DRAFT
Remedial Action Work Plan
For
Access Restriction
Operable Unit 4, Site 41
Mcb Camp Lejeune, North Carolina

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-93-D-3032
Delivery Order 0101

Prepared by

OHM Remediation Services Corp.
Norcross, Georgia

John P. Franz, P.E.
Program Manager

James A. Dunn, Jr., P.E.
Project Manager

March 1996

OHM Project No. 18421

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1
1.1 Site Background 1-1
1.2 Site Description 1-2
1.3 Site History 1-4

2.0 REMEDIAL ACTION OBJECTIVES 2-1

3.0 SITE PREPARATION AND MOBILIZATION 3-1

4.0 ACCESS RESTRICTION 4-1
4.1 Materials 4-1
4.2 Installation 4-2

5.0 SITE RESTORATION 5-1

6.0 DEMOBILIZATION AND FINAL REPORT 6-1

FIGURES
Figure 1 Vicinity and Location Map
Figure 2 General Arrangement Map

1.0 INTRODUCTION

This Remedial Action Work Plan (RAWP) reviews OHM Remediation Services Corp.'s (OHM) approach to implementation of the scope of work under Delivery Order No. 0101 of Navy Atlantic Division (LANTDIV) Contract N62470-93-D-3032. A site specific health and safety plan (OHM Site Safety Plan) has been developed for this delivery order and is to be considered as a complementary component to this work plan.

This RAWP identifies and describes how OHM will implement the major tasks encompassing the remedial action for Site 41 at MCB Camp Lejeune in conformance with the contract requirements. It includes the following sections:

- Section 2.0 Remedial Action Objectives
- Section 3.0 Environmental Protection Plan
- Section 4.0 Mobilization
- Section 5.0 Debris Removal
- Section 6.0 Transportation and Disposal Plan
- Section 7.0 Site Restoration
- Section 8.0 Demobilization/Final Report

1.1 SITE BACKGROUND

MCB Camp Lejeune was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), National Priorities List (NPL) effective October 4, 1989 (54 Federal Register 41015, October 4, 1989). Subsequent to this listing, the United States Environmental Protection Agency (USEPA) Region IV, the North Carolina Department of Environment, Health and Natural Resources (NCDEHNR) and the United States Department of the Navy (DoN) entered into a Federal Facilities Agreement (FFA) for MCB Camp Lejeune. The primary purpose of the FFA was to ensure that environmental impacts associated with past and present activities at MCB Camp Lejeune were thoroughly investigated and appropriate CERCLA response/Resources Conservation and Recovery Act (RCRA) corrective action alternatives were developed and implemented as necessary to protect the public health and the environment.

A NCDEHNR review of the CERCLA Site investigation performed by Baker Environmental, Inc. (Baker) recommended that the Remedial Action Contractor (RAC), OHM be tasked with restricting access to the site by the roadway fencing leading to the site and posting signs around the site.

1.2 SITE DESCRIPTION

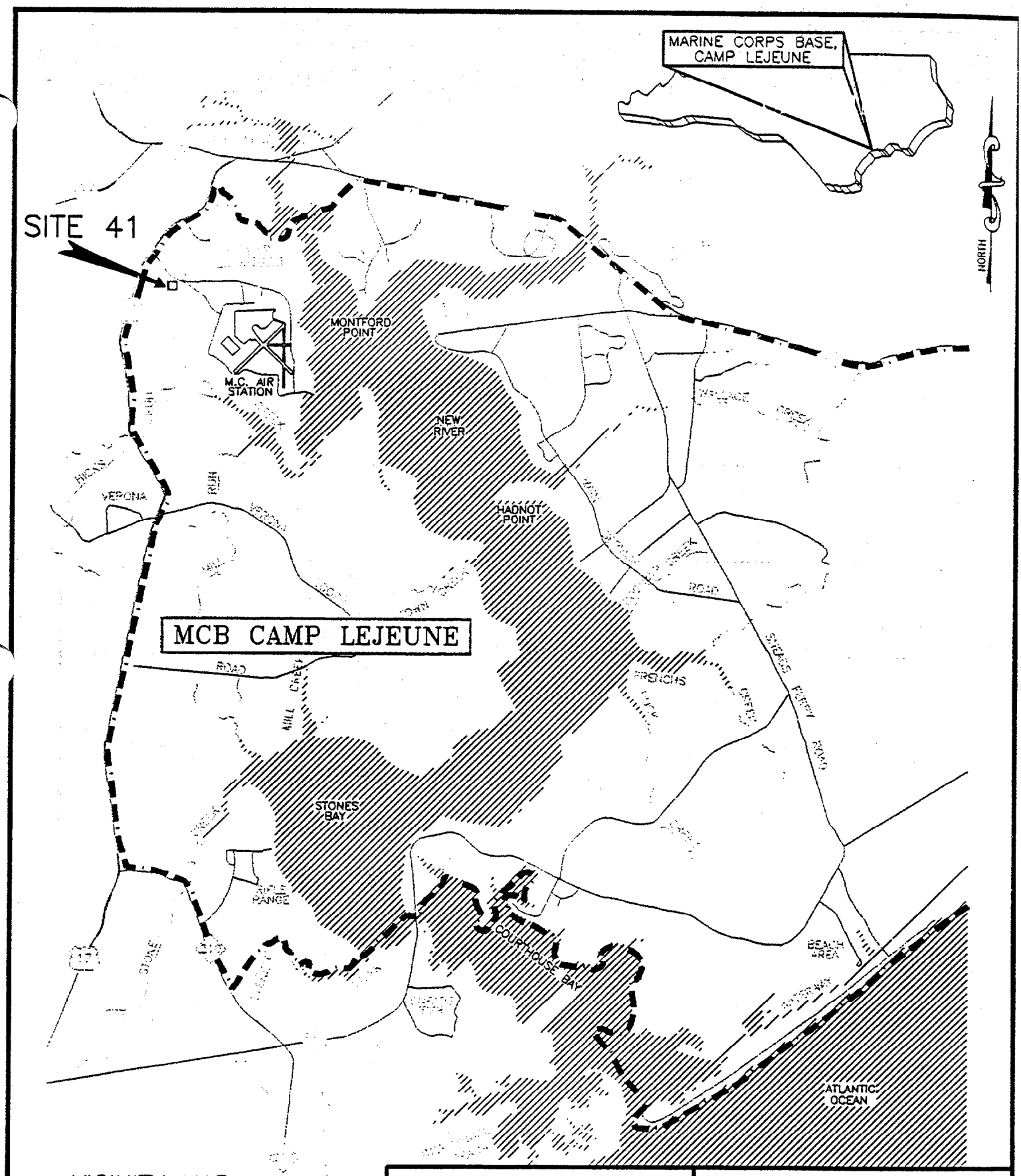
The information presented in this section was obtained from the Baker Site Investigation (SI) and the scope of work contained in the request for proposal from LANTDIV.

Camp Lejeune is a training base for the U.S. Marine Corps, located in Onslow County, North Carolina. The base covers approximately 170 square miles and includes 14 miles of coast line. MCB Camp Lejeune is bounded to the southeast by the Atlantic Ocean, to the northeast by State Route 24, and to the west by U.S. Route 17. The town of Jacksonville, North Carolina is located north of the Base (Figure 1).

Site 41, known as the Camp Geiger Dump at the Former Trailer Park, is located east of Highway 17 within the Camp Geiger area of MCB Camp Lejeune. The site encompasses approximately 30 acres and is situated in a topographically high area. The central portion of the site is flat. Most of the site is heavily wooded and vegetated. Only one area of the site, which is essentially the middle area, is somewhat clear of trees. The northern boundary of the fill area is evidenced by an abrupt 5 to 10 feet high change in elevation across the north central portion of the site. The "cleared" area described earlier is situated just south of this "highwall."

Several dirt roads bisect the site. Drainage is poor as evidenced by numerous ponding areas. Drainage from the site is received by Tank Creek to the south and an unnamed tributary to the north. The unnamed tributary flows in a southeast direction around the northeastern and eastern border of the site until it discharges into Southwest Creek. Tank Creek flows in a southeast direction and also discharges into Southwest Creek.

The surface of the site is littered with construction or demolition debris. This material consists mainly of sheet metal, steel I-beams, plastic wire, wood, and concrete. This same material also exists below uprooted trees (i.e., lying on the surface). A few rusted empty drums were also noted throughout the site, including one drum which indicated "dry cleaning solvent." Two seeps were also noted. The seeps are located below the highwall described earlier and had an orange color appearance. A sheen was also noted on the seeps. The seeps flow northward and discharge into the unnamed tributary. Several circular depressions (approximately 5 to 7 feet in radius and 2 to 3 feet in depth) were noted throughout the site area. Based on discussions with ordnance specialists from the U. S. Army Technical Escort Unit (TEU), these depressions may have been formed by exploding ordnance.



OHM Remediation Services Corp.
NORCROSS, GEORGIA
A SUBSIDIARY OF OHM CORPORATION

DRAWN BY	J. LANGE	3/15/96
CHECKED BY	J. DUNN	3/15/96
FILE:	D:\OHM\LANTDIV\LEJEUNE\18421\FIG1.DWG	
REV. 0	SHEET # -	PROJECT NO. 18421

FIGURE 1

VICINITY AND LOCATION MAP

D.O. #101
MCB CAMP LEJEUNE

PREPARED FOR
LANTDIV

Site 41 is underlain by silty sand, with discontinuous layers of sand, clayey sand, sandy clay, silt, and clay to a depth between 11 and 29 feet bgs. No groundwater retarding layer was encountered beneath the site. The upper unit of the Castle Hayne was encountered beneath the silty sands. Shallow groundwater flow at the site is radial from the mound or fill area; however, the predominant flow direction is toward the southeast. Shallow groundwater discharges to the unnamed tributary to the north and east, and Tank Creek to the south. Groundwater flow within the Castle Hayne is linear and toward the southeast.

1.3 SITE HISTORY

Site 41 was used as an open burn dump from 1946 to 1970. The dump received construction debris and several types of wastes including petroleum, oil, and lubricants (POL), solvents, batteries, mirex in bags, thousands of mortar shells, one case of grenades, and one 105 mm Howitzer shell. In addition, it is reported that in the mid-1960s, at least two waste disposal incidents occurred involving the disposal of drummed wastes from trucks. At such times, a fire truck was present. These wastes were described as being similar to the types of wastes disposed of at Site 69 (Rifle Range Chemical Dump). More definitive information is not available to properly identify these wastes. However, it is documented that drums of chemical training agents, pesticides, PCBs, and solvents were disposed of at the site.

Previous investigations at Site 41 focused on groundwater, surface water, and sediment. A soil investigation was not conducted under any step of the Confirmation Study.

Groundwater Investigation

In July 1984, as part of the Verification Step, ESE installed four shallow groundwater monitoring wells (41GW1, 41GW2, 41GW3, 41GW4). Shallow groundwater monitoring wells ranged in depth from 24 to 26 feet bgs. In 1986, a fifth shallow well (41GW5) was installed in an upgradient direction.

Groundwater samples were collected from wells 41GW1, 41GW2, 41GW3, and 41GW4 in July 1984. Additional groundwater samples were also collected in January 1987 from the four wells and 41GW5. Well 41GW5 was sampled again in March 1987. The groundwater samples collected from these wells were analyzed for the following (ESE, 1991):

- Cadmium
- Chromium
- Hexavalent chromium (1987 only)
- Lead
- VOCs
- Total phenols

- Organochloride pesticides
- Oil and grease
- Mirex
- Ordnance compounds
- Tetrachlorodioxin (1987 only)
- Xylenes (1987 only)
- MEK (1987 only)
- MIK (1987 only)

Volatile organics benzene (0.3 µg/L), dichlorodifluoromethane (8.0 µg/L), trans-1,2-DCE (1.1 µg/L), and vinyl chloride (1.0 µg/L) were detected in groundwater collected from monitoring well 41GW2. The concentration of dichlorofluoromethane and vinyl chloride exceeded the NCWQS established for these compounds.

Groundwater results from the second round of sampling indicated that concentrations of methylene chloride in groundwater collected from monitoring well 41GW2 (8 µg/L) exceeded the NCWQS (0.19 µg/L). Pesticide contaminants aldrin (0.017 µg/L) and heptachlor (0.007 µg/L) were detected in groundwater collected from monitoring 41 GW5. Neither of these concentrations exceeded any state or federal criteria.

First round inorganic groundwater data indicates that groundwater collected from well 41GW3 had levels of cadmium (7.1 µg/L) which exceeded the MCL and the NCWQS. Chromium was detected in groundwater collected during both rounds from monitoring wells 41GW1, 41GW2, 41GW3, and 41GW5. Chromium was detected from the initial groundwater samples collected from 41GW4. Lead was detected in wells 41GW1 (74.6 µg/L), 41GW2 (196.3 µg/L) and 41GW3 (119.4 µg/L) during the first round. These concentrations exceed the Federal Action Level of 15.0 µg/L and the NCQWS Action Level of 50 µg/L for lead. Lead was not detected in second round groundwater samples collected from monitoring wells 41GW1 and 41GW3. Lead concentrations for well 41GW2 indicated a decrease in concentration.

Oil and grease was detected in all groundwater samples collected during the first and second rounds. Concentrations ranged from 900 µg/L (41GW3) to 48,000 µg/L (41GW4). Phenols were detected in all five monitoring wells. The highest concentration of phenol was detected in well 41GW5 (18 µg/L). Analytical findings from the second round of groundwater sampling indicated that a nitroaromatic compound (RDX) was detected in well 41GW3. This positive detection indicates that groundwater may have been impacted by ordnance disposal at Site 41 (ESE, 1991).

Surface Water Investigation

Four surface water and sediment samples were collected and analyzed in January 1987. Surface water and sediment samples were collected from two locations in Tank Creek and from two locations in the unnamed tributary to Southwest Creek. The surface water samples were analyzed for the following (ESE, 1991):

- Cadmium
- Chromium
- Hexavalent chromium
- Lead
- VOCs
- Total phenols
- Organochloride pesticides
- Oil and grease
- Mirex
- Ordnance compounds
- Tetrachlorodioxin
- Xylenes
- MEK
- MIK

Methylene chloride was detected in all four surface water samples. Concentrations ranged from 5.5 µg/L (41SW2) to 9.7 µg/L (41SW3). Analytical results for the surface water samples indicated that oil and grease were present in all samples. Concentrations ranged from 200 µg/L (41SW3) to 1,000 µg/L (41SW1).

