

**Site-Specific Safety and Health Plan Attachment  
Well Abandonment  
at Stump Dump, Parcel 82(7)**

**Fort McClellan  
Calhoun County, Alabama  
EPA ID No. AL7 210 020 562**

**Prepared for:**

**U.S. Army Corps of Engineers, Mobile District  
109 St. Joseph Street  
Mobile, Alabama 36602**

**Prepared by:**

**Shaw Environmental, Inc.  
312 Directors Drive  
Knoxville, Tennessee 37923**

**Task Order CK10  
Contract No. DACA21-96-D-0018  
Shaw Project No. 796887**

**August 2006**

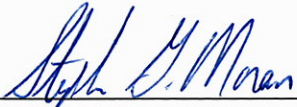
**Revision 0**

The following SSHP has been designed for the methods presently contemplated by the company for execution of the proposed work. Therefore, the SSHP may not be appropriate if the work is not performed by or using the methods presently contemplated by the company. In addition, as the work is performed, conditions different from those anticipated may be encountered and the SSHP may have to be modified. Therefore, the company only makes representations or warranties as to the adequacy of this SSHP for currently anticipated activities and conditions.

This site-specific safety and health plan (SSHP) must be used in conjunction with the installation-wide safety and health plan, and the installation-wide ordnance and explosives management plan, Fort McClellan, Alabama.

## Site-Specific Safety and Health Plan Attachment Approval Fort McClellan, Calhoun County, Alabama

I have read and approve this site-specific safety and health plan attachment for the well abandonment at the Stump Dump, Parcel 82(7) at Fort McClellan, Alabama, with respect to project hazards, regulatory requirements, and Shaw Environmental, Inc., procedures.



Steve Moran, PG  
Project Manager

8/31/06

Date



Doug Russell  
Health & Safety Manager

8-30-06

Date



Melissa Smith, CIH, CHMM  
Certified Industrial Hygienist

8-30-06

Date



Jeff Tarr, PG  
Site Coordinator

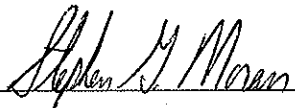
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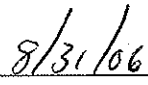
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## Acknowledgments

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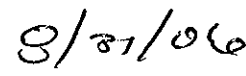
The final approved version of this site-specific safety and health plan (SSHP) attachment for the well abandonment at the Stump Dump, Parcel 82(7) at Fort McClellan Alabama, has been provided to the site coordinator. I acknowledge my responsibility to provide the site coordinator with the equipment, materials, and qualified personnel to implement fully all safety requirements in this SSHP attachment. I will formally review this plan with the health and safety staff every six months until project completion.

  
\_\_\_\_\_  
Project Manager

  
\_\_\_\_\_  
Date

I acknowledge receipt of this SSHP attachment from the project manager, and that it is my responsibility to explain its contents to all site personnel and cause these requirements to be fully implemented. Any change in conditions, scope of work, or other change that might affect worker safety requires me to notify the project manager and the health and safety manager.

  
\_\_\_\_\_  
Site Coordinator

  
\_\_\_\_\_  
Date

## Fort McClellan Gate Hours

Baltzell Gate	Baltzell Road. Open 24 hours daily, 7 days a week.
Galloway Gate	Galloway Road. Open 6 am to 6 pm Monday through Friday.

## Fort McClellan Project Emergency Contacts

Range Control Office (Main Post).....	(256) 848-6772
Fire Department (off post) .....	911
Ambulance (off post) .....	911
Northeast Regional Medical Center.....	(256) 235-5121
DOD Guard Force.....	(256) 848-5680, 848-4732
Anniston Police Department .....	(256) 238-1800
UXO Emergencies .....	(256) 895-1598
(Mike Smith, CEHNC) .....	cell phone (256) 759-3931
UXO Nonemergencies/Reporting Only (Lisa Holstein) .....	(256) 848-7455
National Response Center & Terrorist Hotline.....	(800) 424-8802
Poison Control Center.....	(800) 222-1222
EPA Region IV .....	(404) 562-8725
Lisa Holstein, FTMC Transition Force.....	(256) 848-7455
Lee Coker, U.S. Army Corps of Engineers, Mobile District.....	(251) 690-3099
Brandi Little, Alabama Department of Environmental Management.....	(334) 274-4226
Doyle Brittain, EPA Region IV .....	(404) 562-8259
Ross McCollum, U.S. Army Corps of Engineers, Mobile District.....	(251) 690-3113
Steve Moran, Shaw Project Manager.....	(865) 690-3211 (office) (865) 607-9148 (cell)
Jeff Tarr, Shaw Site Manager .....	Site (256) 848-3482, Cell (256) 310-4376
Doug Russell, Shaw H&S Manager.....	Direct dial (865) 692-3584, Cell (865) 414-9545
Melissa Smith, Shaw CIH.....	(865) 694-7407
Shaw EH&S Hot Line.....	(866) 299-3445
Dr. Jerry H. Berke, Health Resources Occupational Physician.....	(800) 350-4511
Northeast Regional Medical Center.....	(256) 235-5121



