	Other (Lower to ground)
Pneumatic	Other (none required)

Means of Identifying Devices:

Means of Identifying Employees:

Electrical	Printed name
Hydraulic	Printed name
Other (Gravity)	Printed name
Pneumatic	Printed name

Authorized Employee(s):

Foreman
Mechanic
Equipment operator

Equipment Identification and Location

Name of Machine/Equipment	Location of Machine/Equipment
Concrete mixer	Near pipe end requiring repairs

Location of Energy Sources

Energy Source	Location
Chemical	Engine compartment

Hazardous Energy Control Procedures

Reason for locking out /tagging out equipment:
Minor repair or maintenance
Servicing

Equipment Shutdown Procedures:
Step 1

Isolation Procedures:
Step 1

Procedures for Application of LOTO Device:
Step 1

Procedures for Stored Energy Release:
Step 1

Procedures for Verification of Isolation:
Step 1

Equipment Re-energization Procedures:
Step 1

Procedures for Shift/Personnel Changes:
Step 1

Energy Isolation Devices and LOTO Devices

Energy Isolation Devices:
Chemical
Other (Disconnect battery cable)
Other (Remove key from ignition)

LOTO Device(s) Used by Our Employees:
Chemical
Tag

Means of Identifying Devices:

Means of Identifying Employees:
Chemical
Printed name

Authorized Employee(s):
Foreman
Mechanic
Laborer