Phenols were detected above North Carolina Surface Water Standards (NCSWS) for fresh water in all four surface water samples, but below the Federal Ambient Water Quality Criteria (AWQC) standards. The highest detection of phenol at a concentration of 10 µg/L was found in surface water sample 41SW4.

The pesticide aldrin was detected in samples 41SW2 (0.013 µg/L), 41SW3 (0.015 µg/L), and 41SW4 (0.014 µg/L). All three concentrations exceed the NCSWS for aldrin. Surface water 41SW2 also had a positive detection for delta benzene hexachloride (D-BHC) at a concentration of 0.047 µg/L.

The metals of concern were not detected in the surface water samples.

Sediment Investigation

The sediment samples collected were analyzed for the following:

- Cadmium
- Chromium
- Hexavalent chromium
- Lead
- Oil and grease
- Total phenols
- Mirex
- Organochloride pesticides
- Tetrachlorodioxin
- Ordnance

Oil and grease was detected in all sediment samples. Concentrations ranged from 40 µg/g (41SE3) to 208 µg/g (41SE1). Phenols and 2,4,6-TNT were detected in samples 41SE3 and 41SE4. Both of these sediment samples were collected from Tank Creek. The highest concentrations detected for phenol and 2,4,6-TNT were 0.118 µg/g and 0.357 µg/g, respectively.

Chromium was detected in all four sediment samples at concentrations ranging from 1.77 µg/g (41SE2) to 5.09 µg/g (41SE4). Hexavalent chromium was detected in sediment samples 41SE2, 41SE3, and 41SE4. Concentrations for hexavalent chromium ranged from 1.36 µg/g (41SE2) to 3.74 µg/g (41SE4). Lead was detected in sediment samples 41SE1 (12.1 µg/g) and 41SE2 (4.89 µg/g).

2.0 *REMEDIAL ACTION OBJECTIVES*

In accordance with Section 121(d)(1) of CERCLA, remedial actions must attain a degree of clean-up which assures protection of human health and the environment. Remedial goals have been based on meeting an Applicable or Relevant and Appropriate Requirement (ARAR), or a site-specific risk based action level.

The remedial objective for Site 41 is to restrict access by installing gates across existing roadways and posting signs around the perimeter of the site.

3.0 SITE PREPARATION AND MOBILIZATION

Prior to mobilization, OHM will arrange a pre-construction meeting at MCB Camp Lejeune with LANTDIV and base personnel. The purpose of this meeting will be to:

- Confirm roles and responsibilities of key personnel and flow of communication for project execution
- Review the project schedule, sequence of tasks and key milestones
- Identify and discuss Base-specific issues relative to the upcoming mobilization and construction activities
- Obtain the necessary security clearances for operations personnel
- Obtain photographs of the sites for pre-construction documentation of existing site conditions

OHM will submit the qualifications and licenses of the subcontractor which will perform the installation of the fencing. The qualifications of subcontractors including small and disadvantaged businesses proposed to perform work at the site will also be submitted. Material/product submittals jointly identified as necessary will also be submitted.

OHM will mobilize personnel and equipment from its existing labor force at MCB Camp Lejeune to perform this project. Prior to beginning work on site, a training meeting will be conducted to brief all site personnel on the Site-Specific Health and Safety Plan, construction drawings, and other relevant site-specific plans. Site hazards and conditions will be discussed and all personnel will acknowledge their understanding and compliance with the plan by signing an approved acceptance form.

Project mobilization and site setup will consist of the following main activities:

- **Temporary Facilities Installation** - OHM will utilize its office trailer already located at Lot 203 as an administrative area and command center. This area will serve as the control check point for contractor/subcontractor personnel entering the site.
- **Site Security** - All persons entering the site will be required to sign in and out daily. OHM reserves the right to deny access to any individual not showing proper identification.

- **Health and Safety Zones** - The site will be segregated into work areas on the basis of degree of hazard and PPE requirements. OHM health and safety personnel will provide site air monitoring and will adjust work zone boundaries as appropriate.

4.0 ACCESS RESTRICTION

During the site visit conducted on December 31, 1995, with Tom Morris from the IR/EMD Offices at MCB Camp Lejeune, the scope of work was refined to include the work activities which are detailed in the existing program.

The southeast access to the site consists of a dirt road which is located in an area of relatively flat terrain that is approximately 150 feet in width. The entire width will be fenced with 6 feet high galvanized chainlink fencing. The roadway opening of 20 feet will be closed via installation of twin 10 feet wide swing gates which will be padlocked. The west access to the site is via the same dirt roadway. At the access point, the flat terrain width is approximately 50 feet. Six feet high galvanized chainlink fencing will be employed to restrict access. Twin 8 feet wide swing gates with padlock will be employed at this roadway access point.

Fifteen metallic signs mounted on galvanized steel posts founded in concrete will be located at approximately 200 feet intervals along the east and west property boundaries. Lettering on the signs will be visible from the adjacent roadways. Sign backgrounds will be green with white lettering. Wording on the signs will be as directed by the Base. Figure 2 shows the approximate location of fencing and signs.

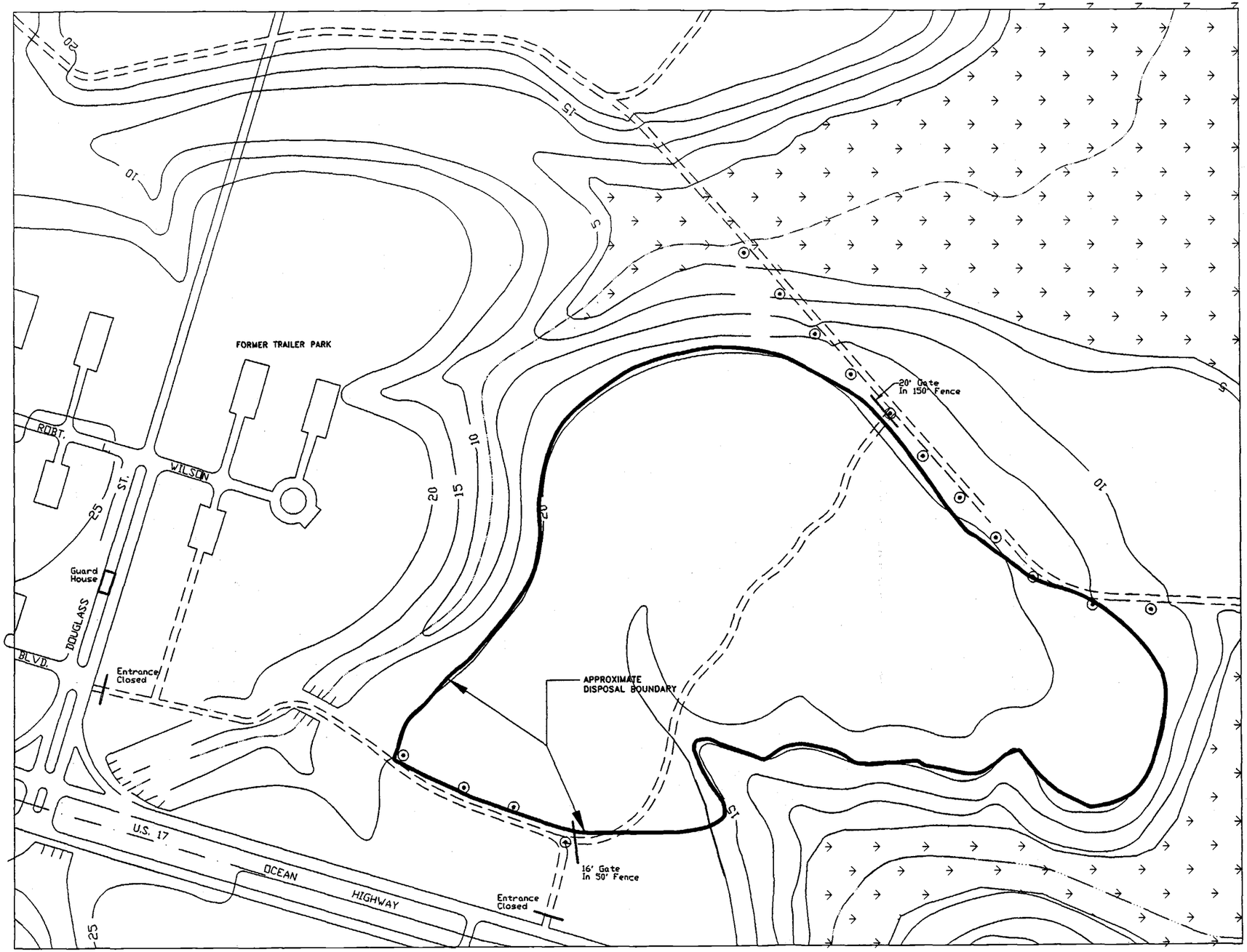
4.1 MATERIALS

Materials to be employed in the construction of the access restriction will be as follows:

- Fence fabric – 6 feet galvanized steel 2-inch mesh chainlink, 9-gauge
- Top Rail – 1-5/8-inch galvanized steel, SS-40
- Terminal Post – 2-1/2-inch galvanized steel, SS-40
- Gate Post – 4-inch galvanized steel, SS-40
- Line Post – 2-inch galvanized steel, SS-40
- Bottom Tension Wire – 7-gauge galvanized steel

Line posts will be spaced at equal intervals not to exceed 10 feet.

Signs will be 24 inches by 24 inches and constructed of 0.40-inch thick aluminum plate painted dark green with white lettering. Sign posts will be the same size and materials as terminal posts (2-1/2-inch galvanized steel, SS-40).



LEGEND

- MARSH
- 5 — TOPOGRAPHIC ELEVATION LINES (FEET, MEAN SEA LEVEL)
- ROAD (IMPROVED)
- ROAD (UNIMPROVED)
- INTERMITTENT STREAM
- SIGN @ 200' O.C.

SOURCE: LANTDIV, OCT. 1991, BAKER 1996

OHM Remediation Services Corp.
NORCROSS, GEORGIA
A SUBSIDIARY OF OHM CORPORATION

DRAWN BY	J. LANGE	3/15/96
CHECKED BY	J. DUNN	3/15/96
APPROVED BY	–	DATE
REV. 0	SHEET # –	PROJECT NO. 18421

FIGURE 2

GENERAL ARRANGEMENT MAP
SITE 41-CAMP GEIGER DUMP

D.O. 101
MCB CAMP LEJEUNE

PREPARED FOR
LANTDIV

D:\OHM\LANTDIV\18421\FIG2.DWG

00346 V01Z

4.2 INSTALLATION

Due to the remote possibility of encountering hazardous materials during post installation, only OSHA 40-hour trained personnel will perform this operation. Post holes will be dug with a power auger to a nominal 24 inches in depth. Posts will be set, plumbed and concrete poured in the post hole. Concrete will be allowed to set a minimum of 48 hours prior to installing fencing or signs on posts.

Sign installation will be effected utilizing cadmium plated bolts through the posts and secured with lock washers and nuts. One sign will also be affixed to each gate.

5.0 SITE RESTORATION

Any areas which have been disturbed by access restriction activities will be restored to meet existing contours of unaffected adjacent areas.

6.0 DEMOBILIZATION AND FINAL REPORT

All equipment and personnel will be demobilized from the project site. A Contractor Close-out Report will be completed and submitted for review and comment.

OHM SITE SAFETY PLAN

PROJECT NAME: Site 41 Access Restrictions PROJECT NUMBER: 18421

LOCATION: Camp Lejeune, NC DATE: March 13,1996

I. SCOPE OF WORK

The work will consist of installing fence, gates and signs for access restrictions. The following task will be completed:

Task 1 Mobilization and site preparation
Task 2 Post Installation
Task 3 Fencing and Sign Installation
Task 4 Equipment Decontamination
Task 5 Demobilization

II. ORGANIZATION AND AUTHORITIES

The Project Supervisor is responsible for the safe implementation of field activities and is ultimately responsible for site safety. The Regional Health and Safety Manager is responsible for providing guidance to the Site Safety Officer (SSO) and Project Supervisor on the implementation of the site safety plan. The SSO is responsible for implementing the site safety plan on-site and enforces the plan by performing routine site inspections. The SSO has the authority to immediately shut down site operations where unsafe conditions or practices are observed and takes the lead during site emergencies. Site personnel are responsible for following the requirements of this plan and the directions of the SSO. OHM subcontractors may either develop and implement their own site safety plan or comply with the OHM site safety plan. The following personnel are designated to perform these job functions.

Project Manager: James Dunn

Site Supervisor Randy Smith

Site Safety Officer: Steve Grant

Health and Safety Manager: Mark Wilson (770) 734-8086

Subcontractors: Fence contractor

III. HAZARD EVALUATION

CHEMICAL HAZARDS

Chemical: Used oils/Petroleum Hydrocarbons **TLV/PEL:** (300 ppm as gasoline)
Exposure Routes: Inhalation, dermal contact
Symptoms of Overexposure: Eye, nose, throat irritation; Skin irritation; Headache, dizziness , nausea, skin cancer

Chemical: Dried paints and residues **TLV/PEL:** 5 mg/m^3
Exposure Routes: Inhalation, dermal contact
Symptoms of Overexposure: Eye, nose, throat irritation; Skin irritation; Headache, dizziness , nausea,

PHYSICAL HAZARDS (Heat/Cold Stress, Noise, Fire, and Explosion)

Heat stress; Manual lifting/back strain, Noise, equipment, Vehicle traffic, Ticks, Abrasion hazard from sharp metal and brush, Fire explosion

TASK SPECIFIC HAZARDS

Task 1: Mobilization/Site Preparation
Hazards: Material handling, manual lifting; Slips, trips, falls;

Control Measures: Practice safe material handling, manual lifting techniques; Ensure personnel are constantly aware of terrain and footing;

Task 2: Fence Post Installation
Hazards: Material handling, manual lifting; vehicle traffic, equipment operations, Heat Stress

Control Measures: Practice safe material handling, manual lifting techniques; Ensure personnel are constantly aware of terrain and footing; vehicles must be operated in a safe and legal manner, safety belts must be worn, do not exceed the safe driving limits posted or for the driving conditions, Equipment shall have fully functioning safety devices. Abrasions, cuts from sharp objects or debris; Back strains from manual lifting, dragging; Heat stress monitoring; Locate all utilities and pipelines prior to initiating excavation operations.