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## **List of Attachments**

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Attachment 1 – Evaluating OE/UXO/CWM Hazards in Support of HTRW Activities

Attachment 2 – Incident Reporting Management Procedure-Federal

## 1.0 Site Work Plan Summary ---

**Project Objective.** The objective of this field activity is to abandon 8 monitoring wells located at the Stump Dump, Parcel 82(7) at Fort McClellan (FTMC), Calhoun County, Alabama.

The monitoring well abandonment activities will follow the procedures outlined in Appendix C of the Sampling and Analysis Plan, *Standard Operating Procedure (SOP) for Monitoring Well Abandonment*. The presence of unexploded ordnance (UXO) possible at the site. Therefore, Shaw Environmental, Inc. (Shaw) will conduct UXO avoidance activities as outlined in Appendix E of the Installation-Wide Sampling and Analysis Plan, Revision 3, prior to conducting field activities.

### **Project Tasks**

- Mobilization and equipment setup
- Well abandonment with grout
- Equipment cleanup and demobilization.

**Personnel Requirements.** Up to 5 employees are anticipated for this scope of work.

Note: All personnel on this site shall have received training, informational programs, and medical surveillance as outlined in the installation-wide safety and health plan (SHP) for site investigations at FTMC and shall be familiar with the requirements of this site-specific safety and health plan (SSHP). This SSHP must be used in conjunction with the SHP for FTMC, Alabama.

## 2.0 Site Characterization and Analysis ---

### **2.1 Anticipated Hazards**

The activity hazard analysis in Chapter 5.0 contains project-specific practices utilized to reduce or eliminate anticipated site hazards. The activity hazard analysis indicates specific chemical and physical hazards that may be present and encountered during each task from on-site operations. Below each task is a list of hazards and specific actions that will be taken to control the respective hazards. These control measures may include work practice controls, engineering controls, and/or use of appropriate personal protective equipment (PPE).

**Figure 1-1**  
**Monitoring Well Abandonment**  
**at the Stump Dump, Parcel 82(7)**  
**Organization Chart**  
**Task Order #CK10**  
**Fort McClellan**  
**Contract #DACA21-96-D-0018**

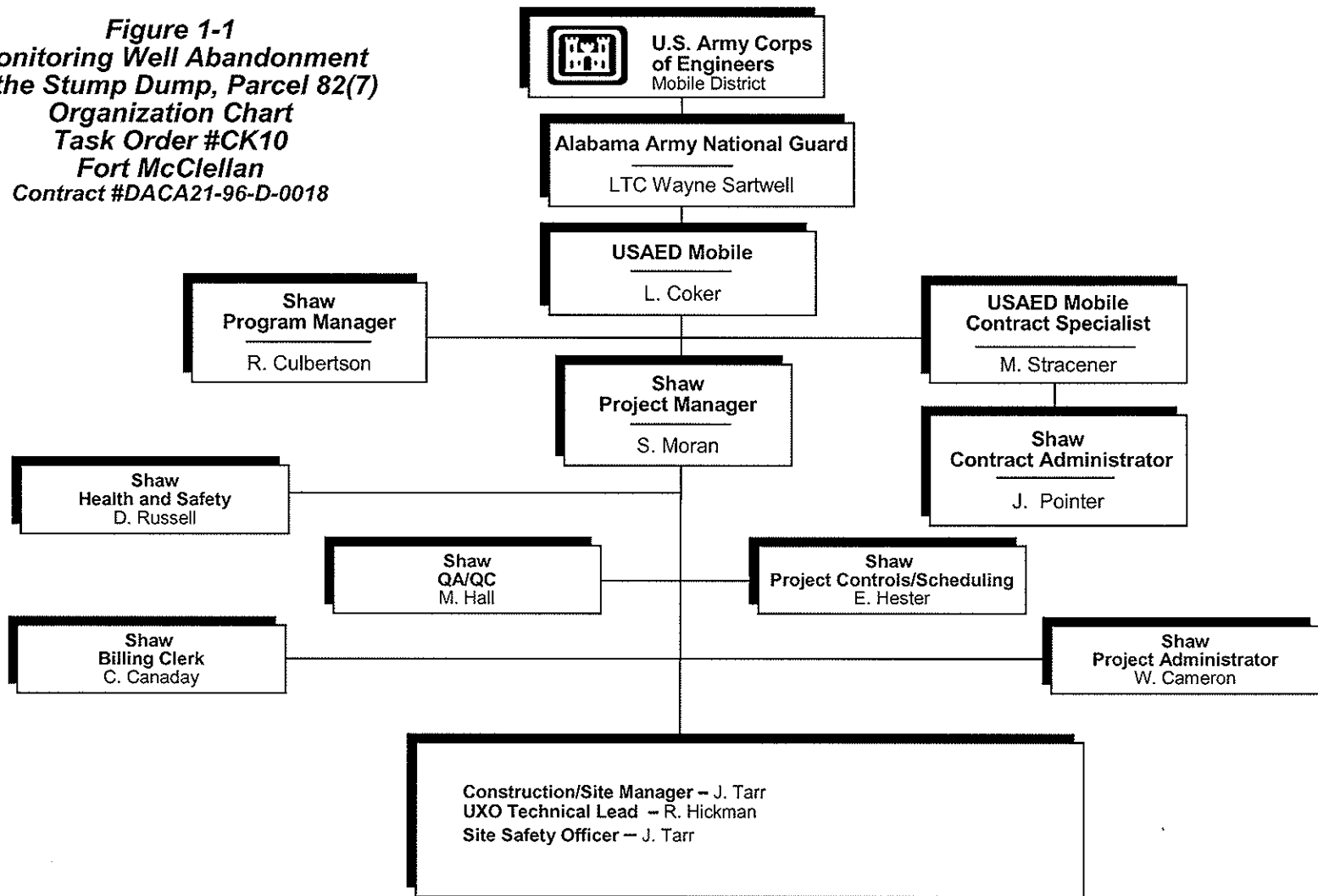


Table 2-1 contains the toxicological and physiological properties of chemicals anticipated or to be used at the 15 well abandonment sites. The vast majority of the USTs were heating oil tanks or gasoline tanks to run generators for lift stations. Some of the USTs have been removed, but all contained petroleum hydrocarbons only. No significant concentrations were found during the investigation. The primary hazard during well abandonment activities is Portland cement while hydrating to grout the wells.

Attachment 1, Evaluating Ordnance and Explosives OE/UXO/CWM Hazards in Support of HTRW Activities, has been prepared to identify additional OE site information. The evaluation has determined there is low potential for exposure to CWM and a remote but possible chance of encountering UXO.

**2.2 General Site Information**

The Stump Dump is an approximately 10-acre fill area located in the central part of the FTMC Main Post. The Stump Dump was used as a disposal site between 1985 and 1988. The site is currently inactive. The site primarily received storm debris (e.g., tree limbs, branches, stumps, yard waste, and flood-washed soil). Some unauthorized dumping of items such as construction debris (e.g., sheet rock and concrete), batteries, tires, paint cans, refrigerators, landscaping trash, and other materials also occurred. After its closure, the fill area surface was covered with soil and engineered with terraced decks. Several detention ponds were constructed around the fill area to control the rate of surface water runoff.

**2.3 Pathways for Hazardous Substance Dispersion**

No hazardous substance dispersion is anticipated during well abandonment activities.

**3.0 Personal Protective Equipment** \_\_\_\_\_

The work activities will begin in the following levels of protection. Also, a complete description of Level D and Modified Level D PPE is provided.

<b>Task</b>	<b>Initial Level of PPE</b>
Mobilization, staging equipment	Level D
Well abandonment	Modified Level D (grouting)*
Pressure washing equipment	Modified Level D**

Table 2-1

**Toxicological and Physical Properties of Chemicals  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

(Page 1 of 2)

Substance [CAS]	IP <sup>a</sup> (eV)	Odor Threshold (ppm)	Route <sup>b</sup>	Symptoms of Exposure	Treatment	TWA <sup>c</sup>	STEL <sup>d</sup>	Source <sup>e</sup>	IDLH (NIOSH) <sup>f</sup>
Fuel oil (diesel oil, medium)	?	?	Ing Inh Con	Ingestion causes nausea, vomiting, and cramps; depressed central nervous system, headache, coma, death; pulmonary irritation; kidney and liver damage; aspiration causes severe lung irritation, coughing, gagging, dyspnea, substernal stress, pulmonary edema; bronchopneumonia; excited, then depressed, central nervous system.	Eye: Irrigate promptly Skin: Soap wash Breath: Respiratory support Swallow: Immediate medical attention Aspiration: Immediate medical attention			PEL TLV REL	
Gasoline [8006-61-9]	?	0.3	Inh Ing Con	Irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen]	Eye: Irrigate immediately (15 min) Skin: Soap wash promptly Breath: Respiratory support Swallow: Immediate medical attention	300 ppm Ca, lowest feasible conc.	500 ppm	PEL TLV REL	Ca N.D.
Portland cement			Inh	Fine gray powder that can be irritating if inhaled or in eyes.	Eye: Irrigate immediately Skin: Soap wash immediately Breath: Respiratory support Swallow: Immediate medical attention	10 mg/m <sup>3</sup>  15 mg/m <sup>3</sup> respirable fraction 10 mg/m <sup>3</sup> (total dust)		TLV PEL REL	5000 mg/m <sup>3</sup>

## Table 2-1

### Toxicological and Physical Properties of Chemicals Monitoring Well Abandonment at the Stump Dump, Parcel 82(7) Fort McClellan, Calhoun County, Alabama

(Page 2 of 2)

<sup>a</sup>IP = Ionization potential (electron volts).