Task 3: Fencing and Sign Installation
Hazards: Material handling, manual lifting; vehicle traffic, equipment operations, Heat Stress

Control Measures: Practice safe material handling, manual lifting techniques; Ensure personnel are constantly aware of terrain and footing; vehicles must be operated in a safe and legal manner, safety belts must be worn, do not exceed the safe driving limits

posted or for the driving conditions, Equipment shall have fully functioning safety devices. Abrasions, cuts from sharp objects or debris; Back strains from manual lifting, dragging; Heat stress monitoring. Locate all utilities and pipelines prior to initiating excavation operations.

Task 4: Equipment Decontamination
Hazards: Operation of high pressure washer; Splash; Slip, trip, fall; Material handling, manual lifting

Control Measures: Follow OHM SOP for operation of high pressure washer; Wear specified level of protection with splash shield; Ensure employees aware of footing; Practice safe material handling and manual lifting procedures

Task 5: Demobilization
Hazards: Material handling; Slips, trips, and falls; Manual lifting hazards; Inhalation and dermal hazards when decontaminating equipment; and hazards associated with operation of high pressure washer

Control Measures: Institute safe lifting and material handling practices; Ensuring personnel awareness of footing; Equipment operation awareness

IV. SITE CONTROL

WORK ZONES

Site operations will be segregated in two work zones: a Construction Zone (CZ); and a Support Zone (SZ) where site support facilities are located. The boundary of the CZ/SZ will be marked with warning signs or barrier tape and access control points will be designated to restrict access to authorized personnel. A site map depicting these work zones will be developed during site mobilization and posted. The Buddy System will be implemented on-site for those tasks performed in the CZ.

SITE COMMUNICATIONS

On-site communications will be established between site work zones and will consist of verbal communications, line of sight observations, or two-way radios. Off-site communications will be established in the support zone to summon off-site emergency services and will consist of either on-site cellular telephones or identifying the location of the nearest telephone to the site.

SAFE OPERATING PROCEDURES

OHM Health and Safety procedures apply to OHM's hazardous waste and emergency response operations. These procedures are contained in

OHM's Health and Safety Procedures Manual that is reviewed with and provided to site supervisors during OSHA Supervisors Training. Questions on the applications of these procedures to site operations should be directed to the Regional Health and Safety Manager. Project-specific procedures are attached to this plan.

V. PERSONAL PROTECTIVE EQUIPMENT

The following Levels of Protection are designated for each task performed in site work zones, based on the hazards posed by each task. Modifications of these Levels of Protection are provided for those tasks with specific personal protective equipment requirements. **An upgrade/downgrade in the designated Level of Protection may only be instituted for those tasks' where more than one level of protection is specified (i.e., Mod D/C) and only after air monitoring results justify the upgrade/downgrade, based on the action levels listed in this plan. For those tasks where more than one level of protection are specified (i.e., Mod D/C) the first level of protection (Mod D) is the initial level of protection required for the task, with the second level (Level C)being either the downgrade or upgrade level of protection.**

NO CHANGES TO THE DESIGNATED LEVEL OF PROTECTION BELOW SHALL BE MADE FOR THOSE TASKS WHERE ONLY ONE LEVEL OF PROTECTION IS SPECIFIED WITHOUT AN AMENDMENT TO THIS PLAN AND THE APPROVAL OF THE REGIONAL HEALTH AND SAFETY MANAGER/DIRECTOR.

Task 1: Mobilization/Site Preparation
Level of Protection: Level D

Task 2: Post Installation
Level of Protection: Level D with heavy cotton or leather work gloves/C with Tyvek,

Task 3: Fencing and Sign Installation
Level of Protection: Level D with heavy cotton or leather work gloves//C with Tyvek

Task 4: Decontaminate equipment
Level of Protection: Pressuring washing Level Modified D with Tyvek and Face shield Dry brushing Level Modified D with Tyvek

Task 5: Demobilization
Level of Protection: Level D

Personal protective equipment requirements for the above designated Levels of Protection is as follows:

LEVEL D

Boots: Steel Toe/Shank Boots

Head/Face Protection: Hard Hat

Eye Protection: Safety Glasses with side shields

VI. DECONTAMINATION PROCEDURES

Decontamination procedures are not necessary on this site.

VII. AIR MONITORING

Instrument: LEL/O2 Meter
Task 2,3 Monitored/Frequency: Perform at start up and four times per day
Action Levels/Required Actions: Work areas must be less than 10% LEL and equivalent to 20. 9% O2 prior to and during the course of operations in an area. Greater than 10 % LEL stop operations and allow vapors to dissipate

Instrument: PID Meter
Task 2,3 Monitored/Frequency: At start up and four times per day
Action Levels/Required Actions: Greater than 10 ppm Upgrade to Level C Greater than 25 ppm stop operations and allow vapors to dissipate

VIII. EMERGENCY RESPONSE PLAN

PRE-EMERGENCY PLANNING

Before starting site operations, the SSO will implement emergency procedures that include: identifying the location and route to emergency medical services; establishing site communications; designating emergency warning signal and evacuation routes; inventorying emergency equipment; and communicating emergency procedures to personnel.

PERSONNEL ROLES, LINES OF AUTHORITY AND COMMUNICATION

The SSO takes the lead during site emergencies until off-site emergency responders arrive on-site. In cases of major emergencies, OHM personnel will evacuate the site, contact local emergency responders, and rely on them to handle the emergency. Minor emergencies that are controllable on-site with emergency equipment located at the site will be addressed by OHM personnel with the approval of the SSO.

EMERGENCY RECOGNITION AND PREVENTION

The SSO will conduct an initial site safety briefing to review the requirements of the site safety plan with site personnel. This briefing will include discussions on the recognition, prevention and control of emergencies anticipated on-site. Daily safety meetings will be held to emphasize emergency prevention and control measures.

SAFE DISTANCE AND PLACES OF REFUGE

The on-site assembly point will be located in the SZ where site personnel are accounted for and emergency services are contacted. The SSO will evaluate the emergency situation based on the hazards posed to site personnel remaining at the on-site assembly point, then determine the need and location of further off-site evacuation and assembly points.

SITE SECURITY AND CONTROL

Access to the site will be controlled by the SSO until local emergency responders arrive. The SSO will then relinquish site security/control to the authorized emergency response organization.

EVACUATION ROUTES AND PROCEDURES

The emergency evacuation signal will be one long blast with an air horn. Evacuation routes will be designated that direct evacuation from the EZ in an upwind direction. In cases of uncontrollable emergencies such as fire, explosion, or toxic vapor release, a site evacuation shall be implemented as follows:

- Sound the emergency warning signal.
- Stop work activities and evacuate the EZ in an upwind direction.
- Assemble in the SZ and account for personnel. Dispatch a response team equipped with appropriate PPE (minimum Level B protection) and rescue unaccounted personnel.
- Contact off-site emergency response services.

EMERGENCY DECONTAMINATION PROCEDURES

Personnel will be decontaminated to the extent feasible (gross decon or deluge shower) but life saving and first aid procedures take priority over personnel decontamination efforts. Standard personnel decontamination procedures apply for those injuries deemed non-life threatening by the SSO.

EMERGENCY MEDICAL TREATMENT AND FIRST AID

In the absence of reasonably accessible medical services, an SSO trained in first aid by the American Red Cross or the equivalent will be available on-site to render first aid. An industrial first aid kit available on-site, with its contents approved by OHM's consulting physician. The contents of the first aid kit will be checked by the SSO weekly, with expendable items replaced when used.

EMERGENCY ACTIONS

If actual or suspected serious injury occurs on-site implement the following emergency actions:

- Remove the exposed/injured person(s) from immediate danger.
- Render first aid if necessary. Decontaminate injured after critical first-aid has been administered.
- Obtain paramedic services or ambulance transport to local hospital. This procedure shall be followed even if there is no visible injury.
- Other personnel in the work area shall be evacuated and assembled at the SZ until the SSO determines that it is safe to resume work.

RESPONSE FOLLOW-UP

The SSO must complete an incident investigation form for site emergencies within 24 hours of the incident and submit/fax it to their Division Manager. Incidents involving potential Lost Time Accident (LTA) injuries, overexposure incidents, or emergencies causing site evacuations must be reported within 24 hours after incident occurrence to:

Angelo Liberatore
Regional Health and Safety Manager
Phone: 770/729-3900 (work)
770/476-0112 (home)
Fax: 770/729-3905

The SSO will identify the cause(s) of the incident and take action to prevent reoccurrence. The SSO will also evaluate the effectiveness of the site's emergency response procedures and institute corrective actions when warranted.

EMERGENCY EQUIPMENT ON-SITE

The following emergency equipment are located on-site:

- Fire Extinguishers @ OHM Vehicle
- Industrial First Aid Kit @ OHM Vehicle
- Portable Eye wash/Shower @ OHM Vehicle

EMERGENCY CONTACTS

The following emergency contacts will be identified during project mobilization and conspicuously posted in the SZ.

	Name	Phone Number
Hospital:		
Fire Dept.:		
Police Dept.:		

Location and Route to Hospital: _____

_____

_____

_____

_____

IX. SITE SAFETY PLAN CERTIFICATIONS

This site safety plan complies with the appropriate sections of 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response". Only site personnel meeting the training and medical surveillance requirements of 29 CFR 1910.120 are authorized to perform hazardous waste operations or emergency response at this site. This Site

Safety Plan has been approved by [signature] CH on 3/13/96.

The following site personnel acknowledge reading and understanding the contents of this Site Safety Plan:

	Name	Signature
Project Supervisor:	Randy Smith	
Site Safety Officer:	Steve Grant	
Site Personnel:		

APPENDIX A - MATERIAL SAFETY DATA SHEETS
APPENDIX B - SPECIFIC OHM HEALTH AND SAFETY PROCEDURES
APPENDIX C - HEALTH AND SAFETY FORMS

APPENDIX A

MATERIAL SAFETY DATA SHEETS

Gasoline
Motor oil
Diesel fuel

Genium Publishing Corporation
1145 Catalyn Street
Schenectady, NY 12303-1836 USA
(518) 377-8854

Material Safety Data Sheets Collection:

Sheet No. 467
Automotive Gasoline, Lead-free

Issued: 10/81 Revision: A, 9/91

Section 1. Material Identification

35

Automotive Gasoline, Lead-free, Description: A mixture of volatile hydrocarbons composed mainly of branched-chain paraffins, cycloparaffins, olefins, naphthenes, and aromatics. In general, gasoline is produced from petroleum, shale oil, Athabasca tar sands, and coal. Motor gasolines are made chiefly by cracking processes, which convert heavier petroleum fractions into more volatile fractions by thermal or catalytic decomposition. Widely used as fuel in internal combustion engines of the spark-ignited, reciprocating type. Automotive gasoline has an octane number of approximately 90. A high content of aromatic hydrocarbons and a consequent high toxicity are also associated with a high octane rating. Some gasolines sold in the US contain a minor proportion of tetraethyllead, which is added in concentrations not exceeding 3 ml per gallon to prevent engine "knock." However, methyl-tert-butyl ether (MTBE) has almost completely replaced tetraethyllead.

Other Designations: CAS No. 8006-61-9, benzin, gasoline, gasolene, motor spirits, natural gasoline, petrol.

Manufacturer: Contact your supplier or distributor. Consult latest *Chemical Week Buyers' Guide*™ for a suppliers list.

R 1
I 2
S 2*
K 4
* Skin absorption

NFPA

HMIS
H 2
F 3
R 1
PPG†
† Sec. 8

Cautions: Inhalation of automotive gasoline vapors can cause intense burning in throat and lungs, central nervous system (CNS) depression, and possible fatal pulmonary edema. Gasoline is a dangerous fire and explosion hazard when exposed to heat and flames.

Section 2. Ingredients and Occupational Exposure Limits

Automotive gasoline, lead-free*

1990 OSHA PELs
8-hr TWA: 300 ppm, 900 mg/m³
15-min STEL: 500 ppm, 1500 mg/m³

1990-91 ACGIH TLVs
TWA: 300 ppm, 890 mg/m³
STEL: 500 ppm, 1480 mg/m³

1990 NIOSH REL
None established

1985-86 Toxicity Data†
Man, inhalation, TC_{Lo}: 900 ppm/1 hr; toxic effects include sense organs and special senses (conjunctiva irritation), behavioral (hallucinations, distorted perceptions), lungs, thorax, or respiration (cough)
Human, eye: 140 ppm/8 hr; toxic effects include mild irritation
Rat, inhalation, LC_{50}: 300 g/m³/5 min

* A typical modern gasoline composition is 80% paraffins, 14% aromatics, and 6% olefins. The mean benzene content is approximately 1%. Other additives include sulfur, phosphorus, and MTBE.
† See NIOSH, *RTECS* (LX5300000), for additional toxicity data.

Section 3. Physical Data

Boiling Point: Initially, 102 °F (39 °C); after 10% distilled, 140 °F (60 °C); after 50% distilled, 230 °F (110 °C); after 90% distilled, 338 °F (170 °C); final boiling point, 399 °F (204 °C)
Vapor Density (air = 1): 3.0 to 4.0

Density/Specific Gravity: 0.72 to 0.76 at 60 °F (15.6 °C)
Water Solubility: Insoluble

Appearance and Odor: A clear (gasoline may be colored with dye), mobile liquid with a characteristic odor recognizable at about 10 ppm in air.

Section 4. Fire and Explosion Data

Flash Point: -45 °F (-43 °C) | Autoignition Temperature: 536 to 853 °F (280 to 456 °C) | LEL: 1.3% v/v | UEL: 6.0% v/v

Extinguishing Media: Use dry chemical, carbon dioxide, or alcohol foam as extinguishing media. Use of water may be ineffective to extinguish fire, but use water spray to knock down vapors and to cool fire-exposed drums and tanks to prevent pressure rupture. Do not use a solid stream of water since it may spread the fuel.

Unusual Fire or Explosion Hazards: Automobile gasoline is an OSHA Class IB flammable liquid and a dangerous fire and explosion hazard when exposed to heat and flames. Vapors can flow to an ignition source and flash back. Automobile gasoline can also react violently with oxidizing agents.

Special Fire-fighting Procedures: Isolate hazard area and deny entry. Since fire may produce toxic fumes, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode, and full protective clothing. When the fire is extinguished, use nonsparking tools for cleanup. Be aware of runoff from fire control methods. Do not release to sewers or waterways.

Section 5. Reactivity Data

Stability/Polymerization: Automotive gasoline is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur.

Chemical Incompatibilities: Automotive gasoline can react with oxidizing materials such as peroxides, nitric acid, and perchlorates.