<sup>b</sup>Route = Inh, Inhalation; Abs, Skin absorption; Ing, Ingestion; Con, Skin and/or eye contact.

<sup>c</sup>TWA = Time-weighted average. The TWA concentration for a normal work day (usually 8 or 10 hours) and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day without adverse effect.

<sup>d</sup>STEL = Short-term exposure limit. A 15-minute TWA exposure that should not be exceeded at any time during a workday, even if the TWA is not exceeded.

<sup>e</sup>PEL = Occupational Safety and Health Administration (OSHA) permissible exposure limit (29 CFR 1910.1000, Table Z).

AEL = Airborne Exposure Limit.

TLV = American Conference of Governmental Industrial Hygiene (ACGIH) threshold limit value—TWA.

REL = National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit.

<sup>f</sup>IDLH (NIOSH)—Immediately dangerous to life or health (NIOSH). Represents the maximum concentration from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any escape-impairing or irreversible health effects.

NE = No evidence could be found for the existence of an IDLH (NIOSH Pocket Guide to Chemical Hazards, Pub. No. 2005-151, 2005).

C = Ceiling limit value which should not be exceeded at any time.

Ca = Carcinogen.

NA = Not applicable.

? = Unknown.

LEL = Lower explosive limits.

LC<sub>50</sub> = Lethal concentration for 50 percent of population tested.

LD<sub>50</sub> = Lethal dose for 50 percent of population tested.

NIC = Notice of intended change (ACGIH).

#### References:

American Conference of Governmental Industrial Hygienists Guide to Occupational Exposure Values, 2005, compiled by the American Conference of Governmental Industrial Hygienists.

Amoore, J. E. Hautala, "Odor as an Aid to Chemical Safety," Journal of Applied Toxicology, 1983.

Clayton, George D., Clayton, F. E., Patty's Industrial Hygiene and Toxicology, 3rd ed., John Wiley & Sons, New York.

Documentation of TLVs and BEIs, American Conference of Governmental Industrial Hygienists, 5th ed., 1986.

Fazzuluri, F. A., Compilation of Odor and Taste Threshold Values Data, American Society for Testing and Materials, 1978.

Gemet, L. J. Van, Compilation of Odor Threshold Values in Air and Water, CIVO, Netherlands, 1977.

Gemet, L. J. Van, Compilation of Odor Threshold Values in Air and Water, Supplement IV, CIVO, Netherlands, 1977.

Lewis, Richard J., Sr., 1992, Sax's Dangerous Properties of Industrial Materials, 8th ed., Van Nostrand Reinhold, New York.

Micromedex Tomes Plus (R) System, 1992, Micromedex, Inc.

National Institute for Occupational Safety and Health Pocket Guide to Chemicals, Pub. 1990, No. 90-117, National Institute for Occupational Safety and Health.

Odor Threshold for Chemicals with Established Occupational Health Standards, American Industrial Hygiene Association, 1989.

Respirator Selection Guide, 3M Occupational Health and Safety Division, 1993.

Verschueren, K., Handbook of Environmental Data on Organic Chemicals, Van Nostrand and Reinhold, 1977.

Warning Properties of Industrial Chemicals—Occupational Health Resource Center, Oregon Lung Association.

Workplace Environmental Exposure Levels, American Industrial Hygiene Association, 1992.

Task	Initial Level of PPE
Demobilization	Level D

\* Disposable Tyvek and faceshield shall be required for mixing and handling grout equipment.

\*\* Polycoated Tyvek and Nitrile gloves shall be required for pressure washing grout equipment.

**Level D.** The minimal level of protection that will be required of personnel at the site will be Level D. The following equipment will be used for Level D protection:

- Coveralls or work clothing
- Leather work gloves (when necessary)
- Nitrile gloves (when handling grout equipment, hoses)
- Steel-toed safety boots
- Safety glasses
- Hard hat
- Hearing protection (when working near/adjacent to operating equipment).

**Modified Level D.** The following equipment will be used for Level D-Modified protection:

- Permeable Tyvek, Kleenguard, or its equivalent (polycoated Tyvek for pressure washing)
- Latex boot covers
- Outer Nitrile, heavy work, or latex gloves
- Latex or lightweight nitrile gloves (inner)
- Steel-toed safety boots
- Safety glasses
- Faceshield when mixing grout
- Hard hat
- Hearing protection (when working near/adjacent to operating equipment).

Note: In addition to modified Level D PPE, the operator of high-pressure water jetting equipment shall wear metatarsal guards for foot protection, leg guards and a face shield.

**Level C.** Level C protection is not anticipated.

## 4.0 Site Monitoring

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The environmental contaminants of concern were petroleum hydrocarbons. No significant concentrations were found during the investigation. The primary hazard during well abandonment activities is Portland cement while hydrating to grout the wells. Table 4-1 contains the action levels for real-time air monitoring at the sites.

**Chemical.** Air monitoring will be performed by the site safety and health officer or qualified task geologist during grouting of the wells. A calibrated combustible gas/oxygen indicator will be utilized to monitor the work areas and BZs to determine if any combustible/flammable oxygen levels may be present that would necessitate evacuation of the work area. Table 4-2 contains the air monitoring frequency and location for site monitoring at the work sites.

**Unexploded Ordnance.** UXO is not anticipated. However, if UXO is encountered, personnel will contact the Shaw Site Manager or Shaw Project Manager immediately. Personnel will evacuate the immediate area and secure it.

## 5.0 Activity Hazard Analysis

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The attached activity hazard analysis (Table 5-1) is provided for the following activities:

- Staging equipment
- Well abandonment
- High pressure water jetting.

All occupational injuries or illness shall be immediately reported and investigated in accordance with Shaw health and safety procedure HS020. Attachment 2 contains the Incident Reporting Management Procedure-Federal which was developed with HS020. Injuries that require emergency medical evaluation/treatment shall be cared for at Northeast Regional Medical Center, 400 East 10th Street, Anniston, Alabama. The telephone number is (256) 235- 5121. Directions to the hospital are provided in Figure 5-1.

For non life threatening injuries which may require medical treatment beyond onsite first aid the injured Shaw employee shall be transported by a Shaw site manager or SSHO to the nearest Health Resources occupational health facility. The nearest occupational clinic is Southern Family Practice and Occupational Medicine. The telephone number is (256) 236-9400. Directions to the clinic are provided in Figure 5-2.

**Table 4-1**

**Action Levels  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

When in Level D Modified/D PPE

Analyte	Action Level <sup>a</sup>	Required Action <sup>a</sup>
Oxygen	$\geq 20\%$ , $\leq 23\%$ $< 20\%$ , $> 23\%$	Normal operations. Stop work, evacuate work area.
Flammable vapors	$\geq 10\%$ LEL $< 10\%$ LEL	Stop work, evacuate work area. Normal operations.

When in Support Zone

Analyte	Action Level <sup>a</sup>	Required Action
Oxygen	$\geq 20\%$ , $\leq 23\%$ $< 20\%$ , $> 23\%$	Evacuate support zone and re-establish perimeter of exclusion zone.
Flammable vapors	$\geq 10\%$ LEL $< 10\%$ LEL	Evacuate support zone and re-establish perimeter of exclusion zone.

<sup>a</sup> Contact with the H&S manager must be made prior to continuance of work. The H&S manager may then initiate perimeter/integrated air sampling along with additional engineering controls.

**No one is permitted to downgrade levels of PPE without authorization from the H&S manager.**

**Table 4-2**

**Air Monitoring Frequency and Location  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

Work Activity	Instrument	Frequency	Location
Staging equipment	LEL/O <sub>2</sub> Monitor	Initially for area	BZ of employees
Well Abandonment	LEL/O <sub>2</sub> Monitor	Continuously	BZ of employees and/or work area

BZ = Breathing zone.

LEL/O<sub>2</sub> = Lower explosive level/oxygen.

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

(Page 1 of 8)

Activity	Potential Hazards	Recommended Controls
Staging equipment	Slip, trip, and fall hazards	<ul style="list-style-type: none"> <li>• Determine best access route before transporting equipment.</li> <li>• Practice good housekeeping; keep work area picked up and clean as feasible.</li> <li>• Continually inspect the work area for slip, trip, and fall hazards.</li> <li>• Look before you step; ensure safe and secure footing.</li> </ul>
	Heavy lifting	<ul style="list-style-type: none"> <li>• Use proper lifting techniques. Lifts greater than 60 pounds require assistance or mechanical equipment.</li> </ul>
	Falling objects	<ul style="list-style-type: none"> <li>• Stay alert and clear of materials suspended overhead; wear hard hat and steel-toed boots.</li> </ul>
	Flying debris, dirt, dust, etc.	<ul style="list-style-type: none"> <li>• Wear safety glasses/goggles; ensure that eye wash is in proper working condition.</li> </ul>
	Pinch points	<ul style="list-style-type: none"> <li>• Keep hands, fingers, and feet clear of moving/suspended materials and equipment.</li> <li>• Beware of contact points.</li> <li>• Stay alert at all times!</li> </ul>
	Cuts/bruises	<ul style="list-style-type: none"> <li>• Use cotton or leather work gloves for material handling.</li> </ul>
	Bees, spiders, and snakes	<ul style="list-style-type: none"> <li>• Inspect work area carefully and avoid placing hands and feet into concealed areas.</li> </ul>
	Ticks	<ul style="list-style-type: none"> <li>• Wear light colored clothing (can see ticks better).</li> <li>• Mow vegetated and small brush areas.</li> <li>• Wear insect repellent.</li> <li>• Wear long sleeves and long pants.</li> <li>• Visually check oneself promptly and frequently after exiting the work area.</li> </ul>
	Fire	<ul style="list-style-type: none"> <li>• Fire extinguishers shall be suitably placed, distinctly marked, readily accessible, and maintained in a fully charged and operable condition.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