Conditions to Avoid: Avoid heat and ignition sources.

Hazardous Products of Decomposition: Thermal oxidative decomposition of automotive gasoline can produce oxides of carbon and partially oxidized hydrocarbons.

Section 6. Health Hazard Data

Carcinogenicity: In 1990 reports, the IARC list gasoline as a possible human carcinogen (Group 2B). Although the IARC has assigned an overall evaluation to gasoline, it has not assigned an overall evaluation to specific substances within this group (inadequate human evidence).
Summary of Risks: Gasoline vapors are considered moderately poisonous. Vapor inhalation can cause central nervous system (CNS) depression and mucous membrane and respiratory tract irritation. Brief inhalations of high concentrations can cause a fatal pulmonary edema. Reported responses to gasoline vapor concentrations are: 160 to 270 ppm causes eye and throat irritation in several hours; 500 to 900 ppm causes eye, nose, and throat irritation, and dizziness in 1 hr; and 2000 ppm produces mild anesthesia in 30 min. Higher concentrations are intoxicating in 4 to 10 minutes. If large areas of skin are exposed to gasoline, toxic amounts may be absorbed. Repeated or prolonged skin exposure causes dermatitis. Certain individuals may develop hypersensitivity. Ingestion can cause CNS depression. Pulmonary aspiration after ingestion can cause severe pneumonitis. In adults, ingestion of 20 to 50 g gasoline may produce severe symptoms of poisoning.
Medical Conditions Aggravated by Long-Term Exposure: None reported.
Target Organs: Skin, eye, respiratory and central nervous systems.
Primary Entry Routes: Inhalation, ingestion, skin contact.
Acute Effects: Acute inhalation produces intense nose, throat, and lung irritation; headaches; blurred vision; conjunctivitis; flushing of the face; mental confusion; staggering gait; slurred speech; and unconsciousness, sometimes with convulsions. Ingestion causes inebriation (drunkenness), vomiting, dizziness, fever, drowsiness, confusion, and cyanosis (a blue to dark purplish coloration of skin and mucous membrane caused by lack of oxygen). Aspiration causes choking, cough, shortness of breath, increased rate of respiration, excessively rapid heartbeat, fever, bronchitis, and pneumonitis. Other symptoms following acute exposure include acute hemorrhage of the pancreas, fatty degeneration of the liver and kidneys, and passive congestion of spleen.
Chronic Effects: Chronic inhalation results in appetite loss, nausea, weight loss, insomnia, and unusual sensitivity (hyperesthesia) of the distal extremities followed by motor weakness, muscular degeneration, and diminished tendon reflexes and coordination. Repeated skin exposure can cause blistering, drying, and lesions.
FIRST AID
Eyes: Gently lift the eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately.
Skin: *Quickly* remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. For reddened or blistered skin, consult a physician. Wash affected area with soap and water.
Inhalation: Remove exposed person to fresh air and support breathing as needed.
Ingestion: Never give anything by mouth to an unconscious or convulsing person. If ingested, *do not induce vomiting* due to aspiration hazard. Give conscious victim a mixture of 2 tablespoons of activated charcoal mixed in 8 oz of water to drink. Consult a physician immediately.
After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: Notify safety personnel, evacuate all unnecessary personnel, remove heat and ignition sources, and provide maximum explosion-proof ventilation. Cleanup personnel should protect against vapor inhalation and liquid contact. Use nonsparking tools. Take up small spills with sand or other noncombustible adsorbent. Dike storage areas to control leaks and spills. Follow applicable OSHA regulations (29 CFR 1910.120).
Aquatic Toxicity: Bluegill, freshwater, LC_{50}, 8 ppm/96 hr.
Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.
EPA Designations
RCRA Hazardous Waste (40 CFR 261.21): Characteristic of ignitability
CERCLA Hazardous Substance (40 CFR 302.4): Not listed
SARA Extremely Hazardous Substance (40 CFR 355): Not listed
SARA Toxic Chemical (40 CFR 372.65): Not listed
OSHA Designations
Listed as an Air Contaminant (29 CFR 1910.1000, Table Z-1-A)

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Since contact lens use in industry is controversial, establish your own policy.
Respirator: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a NIOSH-approved respirator. There are no specific NIOSH recommendations. However, for vapor concentrations not immediately dangerous to life or health, use chemical cartridge respirator equipped with organic vapor cartridge(s), or a supplied-air respirator. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.*
Other: Wear impervious gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Materials such as neoprene or polyvinyl alcohol provide excellent/good resistance for protective clothing. Note: Resistance of specific materials can vary from product to product.
Ventilation: Provide general and local explosion-proof exhaust ventilation systems to maintain airborne concentrations below the OSHA PELs (Sec. 2). Local exhaust ventilation is preferred since it prevents contaminant dispersion into the work area by controlling it at its source.[1053]
Safety Stations: Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities.
Contaminated Equipment: Remove this material from your shoes and equipment. Launder contaminated clothing before wearing.
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Store in closed containers in a cool, dry, well-ventilated area away from heat and ignition sources and strong oxidizing agents. Protect containers from physical damage. Avoid direct sunlight. Storage must meet requirements of OSHA Class IB liquid. Outside or detached storage preferred.
Engineering Controls: Avoid vapor inhalation and skin or eye contact. Consider a respiratory protection program that includes regular training, maintenance, inspection, and evaluation. Indoor use of this material requires explosion-proof exhaust ventilation to remove vapors. Only use gasoline as a fuel source due to its volatility and flammable/explosive nature. Practice good personal hygiene and housekeeping procedures. Wear clean work clothing daily.

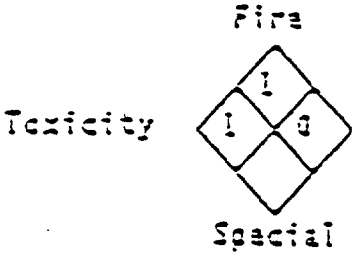
Transportation Data (49 CFR 172.101, .102)

DOT Shipping Name: Gasoline (*including casing-head and natural*)
DOT Hazard Class: Flammable liquid
ID No.: UN1203
DOT Label: Flammable liquid
DOT Packaging Exceptions: 173.118
DOT Packaging Requirements: 173.119

IMO Shipping Name: Gasoline
IMO Hazard Class: 3.1
ID No.: UN1203
IMO Label: Flammable liquid
IMDG Packaging Group: II

WSDS Collection References: 26, 73, 89, 100, 101, 103, 124, 125, 127, 132, 133, 136, 138, 140, 143, 146, 153, 159
Prepared by: M Allison, BS; Industrial Hygiene Review: DJ Wilson, CIH; Medical Review: W Silverman, MD; Edited by: JR Stuart, MS 95

NFPA HAZARD RATING
4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant



DIVISION AND LOCATION—SECTION I

Division: KENDALL REFINING COMPANY
Location: BRADFORD, PENNSYLVANIA
77 N. KENDALL AVE., BRADFORD, PA, 16701
Emergency Telephone Number: (814) 368-8111
Transportation Emergency: CHEMTREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES—SECTION II

Chemical Name:
petroleum hydrocarbon plus additives
Formula: not applicable
Hazardous Decomposition Products:
carbon monoxide and carbon dioxide from burning.
oxides of phosphorous from burning
oxides of sulfur
Incompatibility (Keep away from):
strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
Toxic and Hazardous Ingredients:
none
Form: liquid Odor: motor oil
Appearance: liquid Color: dark green-brown
Specific Gravity (water=1): .88 to .95
Boiling Point: greater than 330°C (625°F)
Melting Point: less than -12°C (10°F)
Solubility in Water (by weight %): 0 at 20°C
Volatile (by weight %): 0
Evaporation Rate: 0
Vapor Pressure (mm Hg at 20°C): 0
Vapor Density (air=1): not volatile
pH (as is): not applicable
Stability: Product is stable under normal conditions
Viscosity SUS at 100°F: Greater than or = to 100

(Continued on next page)

FIRE AND EXPLOSION DATA—SECTION III

Special Fire Fighting Procedures:
Do not use water except as fog.
Unusual Fire and Explosion Hazards:
none
Flashpoint: (Method Used) Cleveland open cup greater than 150°C (320°F)
Flammable limits %: not applicable
Extinguishing agents:
Drychemical or Waterfog or CO_2 or foam
Closed containers exposed to fire may be cooled with water.

HEALTH HAZARD DATA—SECTION IV

Permissible concentrations (air):
If used in applications where a mist may be generated, observe a TWA/PEL of 5 mg/m³ for mineral oil mist (OSHA and ACGIH).
Chronic effects of overexposure:
Prolonged or repeated skin contact may cause dermatitis (skin irritation)
Acute toxicological properties:
no data available
Recommended First Aid Procedures:
Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.
Skin Contact: Remove excess with cloth or paper. Wash thoroughly with soap and water.
Inhalation: Remove victim to fresh air. Call a physician.
If Swallowed: Contact a physician immediately.

SPECIAL PROTECTION INFORMATION—SECTION V

Ventilation Type Required (local mechanical special):
Local if necessary to maintain allowable PEL(permissible exposure limit) or TLV(threshold limit value)
Respiratory Protection (Specify type):
Use NIOSH/MSHA certified respirator with dual organic vapor/mist and particulates cartridge if vapor concentration exceeds permissible exposure limit.
Protective Gloves:
neoprene type
Eye Protection:
chemical safety goggles
Other Protective Equipment:
none

(Continued on next page)

HANDLING OF SPILLS OR LEAKS—SECTION VI

Procedures for Clean-Up:
Transfer bulk of mixture into another container. Absorb residue with an inert material such as earth, sand, or vermiculite. Sweep up and dispose as solid waste in accordance with local, state, and federal regulations.

Waste Disposal:
Dispose of in accordance with all applicable federal, state and local regulations.

SPECIAL PRECAUTIONS—SECTION VII

Precautions to be taken in handling and storage:
Do not handle or store at temperatures over
Maximum Storage Temperature: 38°C (100°F)

TRANSPORTATION DATA—SECTION VIII

D.O.T.: Not Regulated
Reportable Quantity: not applicable
Freight Classification: Petroleum Lubricating Oil
Special Transportation Notes:
none

ENVIRONMENTAL/SAFETY REGULATIONS—SECTION IX

Section 313 (Title III Superfund Amendment and Reauthorization Act):

This product does not contain any chemical in sufficient quantity to be subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

COMMENTS

STATE REGULATORY INFORMATION:
Pennsylvania Worker And Community Right To Know Act: This product contains the following ingredient(s).
Hydrocarbon oils CAS. NO. 8020-83-5
The additive mixtures in this product have been declared a trade secret by the additive manufacturers.

(Continued on next page)

(COMMENTS continued)

Prepared by: Robert Kallam
Title: Group Supervisor, Lubricants Testing, Maintenance, and Safety
Original Date: 05/18/81 Sent to: SCOTT DUNNEAR
Revision Date: 04/01/93 OHM
Supersedes : 04-05-90 3330 TRIANGLE PARK, SUITE 450
Date Sent : 10/21/93 NORCROSS GA 30092

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

Genium Publishing Corporation
1145 Catalyn Street
Schenectady, NY 12303-1836 USA
(518) 377-8854

Material Safety Data Sheets Collection:

Sheet No. 469
Fuel Oil No. 2

Issued: 10/81 Revision: A, 11/90

Section 1. Material Identification

33

Fuel Oil No. 2 Description: A mixture of petroleum hydrocarbons; a distillate of low sulfur content. Fuel oil no. 2 resembles kerosine. Used as a general-purpose domestic or commercial fuel in atomizing-type burners; as a fuel for trucks, ships and other automotive engines; as mosquito control (coating on breeding waters); and for drilling muds.
Other Designations: CAS No. 68476-30-2, diesel oil.
Manufacturer: Contact your supplier or distributor. Consult the latest *Chemicalweek Buyers' Guide*™ for a suppliers list.

R	1
I	-
S	2
K	2

NFPA

HMIS
H 0
F 2
R 0
PPG*
* Sec. 8

Cautions: Fuel oil No. 2 is a skin irritant and central nervous system depressant with high mist concentrations. It is an environmental hazard and a dangerous fire hazard when exposed to heat, flame, or oxidizers.

Section 2. Ingredients and Occupational Exposure Limits

Fuel oil No. 2*

1989 OSHA PEL	1990-91 ACGIH TLV	1988 NIOSH REL	1985-86 Toxicity Data† ‡
None established	None established	None established	Rat, oral, LD_{50}: 9 g/kg; produces gastrointestinal effects (hypermotility, diarrhea)

* A complex mixture (<95%) of paraffinic, olefinic, naphthenic, and aromatic hydrocarbons; sulfur content (<0.5%); and benzene (<100 ppm). [A low benzene level reduces carcinogenic risk. Fuel oils can be exempted under the benzene standard (29 CFR 1910.1028)].
† Monitor NIOSH, *RTECS* (HZ1800000), for future toxicity data.

Section 3. Physical Data

Boiling Point Range: 363 to 634 °F (184 to 334 °C)
Viscosity: 268 centistoke at 100 °F (37.8 °C)
Specific Gravity: 0.8654 at 59 °F (15 °C)
Appearance and Odor: Brown, slightly viscous liquid.
Water Solubility: Insoluble
Pour Point:* <21 °F (-6 °C)

*Pour point is the lowest temperature at which a liquid flows from an inverted test container.

Section 4. Fire and Explosion Data

Flash Point: 100 °F (38 °C) min. | Autoignition Temperature: 494 °F (257 °C) | LEL: 0.6% v/v | UEL: 7.5% v/v

Extinguishing Media: Use dry chemical, carbon dioxide, foam, water fog or spray. Do not use a forced water spray directly on burning oil since this scatters the fire. Use a smothering technique to extinguish fire.
Unusual Fire or Explosion Hazards: Vapors may travel to an ignition source and flash back. This fuel oil's volatility is similar to gasoline's.
Special Fire-fighting Procedures: Isolate hazard area and deny entry. Since fire may produce toxic fumes, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode and full protective clothing. If feasible, remove containers from fire. Be aware of runoff from fire control methods. Do not release to sewers or waterways due to health and fire or explosion hazard.

Section 5. Reactivity Data

Stability/Polymerization: Fuel oil no. 2 is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur.
Chemical Incompatibilities: Incompatible with strong oxidizing agents; heating greatly increases fire hazard.
Conditions to Avoid: Avoid heat and ignition sources.
Hazardous Products of Decomposition: Thermal oxidative decomposition of fuel oil no. 2 yields various hydrocarbons and hydrocarbon derivatives and partial oxidation products including carbon dioxide, carbon monoxide, and sulfur dioxide.