(Page 2 of 8)

Activity	Potential Hazards	Recommended Controls
Staging equipment (continued)	Hazard communication	<ul style="list-style-type: none"> <li>• Label all containers as to contents and dispose of properly.</li> <li>• Ensure Material Safety Data Sheets (MSDS) are available for hazardous chemicals used on site.</li> <li>• Employees will receive site-specific training to the SHP and SSHP.</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>• Sound levels above 85 decibels (dBA) mandates hearing protection.</li> </ul>
	Lighting	<ul style="list-style-type: none"> <li>• Adequate lighting will be provided to ensure a safe working environment.</li> </ul>
	UXO	<ul style="list-style-type: none"> <li>• Employees shall not disturb any suspicious items, contact the Shaw site manager immediately.</li> <li>• Do not veer from MEC areas that have been cleared, keep on established roads and within assigned work areas.</li> </ul>
	Poison ivy/oak/sumac	<ul style="list-style-type: none"> <li>• Avoid plant areas if possible.</li> <li>• Wear long sleeves and long pants.</li> <li>• Promptly wash clothing separately that has contacted poisonous plants from non contaminated clothing.</li> <li>• Wash affected areas immediately with soap designed for poisonous resin removal and water.</li> </ul>
	Heat rash	<ul style="list-style-type: none"> <li>• Keep the skin clean and dry.</li> <li>• Change perspiration-soaked clothing, as necessary.</li> <li>• Bathe at end of work shift or day.</li> <li>• Apply powder to affected area.</li> </ul>
	Heat cramps	<ul style="list-style-type: none"> <li>• Drink plenty of cool fluids even when not thirsty.</li> <li>• Provide cool fluid for work crews.</li> <li>• Move victim to shaded, cool area.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

(Page 3 of 8)

Activity	Potential Hazards	Recommended Controls
Staging equipment (continued)	Heat exhaustion	<ul style="list-style-type: none"> <li>• Conduct physiological worker monitoring as needed (i.e., heart rate, oral temperature).</li> <li>• Set up work/rest periods.</li> <li>• Use the buddy system.</li> <li>• Allow workers time to acclimate.</li> <li>• Have ice packs available for use.</li> <li>• Take frequent breaks.</li> </ul>
	Heat stroke	<ul style="list-style-type: none"> <li>• Evaluate possibility of night work.</li> <li>• Perform physiological monitoring on workers during breaks.</li> <li>• Wear body cooling devices.</li> </ul>
	Contact with moving equipment/vehicles	<ul style="list-style-type: none"> <li>• Work area will be barricaded/demarcated.</li> <li>• Equipment will be laid out in an area free of traffic flow.</li> <li>• Barricades shall be used on or around work areas when it is necessary to prevent the inadvertent intrusion of pedestrian traffic.</li> <li>• Barriers shall be used to protect workers from vehicular traffic.</li> <li>• Barriers shall be used to guard excavations adjacent to streets or roadways.</li> <li>• Flagging shall be used for the short term (less than 24 hours) to identify hazards until proper barricades or barriers are provided.</li> <li>• Heavy equipment shall have backup alarms.</li> </ul>
	Forklift operations	<ul style="list-style-type: none"> <li>• Use qualified and trained forklift operators.</li> <li>• The operator shall not exceed the load capacity rating for the forklift.</li> <li>• The load capacity shall be clearly visible on the forklift.</li> <li>• Forklift operators shall inform their supervisor of any prescribed medication that they are taking that would impair their judgement.</li> </ul>
	Portable electric tools	<ul style="list-style-type: none"> <li>• Portable electric tools that are unsafe due to faulty plugs, damaged cords, or other reasons, shall be tagged (do not use) and removed from service.</li> <li>• Portable electric tools and all cord and plug connected equipment shall be protected by a ground fault circuit interrupter (GFCI) device.</li> <li>• Electrical tools shall be inspected daily prior to use.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

(Page 4 of 8)