Section 6. Health Hazard Data

Carcinogenicity: Although it has not assigned an overall evaluation to fuel oil No. 2, the IARC has evaluated distillate (light) fuel oils as not classifiable as human carcinogen (Group 3; animal evidence limited).
Summary of Risks: Excessive inhalation of aerosol or mist can cause respiratory tract irritation, headache, dizziness, nausea, stupor, convulsions, [illegible]nsciousness, depending on concentration and time of exposure. Since intestinal absorption of longer chain hydrocarbons is lower than [illegible]tion from lighter fuels, a lesser degree of systemic effects and more diarrhea may result. When removed from exposed area, affected persons usually experience complete recovery. Hemorrhaging and pulmonary edema, progressing to renal involvement and chemical pneumonitis, may result if oil is aspirated into the lungs. These results are more likely when vomiting after ingestion rather than upon ingestion, as is often the case with lower viscosity fuels. A comparative ratio of oral-to-aspirated lethal doses may be 1 pt vs. 5 ml. Prolonged or repeated skin contact may cause irritation of the hair follicles and may block the sebaceous glands, producing a rash of acne pimples and spots, usually on arms and legs.
Medical Conditions Aggravated by Long-Term Exposure: None reported.
Target Organs: Central nervous system (CNS), skin, and mucous membranes.
Primary Entry Routes: Inhalation, ingestion.
Acute Effects: Systemic effects from ingestion include gastrointestinal (GI) irritation, vomiting, diarrhea, and, in severe cases, CNS depression, progressing to coma and death. Inhalation of aerosol or mists may result in increased rate of respiration, tachycardia (excessively rapid heart beat), and cyanosis (dark purplish coloration of the skin and mucous membranes caused by deficient blood oxygenation).
Chronic Effects: Repeated contact with the skin causes dermatitis.

FIRST AID

Eyes: Gently lift the eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately.
Skin: *Quickly* remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. If large areas of the body are exposed or if irritation persists, get medical help immediately. Wash affected area with soap and water.
Inhalation: Remove exposed person to fresh air and support breathing as needed.
Ingestion: Never give anything by mouth to an unconscious or convulsing person. If ingested, *do not induce vomiting* due to aspiration hazard. Contact a physician immediately.
After first aid, get appropriate in-plant, paramedic, or community medical support.
Note to Physicians: Gastric lavage is contraindicated due to aspiration hazard. Preferred antidotes are charcoal and milk. In cases of severe aspiration pneumonitis, consider monitoring arterial blood gases to ensure adequate ventilation. Observe the patient for 6 hr. If vital signs become abnormal or symptoms develop, obtain a chest x-ray.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: Notify safety personnel, evacuate area for large spills, remove all heat and ignition sources, and provide maximum explosion-proof ventilation. Cleanup personnel should protect against vapor inhalation and liquid contact. Clean up spills promptly to reduce fire or vapor hazards. Use noncombustible absorbent material to pick up small spills or residues. For large spills, dike far ahead to contain. Pick up liquid for reclamation or disposal. Do not release to sewers or waterways due to health and fire and/or explosion hazard. Follow applicable OSHA regulations (29 CFR 1910.120). Fuel oil no. 2 is an environmental hazard. Report large spills.
Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

EPA Designations
Listed as a RCRA Hazardous Waste (40 CFR 261.21): Ignitable waste
C[illegible]A Hazardous Substance (40 CFR 302.4): Not listed
S[illegible] Extremely Hazardous Substance (40 CFR 355): Not listed
SA[illegible] Toxic Chemical (40 CFR 372.65): Not listed

OSHA Designations
Air Contaminant (29 CFR 1910.1000, Subpart Z): Not listed

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133).
Respirator: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use a NIOSH-approved respirator with mist filter and organic vapor cartridge. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.*
Other: Wear impervious gloves, boots, aprons, and gauntlets to prevent skin contact.
Ventilation: Provide general and local explosion-proof ventilation systems to maintain airborne concentrations that promote worker safety and productivity. Local exhaust ventilation is preferred since it prevents contaminant dispersion into the work area by controlling it at its source.[103]
Safety Stations: Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities.
Contaminated Equipment: Never wear contact lenses in the work area: soft lenses may absorb, and all lenses concentrate, irritants. Remove this material from your shoes and equipment. Launder contaminated clothing before wearing.
Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Use and storage conditions should be suitable for an OSHA Class II combustible liquid. Store in closed containers in a well-ventilated area away from heat and ignition sources and strong oxidizing agents. Protect containers from physical damage. To prevent static sparks, electrically ground and bond all containers and equipment used in shipping, receiving, or transferring operations. Use nonsparking tools and explosion-proof electrical equipment. No smoking in areas of storage or use.
Engineering Controls: Avoid prolonged skin contact and vapor or mist inhalation. Use only in a well-ventilated area with personal protective gear. Institute a respiratory protection program that includes regular training, maintenance, inspection, and evaluation. Practice good personal hygiene and housekeeping procedures. Do not wear oil contaminated clothing. Do not put oily rags in pockets. When working with this material, wear gloves or use barrier cream.

Transportation Data (49 CFR 172.101)
DOT Shipping Name: Fuel oil
DOT Hazard Class: Combustible liquid
ID[illegible] NA1993
DC[illegible]bel: None
DOT Packaging Exceptions: 173.118a
DOT Packaging Requirements: None

MSDS Collection References: 1, 6, 7, 12, 73, 84, 103, 126, 127, 132, 133, 136, 143
Prepared by: MJ Allison, BS; Industrial Hygiene Review: DJ Wilson, CIH; Medical Review: W Silverman, MD; Edited by: JR Stuart, MS 97

APPENDIX B

SPECIFIC HEALTH AND SAFETY PROCEDURES

SOP No. 21 Decontamination
SOP No. 33 Personal Lifting Safety
SOP No. 34 Slip, Trip, Fall Prevention
SOP No. 41 Equipment and Hand Tools
SOP No. 45 Vehicle Safety
SOP No. 51 Equipment Inspection

1. OBJECTIVE

All personnel, tools and equipment which have entered the contaminated area (exclusion zone) on OHM Remediation Services Corp. (OHM) job sites involving hazardous materials require decontamination upon leaving the exclusion zone as required in 29 CFR 1910.120.

2. PURPOSE

The purpose of this procedure is to describe the requirements for decontamination.

3. REQUIREMENTS

3.1 The site health-and-safety plan will include a section on decontamination with specific requirements.

3.2 Every exit from the exclusion zone requires decontamination. The exception is an emergency situation. If an employee is injured, decontaminate to the extent possible given the nature of the injury.

3.3 Large equipment such as drill rigs and heavy equipment will be decontaminated by using a steam or hot water hose wash or by detergent wash.

3.4 Personnel decontamination will vary from site to site but will always include the following steps:

- Equipment drop
- Outer boots and gloves wash/rinse (step off)
- Outer boots and gloves removal
- Suit wash/rinse/removal
- Inner glove wash/rinse
- Face piece removal, wash/rinse
- Inner glove removal
- Field wash (face, hands)

3.5 Personnel assigned to the decontamination process will assist workers and decontaminate equipment and reusable protective gear.

3.6 An on-site shower facility will be provided whenever necessary.

3.7 During hazardous waste site activities, the site safety officer or the site supervisor will verify that proper decontamination procedures are being followed. Verification of decontamination for personal protective equipment and equipment may be accomplished by direct reading monitoring instruments and/or visual inspection as it is brought out of the contamination reduction zone. In some cases wipe samples may be collected to document that the decontamination effort is affective.

1. OBJECTIVE

All OHM Remediation Services Corp. (OHM) employees will use the proper lifting techniques and will utilize mechanical means when an objects' weight or bulk cannot be safely lifted by manual means.

2. PURPOSE

This procedure provides the proper lifting technique to be used by OHM employees. By utilizing proper technique, OHM employees can avoid debilitating lower back injuries.

3. REQUIREMENTS

3.1 Use mechanical material handling equipment whenever practical; however, mechanical lifting equipment shall be used only by qualified personnel.

3.2 If the material must be lifted manually, the following procedures apply:

3.2.1 Make certain that the load lifted can be safely handled. Consider the size, weight, and shape of the load. If necessary, get help.

3.2.2 Warm up for the lift by bending, stretching, and turning.

3.2.3 Do not attempt to lift more than 60 pounds.

3.2.4 Ensure proper lifting technique as follows.

- Place feet about shoulder width apart.
- Place one foot alongside the object being lifted and the other foot in front of the object.
- Bend at the knees to grasp the load.
- Maintain slight arch in the back when positioning over load.
- Draw the load close to the body, keeping the arms and elbows tucked into the side of the body.

- Take a firm hold on the load with the palms of the hands, not just the fingers.
- Maintain same slight arch in the back.
- Lift gradually, using your leg muscles. Make sure you draw the load close to your body.
- Do not twist the body when lifting. If you have to change direction, turn with your feet, not your trunk.
- Carry the object close to the body and watch where you are going. Do not carry objects in a manner that obstructs your vision.
- Avoid throwing or dropping objects. When lowering, maintain a firm grip. Watch out for pinching of the fingers. Use your leg muscles to lower the object by bending at the knees and keeping your back straight.

1. OBJECTIVE

All OHM Remediation Services Corp. (OHM) employees and contractors shall attempt to identify and eliminate situations where injuries or "near misses" could occur from slip, trip, or fall hazards.

2. PURPOSE

This procedure describes work practices that will reduce or eliminate slips, trips, and falls and thereby reduce or prevent the injuries associated with these types of accidents. The intent is to prevent injuries and maintain an efficient and healthy workforce.

3. REQUIREMENTS

3.1 Personnel shall keep the working area clean and orderly. Tools must not be left lying on the floor or decking where they present tripping hazards during a job or after a job is completed.

3.2 Small, loose items such as, disconnected joints of pipe, wood chips, other small objects and debris shall not be left lying around in any place, particularly in areas where personnel walk.

3.3 Walkways and grating shall be kept in good condition. Openings in walkways shall be repaired immediately, if possible. If not immediately repaired, the section must be roped off or closed until repairs can be made.

3.4 Holes in gratings shall be covered or surrounded by an adequate guard rail.

3.5 Oil spills and slippery spots shall be cleaned up immediately.

3.6 Extra precautions must be taken when walking on steel decking or catwalks during wet weather.

3.7 Personnel shall not take dangerous shortcuts. They shall avoid jumping from elevated places.

3.8 Personnel must always position themselves properly when using tools.

3.9 Personnel shall not walk or climb on piping, valves, fittings or any other equipment not designed as walking surfaces.

3.10 Stairways, walkovers or ramps shall be installed where personnel must walk or step over equipment in the course of their normal duties.

1. OBJECTIVE

All OHM Remediation Services Corp. (OHM) equipment and hand tools used at OHM facilities and project sites will be in good operating condition with all cords and safety guards in place.

2. PURPOSE

The purpose of this procedure is to describe the basic guidelines for the safe operation of hand and power tools used in OHM shops and project sites. This procedure is an overview of 29 CFR 1910.242 and .243.

3. REQUIREMENTS

3.1 All hand tools and power tools shall be in good repair and will be used only for the task for which they were designed.

3.2 Any tool that is damaged or defective will be tagged "out-of service" and will be repaired or destroyed.

3.3 Surfaces and handles shall be kept clean and free of excess oil to prevent slipping.

3.4 Sharp tools shall not be carried in pockets.

3.5 Upon completion of a job, tools will be cleaned and returned to the tool box or storage area.

3.6 Wrenches shall have a good bite before pressure is applied. Brace yourself by placing your body in the proper position so that in case the tool slips you will not fall. Make sure hands and fingers have sufficient clearance in the event the tool slips. Always pull on a wrench, never push.

3.7 When working with tools overhead, the tools will be placed in a holding receptacle or secured when not in use.

3.8 Throwing tools from place to place, from person to person, or dropping them from heights is not permitted.

3.9 Only non-sparking tools will be used in atmospheres which exhibit fire or explosive characteristics.

3.10 All tools should be inspected prior to start-up or use to identify any defects.

3.11 Powered hand tools should not be capable of being locked in the "on" position.

3.12 Power nailing or stapling tools must only be capable of activation when in contact with the work surface. All such power devices must have a safety interlock.

3.13 Loose clothing, long hair, loose jewelry, rings and chains will not be worn while working with power tools.

3.14 Cheater pipes will not be used.

3.15. In applications where injury to the operator might result if motors where to restart after power failure, provisions shall be made to prevent machines from automatically restarting upon restoration of power.

4. GRINDING TOOLS

4.1 The work rest for a grinder should be no more than 1/8 inch from the wheel and the tongue guard no more than 1/4 inch from the wheel. Frequent inspections are necessary to insure proper distances are maintained.

4.2 Work or tool rests should not be adjusted while the grinding wheel is moving.

4.3 Inspect the grinding wheel for cracks, chips or defects. Remove the wheel from service if any defects are found.

4.4 Goggles shall always be worn when grinding and a transparent full face shield may be worn in conjunction with the goggles.

4.5 The side of a grinding wheel shall never be used unless the wheel is designed for side grinding.

4.6 Grinding wheels are rated for specific speeds. Rating should be checked when installing a new wheel.

4.7 Grinding aluminum is prohibited.

5. POWER SAWS

5.1 Circular saws will be fitted with blade guards.

5.2 Damaged, bent or cracked saw blades will be immediately removed from service and destroyed.

5.3 Hand fed table saws will be fitted with a splitter to prevent the work from squeezing the blade and kicking back on the operator.

5.4 Hand held circular saws will be equipped with a lower guard which covers the blade to the depth of the teeth. The guard should freely return to the fully closed position when withdrawn from the work surface.

6. WOOD WORKING MACHINERY

6.1 Dust, chips and shavings are to be removed from the machines by brush or vacuum only. Do not use compressed air.

6.2 The on-off switch must be located to prevent accidental start up. The operator should be able to shut off the machine without leaving the work station.

6.3 Planers and joiners shall be guarded to prevent contact with the blades.

6.4 A push stick will be used when the cutting operation requires the hands of the operator to come close to the blade. Also, small pieces will require the use of a push stick.

6.5 Saw blades will be adjusted so that the blade only clears the top of the cut. The blade should never extend more than one-eighth of an inch above the top of the cut.