Activity	Potential Hazards	Recommended Controls
Staging equipment (continued)	Extension cords	<ul style="list-style-type: none"> <li>• Extension cords that have faulty plugs, damaged insulation, or are unsafe in any way shall be removed from service.</li> <li>• Cords shall be protected from damage from sharp edges, projections, pinch points (doorways), and vehicular traffic.</li> <li>• Cords shall be suspended with a nonconductive support (rope, plastic ties, etc.).</li> <li>• Cords shall be designed for hard duty.</li> <li>• Cords shall be inspected daily.</li> </ul>
	Lightning strikes	<ul style="list-style-type: none"> <li>• Whenever possible, halt activities and take cover.</li> <li>• If outdoors, stay low to the ground.</li> <li>• Seek shelter in a building if possible.</li> <li>• Stay away from windows.</li> <li>• If available, crouch under a group of trees instead of one single tree.</li> <li>• Remain 6 feet away from tree trunk if seeking shelter beneath tree(s).</li> <li>• If in a group, keep 6 feet of distance between people.</li> </ul>
	Thunderstorms, tornadoes	<ul style="list-style-type: none"> <li>• Listen to radio or TV announcements for pending weather information.</li> <li>• Cease field activities during thunderstorm or tornado warnings.</li> <li>• Seek shelter. Do not try to outrun a tornado.</li> </ul>
Well abandonment	Exposure to Grout	<ul style="list-style-type: none"> <li>• Avoid skin contact with grout.</li> <li>• Position body upwind when hydrating Portland cement to grout wells.</li> <li>• Only essential personnel will be in the work area.</li> <li>• All personnel will follow good hygiene practices. No smoking, eating, drinking, etc. in the grout mixing, handling areas.</li> </ul>
	Contact with rotating or reciprocating machine parts	<ul style="list-style-type: none"> <li>• Use machine guards.</li> <li>• Utilize safe lockout procedures for maintenance work.</li> </ul>
	Cut hazards	<ul style="list-style-type: none"> <li>• Wear adequate hand protection.</li> </ul>
	Hazard communication	<ul style="list-style-type: none"> <li>• MSDSs shall be obtained for chemicals brought on site.</li> <li>• Label all containers as to contents and appropriate hazard warning.</li> <li>• Employees will receive site-specific training to the SHP and SSHP.</li> </ul>
	Strains/sprains	<ul style="list-style-type: none"> <li>• Use the proper tool for the job being performed.</li> <li>• Get assistance if needed.</li> <li>• Avoid twisting/turning while lifting materials, pulling on tools or hoses, and while moving equipment, etc.</li> <li>• Use proper lifting techniques and get help or heavy equipment assistance for lifts greater than 60 pounds.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

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Activity	Potential Hazards	Recommended Controls
Well abandonment (continued)	Unattended worker	<ul style="list-style-type: none"> <li>Use the "buddy system" - visual contact will be maintained during well abandonment activities.</li> </ul>
	Slip, trip, and fall hazards	<ul style="list-style-type: none"> <li>Practice good housekeeping; keep work area picked up and clean as feasible.</li> <li>Route all hoses out of walking pathways if feasible.</li> <li>Continually inspect the work area for slip, trip, and fall hazards.</li> </ul>
	Faulty or damaged equipment being utilized to perform work	<ul style="list-style-type: none"> <li>All machinery or mechanized equipment will be inspected by a competent mechanic and be certified to be in safe operating condition.</li> <li>Equipment will be inspected before being put to use and at the beginning of each shift.</li> <li>Faulty/unsafe equipment will be tagged and if possible locked out.</li> </ul>
	Inexperienced operator	<ul style="list-style-type: none"> <li>Machinery and mechanized equipment shall be operated only by designated qualified personnel.</li> <li>Operators shall inform their supervisor(s) of any prescribed medication that they are taking that would impair their judgment.</li> </ul>
	Pinch points	<ul style="list-style-type: none"> <li>Keep feet and hands clear of moving/suspended materials and equipment.</li> <li>Stay alert at all times!</li> </ul>
	Fire	<ul style="list-style-type: none"> <li>Mechanized equipment shall be shut down prior to and during fueling operations.</li> <li>Have fire extinguishers inspected and readily available.</li> <li>Perform air monitoring for flammable atmospheres and oxygen deficiency while grouting wells.</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>Hearing protection is mandatory above 85 dBA.</li> </ul>
	Bees, spiders, and snakes	<ul style="list-style-type: none"> <li>Workers shall inspect the work area carefully and avoid placing hands and feet into concealed areas.</li> <li>Evaluate need for sensitive workers to have prescribed antibiotic or medicine to combat onset of symptoms.</li> </ul>
	Poison ivy/oak/sumac	<ul style="list-style-type: none"> <li>Avoid plant areas if possible.</li> <li>Wear long sleeves and long pants.</li> <li>Promptly wash clothing separately that has contacted poisonous plants from non contaminated clothing.</li> <li>Wash affected areas immediately with soap designed for poisonous resin removal and water.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