6.6 Automatic feed devices should be used whenever feasible.

7. PNEUMATIC TOOLS AND EQUIPMENT

7.1 Tool retainers will be installed and remain in operation on pneumatic impact tools to prevent the tool from being ejected from the barrel during use.

7.2 Safety lashing or tie wire will be used to secure connections between tool/hose/compressor if they are of the quick connection (Chicago fittings) type.

7.3 Hose should not be laid in walkways, on ladder or in any manner that presents a tripping hazard.

7.4 Compressed air should never be used to blow dirt from hands, face or clothing.

7.5 Compressed air should be reduced to less than 30 psi and be exhausted through a chip guarded nozzle if it is to be used for cleaning purposes. Proper respiratory, hand, eye and ear protection must be worn.

7.6 Never raise or lower a tool by the air hose.

8. EXPLOSIVE-ACTUATED FASTENER TOOLS

8.1 Explosive-actuated tools must comply with the requirements of the American National Standards Institute (ANSI) standard A 10.3 - 1970.

8.2 Explosive-actuated tools will be operated, repaired, serviced and handled only by individuals that have been trained by a manufacturer's representative and possess the proper license.

8.3 An explosive-actuated tool should never be used in a flammable or explosive atmosphere.

8.4 The operator must wear goggles or a full face shield as well as safety glasses.

8.5 All explosive-actuated tools must not be able to be fired unless the tool is pressed against the work surface with a force of at least 5 lb. greater than the weight of the tool.

8.6 The tool must not be able to fire if the tool is dropped when loaded.

8.7 Firing the tool should require two separate operations, with the firing movement being separate from the motion of bringing the tool to the firing position.

8.8 Never fire into soft substrate where there is potential for the fastener to penetrate and pass through, creating a flying projectile hazard.

8.9 Do not use explosive-actuated fasteners in reinforced concrete if there is the possibility of striking the re-bar. Nor should the tool be used on cast iron, glazed tile, surface hardened steel, glass block, live rock or face brick.

8.10 An explosive-actuated tool should be loaded only prior to the intended firing moment. Never load and leave an explosive-actuated tool unattended.

9. CHAIN SAWS

9.1 Inspect the saw prior to each use and periodically during daily use.

9.2 A chain saw must be operated with both hands at all times.

9.3 Never cut above chest height.

9.4 A saw chain should not move when the saw is in the idle mode.

9.5 Before a cut is initiated, the operator must first clear an escape path and have firm footing.

9.6 The saw must be shut off when carrying through brush and slippery surfaces. The saw may be carried while idling no more than 50 feet.

9.7 The operator of the saw must don all the applicable protective gear. This may include, but is not limited to, loggers safety hat, safety glasses, steel-toed boots, protective leggings, and hearing protection.

9.8 Saws should be fitted with an inertia break and hand guard.

10. HAND OPERATED PRESSURE EQUIPMENT

10.1 Pressure equipment such as grease guns, paint and garden sprayers shall be directed away from the body and other personnel in the area. The person operating any equipment such as this, which has a potential for eye injury, must wear protective goggles.

10.2 The noise produced when using certain types of pressure equipment may require the use of hearing protection.

10.3 Never allow the nozzle of a pressurized tool to come in contact with any body parts while operating. There is potential for injection of a chemical directly into the users body, resulting in severe injury or death.

10.4 Each operation must be evaluated for the need for respirator use.

1. OBJECTIVE

OHM Remediation Services Corp. (OHM) is greatly concerned about safe operation of motor vehicles. Motor vehicle usage presents the most significant work risk to employees. United States Department of Labor statistics indicate that motor vehicle deaths and injuries continue to be the number one cause of work-related death and serious injury. Accordingly, it is essential that OHM have an effective vehicle safety program.

2. PURPOSE

This section establishes requirements for safe operation of vehicles and equipment. This procedure is an overview of the guidelines in the proposed OSHA Motor Vehicle Safety Standard 29 CFR 1910.140.

3. RESPONSIBILITIES

3.1 The driver of a Company owned, rented or leased vehicle is responsible for:

- Operating the vehicle in a safe and legal manner.
- The safety of passengers.
- Reporting immediately any motor vehicle that is found to be defective or not operating properly.

3.2 The regional health and safety manager or site safety officer (SSO) is responsible for the following:

- Ensuring that all vehicle accident reports are processed and the required number of copies submitted to local, state, and federal agencies, to the resource manager and to the insurance carrier.
- Assuring that appropriate individuals, including the corporate vice president of health and safety are notified by telephone of accidents that involve fatalities or multiple serious injuries.

- Assuring that all accidents are documented and investigated. The investigation should be of sufficient depth to determine the cause and action required to prevent recurrence. Copies of all motor vehicle investigations shall be forwarded to the regional resource manager.

- Ensuring that during the selection process for leased or purchased vehicles, consideration is given to obtaining vehicles with essential safety devices. Such devices include anti-locking brakes, air bags, both front and rear seat shoulder harnesses, and all season traction tires. Each motor vehicle must be equipped with safety kits. Shoulder safety belts must not be attached to doors.

4. SEAT BELTS

OSHA has determined that the use of seat belts in motor vehicles can significantly reduce the number and seriousness of occupational motor vehicle accidents, including crashes, by requiring employers to ensure that each employee uses occupant safety belts. Accordingly, all OHM employees driving motor vehicles on company business (including rental cars, pick-up trucks, personal vehicles which are used for company compensated business travel, etc.) shall ensure that all occupants use seat belts at all times.

5. STATE AND LOCAL LAWS

5.1 All drivers shall drive OHM vehicles in accordance with the law.

5.2 Drivers shall not operate OHM vehicles which are known to be defective or not in compliance with the law.

5.3 Drivers of OHM vehicles are personally liable and responsible for the consequences of state and community violations.

5.4 The use of devices designed to identify active police speed detection systems (i.e. radar detectors) is prohibited in all OHM owned, leased and rented vehicles and in personal vehicles used for company compensated business travel.

6. SAFE DRIVING PRACTICES

6.1 Personnel shall operate vehicles in a defensive manner, i.e., being always on the alert and trying to anticipate what might occur under the existing conditions and driving in such a manner as to avoid hazards.

6.2 Personnel operating vehicles shall be considerate of, and courteous to, the traveling public and/or pedestrians and should yield the right-of-way to avoid accidents.

6.3 Personnel shall drive at speeds consistent with posted speed limits and prevailing conditions, such as weather, traffic and road conditions.

6.4 Personnel shall drive at all times with sufficient space around the vehicle to provide time to see conflicts arising, to react quickly, and to stop. The five keys to defensive driving will help accomplish a good space cushion.

- Aim high in steering.
- Get the big picture.
- Keep your eyes moving.
- Leave yourself an out.
- Make sure they see you.

7. GENERAL SAFETY RULES

7.1 Blind Curves - Slow down and sound horn when approaching a blind curve.

7.1 Driver's License - Operation of a vehicle without a valid operator's license is prohibited. Personnel operating vehicles regulated by the United States Department of Transportation (DOT) shall have a current commercial drivers license (CDL).

7.3 School Buses - Obey school bus laws. Slow down and prepare to stop when approaching school buses, children on foot or on bicycles.

7.4 Emergency Vehicles - Give ambulances, fire fighting equipment and other vehicles the right-of-way during emergencies and lend assistance if required.

7.5 Gasoline - Gasoline and other flammable/combustible liquids shall not be carried in or on vehicles other than in permanent gas tanks or in approved safety cans. Approved safety containers must be properly secured when being carried in the back of pick-up trucks.

7.6 Laws and Regulations - Learn and obey all local, state, and federal laws.

7.7 Parking - Equipment and vehicles shall be parked off roads and highways whenever possible. When it is not possible, the vehicle shall be marked by red lights or flares at night and red flags during the day. Wheels should be blocked or chocked.

7.8 Passing - Do not pass when visibility is restricted for any reason.

7.9 Pedestrians - Be constantly alert for pedestrians. Remember they have the right-of-way.

7.10 Slow Down - Slow down and use caution at blind intersections and crossings when visibility is limited or when passing work crews.

7.11 Smoking - Smoking is prohibited in all OHM owned, leased or rented vehicles.

7.12 Speeding - Speeding is strictly prohibited.

7.13 Thumbs Up - Keep thumbs up when driving. Do not grasp the steering wheel with thumbs inside the spokes.

7.14 Visibility - Make sure all windshields, side and rear windows, mirrors and lights are clean before moving vehicles.

7.15 Warning Signs and Traffic Signals - Be alert for and strictly obey all directional and warning signs and signals.

7.16 Seat Belts - If unit is equipped with seat belts, operator and passengers must keep seat belts fastened at all times during operations.

8. DOT REGULATED VEHICLES

8.1 All OHM personnel operating a DOT regulated vehicle must hold a valid CDL from their state of residence.

8.2 Air Hose and Couplings - Periodically check air hoses and couplings and compressor hoses for worn or damaged parts. Do not crimp air hose to disconnect couplings; shut off air at the valve.

8.3 Backing Up - Never start or back up equipment or vehicles until you are sure the way is clear. If necessary, have another person guide you safely. Back up alarms, when required, must be working and audible over the surrounding noise.

8.4 Ear Protection - Ear plugs or other approved ear protection shall be worn when necessary. Use of ear plugs in cars or trucks on public highways may be against local laws.

8.5 Fueling and Repair - No fueling or repair shall be made to equipment while it is in operation. The motor shall be turned off and the bucket, blade, gate or boom shall be lowered to the ground or blocks.

8.6 Housekeeping - Operators should keep deckplates, steps, rung and hand rails on equipment free of grease, oil, ice, and mud. The inside of the cabs shall also be kept clean and free of flammable items.

8.7 Inspections - Equipment and vehicles shall not be used until known defects or discrepancies are corrected. Inspections shall be made at the start of each shift and defects or discrepancies shall be reported to the supervisor immediately.

8.8 Jumping - Jumping on or off equipment is prohibited. When climbing on or off equipment or vehicles, face the unit and use secure hand and foot holds to prevent slips and falls. Always look where you are stepping.

8.9 Know your Equipment or Vehicle - It is your responsibility to be thoroughly familiar with all features and manuals and if you are in doubt as to correct operating techniques or safety features, ask your supervisor at once.

8.10 Overloading - Avoid overloading vehicle beds and equipment buckets and beds. Excessive material can damage the unit and falling material can cause serious injury.

8.11 Power Lines - When operating trucks, cranes, shovels or other units, always use caution around power lines and maintain a minimum safe clearance of 10 feet or more depending upon the voltage.

8.12 Riders - Only authorized persons will be permitted to ride in equipment or vehicles.

8.13 Securing Loads - The operator of the vehicle is responsible for ensuring that their load is secure and will not shift during transport.

8.14 Long Hauls - On long hauls, binders should be checked periodically (at least during each rest or service stop) to make sure they are still secure and tight.

8.15 Overhanging and Oversize Loads - When it is necessary to transport overhanging or oversize loads, the appropriate signs and red flags and red lights will be used. When necessary, use flag cars.

8.16 Safety Chains - Safety chains of sufficient size and strength shall be installed on all trailers being towed.

8.17 Safety Hooks - Use safety hooks with latches on all winch truck cables.

8.18 Side Roads and Railroad Tracks - Stop and look both ways before crossing railroad tracks or before driving onto a highway from a side road.

8.19 Stopping - Do not stop vehicles in the middle of the road to talk to occupants in another vehicle. Always pull to the side or off the road to maintain a clear, safe road.

8.20 Turn signals - Always use turn signals, emergency and other signals as appropriate when turning, stopping, passing, or performing other vehicle operations.

8.21 Vehicle Maintenance - It is the driver's responsibility to see that his vehicle is in good mechanical condition before and during operation. Special emphasis should be placed on ensuring the brakes, lights, horn, windshield wiper, tires and steering assembly are in good order. Defects must be reported and corrected immediately.

1. OBJECTIVE

OHM Remediation Services Corp. (OHM) will inspect all equipment before use to ensure that it is proper working order and free from all safety deficiencies.

2. PURPOSE

The procedure provides for the systematic inspection of tools and equipment thereby ensuring periodic maintenance and if necessary, the removal from service units which are found to be defective. OHM shall maintain a comprehensive equipment inspection plan that meets the requirements for portable tools and heavy equipment as found in 29 CFR 1926, Subpart I (1926.300 -.305) and 29 CFR 1910, Subpart P (1910.241-.247) and 29 CFR 1926, Subpart O.

3. PORTABLE TOOL REQUIREMENTS

3.1 All hand and power tools used at OHM facilities or project sites, whether furnished by OHM or the employee, shall be maintained in a safe condition. Each OHM supervisor is responsible for periodically inspecting all tools in the work area.

3.2 All tools shall be used in strict compliance with the manufacturer's instructions and only for the use intended.

3.3 Power tools shall be equipped and used with guards in place.

3.4 Any tools having reciprocating, rotating, or moving parts shall be guarded.

3.5 OHM supervisors shall ensure that unsafe hand tools are removed from service. Unsafe tools include, but are not limited to:

- Wrenches, with jaws sprung which slip when used.
- Impact tools (hammers, drift pins, wedges, chisels) with mushroomed heads.
- Wooden handles which are cracked, splintered, duct taped, and/or loose on the tool.

3.6 Electric power operated tools shall be approved double insulated, or grounded. Electric cords shall not be used for hoisting or lowering electric tools.

3.7 Pneumatic power tools shall be secured to the hose by a positive means to prevent accidental disconnection. Pneumatic hoses shall not be used for hoisting or lowering tools.

3.8 Fuel powered tools shall be stopped while being refueled, serviced or, maintained. When fuel powered tools are used in confined spaces, adequate ventilation shall be provided.

3.9 Tools which are not serviceable shall be immediately removed from service and repaired, or destroyed.

4. HEAVY EQUIPMENT REQUIREMENTS

The equipment operator is responsible to make daily inspections of their equipment and to note any deficiencies. These deficiencies, no matter how small, should be reported immediately to the site supervisor. In this way, many potential breakdowns of your machine or safety hazards can be avoided by corrective maintenance.

4.1 Check the engine oil level. If low, add enough to bring the level to the full mark.

4.2 Check the coolant level. Add water coolant if level is low.

4.3 Check fuel level. Refill if necessary.

4.4 Check tires for proper inflation, worn spots, cuts or breaks and objects imbedded in or between the tires. Correct or report conditions when found.

4.5 Check under the vehicle for signs of oil, water, fuel, or other leaks. If leaks are seen, report them to your supervisor.

4.6 Check head, tail, and clearance lights. If any are burned out, damaged, or missing, report them at once.

4.7 Check batteries at least once a week for proper electrolyte level, leaks, and loose connections.

4.8 Report any change in steering play or vibration in the steering mechanisms.

4.9 Check the horn. If inoperative, have it repaired.

4.10 Check the condition of the windshield, rear view mirrors and other glass. Report broken, cracked or missing glass. Clean all dirty or wet glass. Adjust rear view mirrors.

4.11 Check belts on air compressor, generator, water pump, and any other. If loose or torn, report to your supervisor.

4.12 Check special equipment such as wrenches, jacks, fire extinguisher, etc. Report any that are missing or unserviceable.

4.13 Check the tracks for any loose bolts, nuts, proper adjustment, unusual wear patterns, cracks etc.

4.14 Check for any worn or frayed cables.

4.15 Check the boom, buckets and gantry for cracks, bent members, worn teeth and cutting edges.

4.16 Check fluid level of the hydraulic system.

4.17 Check for dirty or inoperative air cleaners and filters.

4.18 Check for proper brake operation.

4.19 Check to make sure the equipment is equipped with a back-up alarm and the alarm is working properly.

4.20 Make a complete walk-around inspection of your unit. In this manner you may detect damage before you put the machine to work.

4.21 When walking up to or around the unit, observe its condition and notice if anyone or anything is on or under it. By checking now, you may prevent injury or damage when you start out.

4.22 If applicable, drain water off of the lubricating oil sump daily.

4.23 In cold weather, bleed the air tank and, if equipment is equipped, use the alcohol injector pump.

OHM Corporation

DAILY HEAVY EQUIPMENT SAFETY INSPECTION CHECKLIST

EQUIPMENT I.D. NO.: _____ EQUIPMENT NAME: _____ WEEK OF: _____

ITEM INSPECTED	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Falling Object Protective Structure (FOP)							
Roll-Over Protective Structure (ROP)							
Seat Belts							
Operator Seat Bar(s)							
Side Shields, Screens or Cab							
Lift Arm Restraining Device							
Grab Handles							
Back-Up Alarm - Working							
Lights							
Guards							
Horn							
Anti-Skid Tread Steps Clear of Mud							
Safety Signs (i.e. counterbalance swing area)							
Fire Extinguisher							
General Condition							
Fuel Connection							
Oil (full and no leaks)							
Clear Of Extra Materials							
Controls function properly							
Damaged Parts							
Hydraulic System (full and no leaks)							
Parking brake							
Lift Arm and Bucket							
Tires/Tracks							
Steering							
Inspectors Name and Employee No.							

INSTRUCTIONS - Inspect all applicable items indicated, each shift. If an unsatisfactory condition is observed, suspend operation of the equipment and report the unsatisfactory condition to the site supervisor immediately.

APPENDIX C

HEALTH AND SAFETY FORMS

Accident/Injury/Illness Report Form
Accident/Injury/Illness Status Report Form
OSHA 200 Log
Daily Safety Meeting Log
Instrument Calibration Logs (LEL/PID)
Air Monitoring Instrument (Direct Reading) Logs
Heavy Equipment Inspection Forms
Fire Extinguisher Checklist/Inventory Form
SCBA/SAR Inspection Forms
Project Site Safety Inspection Checklist (weekly)
SSO Daily Report

OHM Remediation Services Corp.

SUPERVISOR'S ACCIDENT INVESTIGATION REPORT

Check all that apply: ☐ Injury/Illness ☐ Fatality ☐ Complaint ☐ Not Work Related
☐ Auto Liability ☐ Auto Physical Damage
☐ General Liability ☐ Property Damage ☐ Environmental

Exact Date and Time of Incident _____ ____ a.m. ____ p.m. Shift ☐ 1st ☐ 2nd ☐ 3rd

OHM CORPORATION _____
(Employee's Home Division/Regional Office/Subsidiary)

Address _____
City State

PROJECT IDENTIFICATION (Project Related Incidents Only)

Project No. _____ Project Start Date _____ Completion Date _____

Location (Full Address) _____

Telephone _____ Project Manager _____

EMPLOYEE INFORMATION

Employee's Full Name _____ Employee No. _____

☐ Regular Full Time ☐ Regular Part Time ☐ Temporary ☐ Non-Employee

Home Address _____

Date of Birth _____ Age ____ Social Security No. ____-____-____ Sex ☐ M ☐ F

Job Title _____ Department _____ Date Hired _____

Length of Employment ☐ In Training, ☐ ____ Mos. ☐ ____ Yrs. Time in Job Class ☐ In Training, ☐ ____ Mos. ☐ ____ Yrs.

Name of Employee's Direct Supervisor _____

Supervision at Time of Accident ☐ Directly Supervised ☐ Indirectly Supervised ☐ Not Supervised

Specific Location Where Incident Occurred _____

_____ ☐ OHM Facility ☐ Project Site ☐ Other _____

To Whom Was Incident Reported? _____ When? _____

Witness Name/Address _____

Witness Job Title/Reason in Area _____

Describe Employee's Job Duties Being Performed When Injured _____

_____

_____

Describe Fully the Events Which Resulted in the Accident/Injury/Illness _____

_____

(Use Extra Page If Needed)

Describe the Injury/Illness in Detail; Indicate Part of Body Affected _____

Name of Object/Substance Which Directly Injured Employee _____

Has/Will Employee Seek Treatment? ☐ Yes ☐ No Did Employee Die? ☐ Yes ☐ No

Name/Address of Hospital/Doctor _____

Describe Treatment Given _____

Was Employee Able To Return To Work? ☐ Yes ☐ No

If YES: ☐ Regular Work ☐ Work with Restricted Activities

Restriction _____

If NO: Date Lost Time Began _____ Date/Est. Date To Return _____

Identify Personal Protective Equipment Used by Injured Employee _____

What Training or Instruction Had Been Given? _____

How Could This Accident Have Been Prevented? _____

Corrective Action _____

Signature _____ (Supvr/Manager) Date _____

Signature _____ (Safety Officer) Date _____

Signature _____ (Proj. Manager) Date _____

DISTRIBUTION Original To: Division Secretary at Employee's Home Office

Copy To: ☐ Corporate Health & Safety ☐ Regional Health & Safety Manager
☐ Project Manager ☐ Site Safety File

OHM Remediation
Services Corp.

EMPLOYEE'S ACCIDENT REPORT

Check all that apply: ☐ Injury/Illness ☐ Fatality ☐ Complaint ☐ Not Work Related
☐ Auto Liability ☐ Auto Physical Damage
☐ General Liability ☐ Property Damage ☐ Environmental

Date, Day, and Time of Incident _____ _____ ☐ am ☐ pm

Your Name: _____ Your Emp. No.: _____

Home Address: _____ Home Phone # _____

Birth Date: _____ Age: _____ Social Security No.: _____ Sex: _____

Job Title: _____ Dept.: _____ Date of Hire: _____

Accident location (If Project related, give Project #, Client, Address and Phone #): _____

_____

On OHM premises? ☐ Yes ☐ No

Witness Name/Address _____

How did accident occur?: _____

_____

_____

Was medical attention required? ☐ Yes ☐ No

Did you return to work? ☐ Yes ☐ No Your usual Job? ☐ Yes ☐ No If not explain: _____

Was the accident reported to a supervisor? ☐ Yes ☐ No Supervisor's name: _____

_____

Employee's Signature Date

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

Form 0085
H & S Dept.
2/95

INJURY/ILLNESS STATUS REPORT

Employee _____ Social Security No. _____

Home Address _____ Phone _____

Job Title _____ Home Division _____

Date of Injury/Illness _____ Description of Injury/Illness _____

AUTHORIZATION TO RELEASE INFORMATION

I hereby authorize all physicians, hospitals, clinics and all persons to discuss with, and release to OHM Remediation Services Corp. and its authorized agents, any information or copies thereof acquired in the course of my examination or treatment for the injury identified above. This authorization shall not extend to any other medical condition, past or present, unless the same is causally or historically relevant or related to the injury referred to above.

Employee Signature _____ Date _____

PHYSICIAN OR MEDICAL PERSONNEL TO COMPLETE REMAINDER OF FORM

WORK STATUS

☐ Employee may return to work with no limitations

_____
Date

Employee may return to work on _____
Date
with limitations indicated. These restrictions are in effect until _____ or until Reevaluation
Date
on _____
Date

Employee may work _____ hours in a work day.

☐ Employee is totally incapacitated at this time.

Patient will be reevaluated on _____
Date

DEGREE

☐ **Sedentary Work.** Lifting 10 pounds maximum and occasionally lifting and/or carrying such articles as dockets, ledgers, and small tools. Although a sedentary job is defined as one which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.

☐ **Light Work.** Lifting 20 pounds maximum with frequent lifting and/or carrying of objects weighing up to 10 pounds. Even though the weight lifted may be only a negligible amount, a job is in this category when it requires walking or standing to a significant degree or when it involves sitting most of the time with a degree of pushing and pulling of arm and/or leg controls.

☐ **Medium Work.** Lifting 50 maximum with frequent lifting and/or carrying of objects weighing up to 25 pounds.

☐ **Heavy Work.** Lifting 100 pounds maximum with frequent lifting and/or carrying of objects weighing up to 50 pounds.

☐ **Very Heavy Work.** Lifting objects in excess of 100 pounds with frequent lifting and/or carrying of objects weighing 50 pounds or more.

LIMITATIONS

1. The Employee may:
   a. Stand/walk
      ☐ None ☐ 1-4 hours
      ☐ 4-6 hours ☐ 6-8 hours
   b. Sit
      ☐ 1-3 hours ☐ 3-5 hours
      ☐ 5-8 hours
   c. Drive
      ☐ 1-3 hours ☐ 3-5 hours
      ☐ 5-8 hours
2. Employee may use hands for repetitive:
   ☐ Single grasping ☐ Pushing & pulling
   ☐ Fine manipulation
3. Employee may use feet for repetitive movement as in operating foot controls:
   ☐ Yes ☐ No
4. Employee is able to:

	Frequenty	Occasionally	Not at All
a. Bend	☐	☐	☐
b. Squat	☐	☐	☐
c. Climb	☐	☐	☐

PHYSICIAN'S REPORT

Diagnosis _____

Treatment _____

Other _____

_____

.e of this Report _____

☐ Referred to company physician
☐ Employee referred/admitted to:

Whom _____

Address _____

Phone _____

Date _____ Time _____

Physician's Name _____ Physician's Signature _____
Print

Address _____ Phone _____

White - Company Copy
Canary - Clinic Copy

Bureau of Labor Statistics
Log and Summary of Occupational
Injuries and Illnesses

U.S. Department of Labor

For Calendar Year 19____ Form approved OMB No. 1220-0029

INJURIES

ILLNESSES

POST ONLY THIS PORTION OF THE LAST PAGE NO LATER THAN FEBRUARY 1.

DAILY SAFETY MEETING LOG

HM Corporation

Date:_____ Client:_____

Specific Location:_____ Job No.:_____

SAFETY TOPICS PRESENTED:

Protective Clothing/Equipment:_____

_____

Chemical Hazards:_____

_____

Physical Hazards:_____

_____

Emergency Procedures:_____

_____

Hospital/Clinic:_____ Phone:_____

Hospital Address:_____

EMS Phone:_____

Special Equipment:_____

_____

Other:_____

_____

ATTENDEES:

Name Printed:	Signature:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Meeting Conducted By:

_____ _____

Name Printed Signature

DAILY SAFETY MEETING LOG
(CONTINUATION PAGE)

Date:_____ Client:_____

Specific Location:_____ Job No._____

SAFETY TOPICS PRESENTED:

ATTENDEES:

Name Printed:	Signature:

OHM Remediation Services Corp.

COMBUSTIBLE GAS INDICATOR CALIBRATION DATA SHEET

_____

_____

PROJECT # _____

INSTRUMENT NO.: _____ CALIBRATION GAS % LEL: _____

CALIBRATION GAS: _____ CHEMICAL MONITORED: _____

CAL GAS O_2 CONCENTRATION: _____ CONVERSION FACTOR: _____

DATE	PERSON CALIBRATING	CGI READING (% LEL)	OXYGEN READING	TOX IN PPM	REMARKS

NOTE: METER READING x CONVERSION FACTOR = LEL OF ATMOSPHERE
(Conversion factor can be found in instrument manual)

OHM Corporation

HNU-PHOTOIONIZATION DETECTOR
CALIBRATION DATA SHEET

____

____

PROJECT # ____________

DATE:_____________

INSTRUMENT NO. ___________ CALIBRATION GAS: ____________________

LAMP TYPE: _____________ CALIBRATION PERFORMED BY:_________________

TIME	WEATHER CONDITIONS (TEMP/HUMIDITY)	SPAN SETTING	READING (PPM)	REMARKS

OHM Remediation Services Corp.

DIRECT READING INSTUMENT LOG

NAME: _____ JOB NO.: _____

PROJECT: _____ OPERATOR: _____

INSTRUMENT: _____ CALIBRATION: _____

PROJECT ACTIVITIES: _____

_____

_____

_____

BACKGROUND READING: _____

WEATHER CONDITIONS: _____

TIME	LOCATION	READING	DURATION	COMMENTS

OHM Corporation

DAILY HEAVY EQUIPMENT SAFETY INSPECTION CHECKLIST

EQUIPMENT I.D. NO.: _____ EQUIPMENT NAME: _____ WEEK OF: _____

ITEM INSPECTED	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
Falling Object Protective Structure (FOP)							
Roll-Over Protective Structure (ROP)							
Seat Belts							
Operator Seat Bar(s)							
Side Shields, Screens or Cab							
Lift Arm Restraining Device							
Grab Handles							
Back-Up Alarm - Working							
Lights							
Guards							
Horn							
Anti-Skid Tread Steps Clear of Mud							
Safety Signs (i.e. counterbalance swing area)							
Fire Extinguisher							
General Condition							
Fuel Connection							
Oil (full and no leaks)							
Clear Of Extra Materials							
Controls function properly							
Damaged Parts							
Hydraulic System (full and no leaks)							
Parking brake							
Lift Arm and Bucket							
Tires/Tracks							
Steering							
Inspectors Name and Employee No.							

INSTRUCTIONS - Inspect all applicable items indicated, each shift. If an unsatisfactory condition is observed, suspend operation of the equipment and report the unsatisfactory condition to the site supervisor immediately.

OHM Corporation

PORTABLE FIRE EXTINGUISHER CHECKLIST

Office/Shop Location_____

INVENTORY

Serial No.	Location	Serial No.	Location
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Inspection Points

1. Fire extinguisher is in assigned location
2. Access is not obstructed
3. Fire extinguisher is fully charged
4. Lock-pin in place
5. Test tag attached and current

INSPECTIONS COMPLETED

Month	Initials	Month	Initials
January	_____	July	_____
February	_____	August	_____
March	_____	September	_____
April	_____	October	_____
May	_____	November	_____
June	_____	December	_____

OHM Corporation

SCBA MONTHLY INSPECTION CHECKLIST

SCBA ID NO._____

YEAR_____

ITEM INSPECTED	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Connections are tight												
Face-piece in good condition												
Rubber parts pliable												
Regulator functions properly												
Alarm bell functions properly												
Cylinder fully charged												
Cylinder hydrotest current (within 3 years)												
Unit is clean												
Emergency bypass functions properly												
Inspectors initials and employee number												

DEFICIENCIES IN ABOVE ITEMS REQUIRE UNIT TO BE TAGGED AND REMOVED FROM SERVICE.

OHM Corporation

SAR MONTHLY INSPECTION CHECKLIST

SAR ID NO._____ EGRESS ID NO._____ YEAR_____

ITEM INSPECTED	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Connections are tight												
Face-piece in good condition												
Rubber part, hoses pliable and good condition												
Regulators function properly/without flutter or free flow												
Cylinder fully charged Pressure gauge intact												
Cylinder hydrostatic test current (due at 5 yrs)												
Unit is clean, straps in good condition												
Exhalation valve functions properly												
Cylinder recharged after inspection												
Inspectors initials and employee number												

OHM Corporation

OHM Corporation
Project Site Safety Inspection Checklist

Project Name:_____
Project Number:_____
Project Location:_____
Site Supervisor:_____
Inspector's Name:_____

	YES	NO
MEDICAL AND FIRST AID		
1. Are First Aid Kits accessible and identified?	____	____
2. Are emergency eye wash and safety showers available?	____	____
3. Are daily logs for first aid present and up to date?	____	____
4. Are First Aid Kits inspected weekly?	____	____
PERSONAL PROTECTIVE EQUIPMENT		
1. Have levels of personnel protection been established?	____	____
2. Do all employees know their level of protection?	____	____
3. Are respirators used decontaminated, inspected, and stored according to standard procedures?	____	____
4. Have employees been fit-tested?	____	____
5. Is defective personal protective equipment tagged?	____	____
6. Does compressed breathing air meet CGA Grade "D" minimum?	____	____
7. Are there sufficient quantities of safety equipment and repair parts?	____	____
8. Does Level D protection consist of safety glasses, hard hats, and steel toe boots?	____	____
FIRE PREVENTION		
1. Is smoking prohibited in flammable storage areas?	____	____
2. Are fire lanes established and maintained?	____	____
3. Are flammable dispensing systems grounded and bonded?	____	____
4. Are approved safety cans available for storage of flammable liquids?	____	____
5. Has the local fire department been contacted?	____	____
6. Are fire extinguishers available near refueling areas?	____	____
AIR MONITORING		
1. Is air monitoring being conducted as required by the site safety plan?	____	____
2. Are air monitoring instruments calibrated daily?	____	____
3. Is the air monitoring logbooks up to date?	____	____
4. Are user manuals available?	____	____
5. Are instruments clean and charged?	____	____

WELDING AND CUTTING (29 CFR 1926 Subpart J)

1. Are fire extinguishers present at welding and cutting operations? ____ ____
2. Are confined spaces; such as, tanks, pipelines, and trenches; tested prior to cutting and welding operations? ____ ____
3. Are Hot Work Permits available? ____ ____
4. Are proper helmets, goggles, aprons, and gloves available for welding and cutting operations? ____ ____
5. Are welding machines properly grounded? ____ ____
6. Are oxygen and fuel gas cylinders stored a minimum of 20 feet apart? ____ ____
7. Are only trained personnel permitted to operate welding and cutting equipment? ____ ____

HAND AND POWER TOOLS (29 CFR 1926 Subpart I)

1. Are defective hand and power tools tagged and taken out of service? ____ ____
2. Is eye protection available and used when operating power tools? ____ ____
3. Are guards and safety devices in place on power tools? ____ ____
4. Are power tools inspected before each use? ____ ____
5. Are non-sparking tools available? ____ ____

MOTOR VEHICLES

1. Are vehicles inspected daily? ____ ____
2. Are personnel licensed for the equipment they operate? ____ ____
3. Are unsafe vehicles tagged and reported to supervision? ____ ____
4. Are vehicles shut down before fueling? ____ ____
5. When backing vehicles, are spotters provided? ____ ____
6. Is safety equipment on vehicles? ____ ____
7. Are loads secure on vehicles? ____ ____
8. Are vehicle occupants using safety belts if provided? ____ ____

EMERGENCY PLANS

1. Are emergency telephone numbers posted? ____ ____
2. Have emergency escape routes been designated? ____ ____
3. Are employees familiar with the emergency signal? ____ ____
4. Has the emergency route to the hospital been established and posted? ____ ____

MATERIALS HANDLING

1. Are materials stacked and stored as to prevent sliding or collapsing? ____ ____
2. Are flammables and combustibles stored in non-smoking areas? ____ ____
3. Is machinery braced when personnel are performing maintenance? ____ ____
4. Are tripping hazards labeled? ____ ____
5. Are semi-trailers chocked? ____ ____
6. Are fixed jacks used under semi-trailers? ____ ____
7. Are riders prohibited on materials handling equipment? ____ ____
8. Are cranes inspected as prescribed and logged? ____ ____
9. Are OSHA approved manlifts provided for the lifting of personnel? ____ ____
10. Are personnel in manlifts wearing approved fall protection devices? ____ ____

FIRE PROTECTION

1. Has a fire alarm been established? ____ ____
2. Do employees know the location and use of all fire extinguishers? ____ ____
3. Are fire extinguisher locations marked? ____ ____

FIRE PROTECTION (Continued)

4. Are combustible materials segregated from open flames? ____ ____
5. Have fire extinguishers been professionally inspected during the last year? ____ ____
6. Are fire extinguishers visually inspected monthly? ____ ____

ELECTRICAL (29 CFR 1926 Subpart K)

1. Is electrical equipment and wiring properly guarded? ____ ____
2. Are electrical lines, extension cords, and cables guarded and maintained in good conditions? ____ ____
3. Are extension cords kept out of wet areas? ____ ____
4. Is damaged electrical equipment tagged and taken out of service? ____ ____
5. Have underground electrical lines been identified by proper authorities? ____ ____
6. Has positive lock-out system been established by a certified project electrician? ____ ____
7. Are GFCI's being used as needed? ____ ____
8. Are extension cords being inspected daily for ground continuity and structural integrity? (i.e., group pin in place, no unapproved splices) ____ ____
9. Are warning signs exhibited on high voltage equipment (250V or greater)? ____ ____
10. Is extension cord inspection documented?

CRANES AND RIGGING (29 CFR 1926.550)

1. Are cranes inspected daily? ____ ____
2. Are crane swing areas barricaded or demarked? ____ ____
3. Is all rigging equipment tagged with an identification number and rated capacity? ____ ____
4. Is rigging equipment inspection documented? ____ ____
5. Are slings, chains, and rigging inspected before each use? ____ ____
6. Are damaged slings, chains, and rigging tagged and taken out of service? ____ ____
7. Are slings padded or protected from sharp corners? ____ ____
8. Do employees keep clear of suspended loads? ____ ____
9. Are employees in the lift area wearing hard hats? ____ ____

COMPRESSED GAS CYLINDERS

1. Are breathing air cylinders charged only to prescribed pressures? ____ ____
2. Are like cylinders segregated in well ventilated areas? ____ ____
3. Is smoking prohibited in cylinder storage areas? ____ ____
4. Are cylinders stored secure and upright? ____ ____
5. Are cylinders protected from snow, rain, etc.? ____ ____
6. Are cylinder caps in place before cylinders are moved? ____ ____
7. Are fuel gas and 02 cylinders stored a minimum of 20 feet apart? ____ ____
8. Are propane cylinders stored and used outside the structure? ____ ____

SCAFFOLDING (29 CFR 1926.451)

1. Is scaffolding placed on a flat, firm surface? ____ ____
2. Are scaffold planks free of mud, ice, grease, etc.? ____ ____
3. Is scaffolding inspected before each use? ____ ____
4. Are defective scaffold parts taken out of service? ____ ____
5. Does mobile scaffold height exceed 4 times the width or base dimension? ____ ____
6. Does scaffold planking overlap a minimum of 12 inches? ____ ____
7. Does scaffold planking extend over end supports between 6 to 18 inches? ____ ____
8. Are employees restricted from working on scaffolds during storms and high winds? ____ ____
9. Are all pins in place and wheels locked? ____ ____
10. Is perimeter guarding (top rail, mid rail, and toe board) present? ____ ____

WALKING AND WORKING SURFACES

1. Are ladders a Type I or Type II? ____ ____
2. Are accessways, stairways, ramps, and ladders clean of ice, mud, snow, or debris? ____ ____

3. Are ladders being used in a safe manner? ____ ____
4. Are ladders kept out of passageways, doors, or driveways? ____ ____
5. Are broken or damaged ladders tagged and taken out of service? ____ ____
6. Are metal ladders prohibited in electrical service? ____ ____
7. Are stairways and floor openings guarded? ____ ____
8. Are safety feet installed on straight and extension ladders? ____ ____
9. Is general housekeeping up to OHM standards? ____ ____
10. Are ladders tied off? ____ ____

SITE SAFETY PLAN

1. Is a site safety plan available on site or accessible to all employees? ____ ____
2. Does the safety plan accurately reflect site conditions and tasks? ____ ____
3. Have potential hazards been described to employees on site? ____ ____
4. Is there a designated safety official on site? ____ ____
5. Have all employees signed the acknowledgement form? ____ ____

SITE POSTERS

1. Are the following documents posted in a prominent and accessible area?

   A. Minimum Wage ____ ____
   B. OSHA Health and Safety ____ ____
   C. Equal Employment Opportunity ____ ____

SITE CONTROL

1. Are work zones clearly defined? ____ ____
2. Are support trailers located to minimize exposure from a potential release? ____ ____
3. Are support trailers accessible for approach by emergency vehicles? ____ ____
4. Is the site properly secured during and after work hours? ____ ____

HEAVY EQUIPMENT (29 CFR 1926 Subpart O)

1. Is heavy equipment inspected as prescribed by the manufacturer? ____ ____
2. Is defective heavy equipment tagged and taken out of service? ____ ____
3. Are project roads and structures inspected for load capacities and proper clearances? ____ ____
4. Is heavy equipment shut down for fueling and maintenance? ____ ____
5. Are back-up alarms installed and working on equipment? ____ ____
6. Are designated operators only operating equipment? ____ ____
7. Are riders prohibited on heavy equipment? ____ ____
8. Are guards and safety appliances in place and used? ____ ____

EXCAVATION (29 CFR 1926 Subpart P)

1. Has a "competent person" been designated to supervise this excavation activity? ____ ____
2. Have utility companies been advised of excavation activities? ____ ____
3. Prior to opening excavations, are utilities located and marked? ____ ____
4. Has a professional engineer evaluated all excavations greater than 20 feet deep? ____ ____
5. Is there rescue equipment on-site and accessible to excavation? ____ ____
6. Is excavated material placed a minimum of 24 inches from the excavations? ____ ____
7. Are the sides of excavations sloped or shored to prevent caving in on employees? ____ ____

EXCAVATION (29 CFR 1926 Subpart P - Continued)

8. Has excavation greater than 4-feet deep been monitored for hazardous atmospheres (i.e. LEL/02 deficiency)? ____ ____
9. Are ladders used in excavations over 4-feet deep? ____ ____
10. Are ladders present every 25 feet? ____ ____
11. Are barriers, i.e. guardrails or fences placed around excavations near pedestrian or vehicle thoroughfares? ____ ____
12. Is excavation inspected daily by competent persons and documented? ____ ____

CONFINED SPACES (Proposed Regulation 29 CFR 1910.146)

1. Have employees been trained in the hazards of confined spaces? ____ ____
2. Are confined space permits available on project site? ____ ____
3. Is the contractors confined space safety procedure on the project? ____ ____
4. Has a rescue plan been established? ____ ____

PERSONNEL DECONTAMINATION

1. Are decontamination stations set up on site? ____ ____
2. Are waste receptacles available for contaminated clothing? ____ ____
3. Are steps taken to contain liquids used for decontamination? ____ ____
4. Have decontamination steps and procedures been covered by the site supervisor or safety official? ____ ____
5. Is all personal protective equipment and respiratory equipment being cleaned on a daily basis? ____ ____

EQUIPMENT DECONTAMINATION

1. Has equipment decontamination been established? ____ ____
2. Is contamination wash water properly contained and disposed of? ____ ____
3. Are all pieces of equipment inspected for proper decontamination before leaving the site? ____ ____
4. Is all equipment being cleaned on a daily basis? ____ ____

HAZARD COMMUNICATION (29 CFR 1926.59)

1. Is there a written program on-site? ____ ____
2. Is there a MSDS FOR EACH CHEMICAL present on-site? ____ ____
3. Are all containers properly labeled, as to content, hazard? ____ ____
4. Have employees been trained on chemical hazards? ____ ____
5. Are employee's trained on chemical hazards while doing non-routine tasks? ____ ____
6. Do employees (including subcontractors) know and understand the acute and chemical effects of exposure from the chemicals on-site? ____ ____
7. Have all subcontractors signed the Haz-Comm acknowledgement form? ____ ____

I have reviewed this inspection checklist with the safety inspector and fully understand the recommendation and will make every attempt to correct them immediately.

	Signature	Date
Site Supervisor:	_____	_____
Project Manager:	_____	_____
OHM Compliance Inspector:	_____	_____

OHM Remediation Services Corp.

SITE SAFETY OFFICER DAILY REPORT

DATE: _____ PROJECT NO. _____

SSO: _____ PROJECT NAME: _____

SITE SUPERVISOR: _____

Safety Meeting Topics:		
Air Monitoring Instruments	Calculated/Checked	Task Monitored
Other Activities		

OHM Site Activities

Task Performed	Protection Level	Type Air Monitoring

Subcontractor Activities

Safety Observation/Issues