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Activity	Potential Hazards	Recommended Controls
Well Abandonment (Continued)	Cold stress	<ul style="list-style-type: none"> <li>• Workers should wear insulated clothing when temperatures drop below 40 degrees Fahrenheit (°F).</li> <li>• Drink warm beverages on breaks. Refrain from drinking caffeinated beverages.</li> <li>• Remove wet clothing promptly.</li> <li>• Take breaks in warm areas.</li> <li>• Reduce work periods as necessary.</li> <li>• Layer work clothing.</li> </ul>
	Access/egress hazards	<ul style="list-style-type: none"> <li>• Utilize good housekeeping practices.</li> <li>• Keep aisleways, pathways, and work areas free of obstruction.</li> <li>• Clean ice or snow off of walkways or work stations.</li> <li>• Use appropriate footwear for the task assigned.</li> </ul>
	Heat rash	<ul style="list-style-type: none"> <li>• Keep the skin clean and dry.</li> <li>• Change perspiration-soaked clothing, as necessary.</li> <li>• Bathe at end of work shift or day.</li> <li>• Apply powder to affected area.</li> </ul>
	Heat cramps	<ul style="list-style-type: none"> <li>• Drink plenty of cool fluids even when not thirsty.</li> <li>• Provide cool fluid for work crews.</li> <li>• Move victim to shaded, cool area.</li> </ul>
	Heat exhaustion	<ul style="list-style-type: none"> <li>• Conduct physiological worker monitoring as needed (i.e., heart rate, oral temperature).</li> <li>• Set up work/rest periods.</li> <li>• Use the buddy system.</li> <li>• Allow workers time to acclimate.</li> <li>• Have ice packs available for use.</li> <li>• Take frequent breaks.</li> </ul>
	Heat stroke	<ul style="list-style-type: none"> <li>• Evaluate possibility of night work.</li> <li>• Perform physiological monitoring on workers during breaks.</li> <li>• Wear body cooling devices.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

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Activity	Potential Hazards	Recommended Controls
Well Abandonment (Continued)	Lightning strikes	<ul style="list-style-type: none"> <li>• Whenever possible, halt activities and take cover.</li> <li>• If outdoors, stay low to the ground.</li> <li>• Limit the body surface area that is in contact with the ground (i.e., kneeling on one knee is better than laying on the ground).</li> <li>• Seek shelter in a building if possible.</li> <li>• Stay away from windows.</li> <li>• If available, crouch under a group of trees instead of one single tree.</li> <li>• If in a group, keep 6 feet of distance between people.</li> </ul>
	Thunderstorms, tornadoes	<ul style="list-style-type: none"> <li>• Listen to radio or TV announcements for pending weather information.</li> <li>• Cease field activities during thunderstorms or tornado warnings.</li> <li>• Seek shelter. Do not try to outrun a tornado.</li> </ul>
Material storage	Flammable and combustible liquids	<ul style="list-style-type: none"> <li>• Store in NO SMOKING AREA.</li> <li>• Fire extinguisher readily available.</li> <li>• Transfer only when properly grounded and bonded.</li> </ul>
High-pressure water jetting operations	Heavy lifting	<ul style="list-style-type: none"> <li>• Use proper lifting techniques.</li> <li>• Lifts greater than 60 pounds require assistance or mechanical equipment; size-up the lift.</li> </ul>
	Slip, trip, and fall hazards	<ul style="list-style-type: none"> <li>• Good housekeeping shall be implemented.</li> <li>• The work area shall be kept clean as feasible.</li> <li>• Inspect the work area for slip, trip, and fall hazards.</li> </ul>
	Fueling	<ul style="list-style-type: none"> <li>• Only approved safety cans shall be used to store fuel.</li> <li>• Do not refuel equipment while it is operating.</li> <li>• Fire extinguishers shall be suitably placed, distinctly marked, readily accessible, and maintained in a fully charged and operable condition.</li> </ul>
	Faulty or damaged equipment	<ul style="list-style-type: none"> <li>• Equipment shall be inspected before being placed into service and at the beginning of each shift.</li> <li>• Preventive maintenance procedures recommended by the manufacturer shall be followed.</li> <li>• A lockout/tagout procedure shall be used for equipment found to be faulty or undergoing maintenance.</li> </ul>

**Table 5-1**

**Activity Hazard Analysis  
Monitoring Well Abandonment at the Stump Dump, Parcel 82(7)  
Fort McClellan, Calhoun County, Alabama**

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Activity	Potential Hazards	Recommended Controls
High-pressure water jetting operations (continued)	High-pressure water	<ul style="list-style-type: none"> <li>• Jetting gun operator must wear appropriate PPE including hard hat, impact-resistant safety glasses with side shields, water-resistant clothing, metatarsal guards for feet and legs, and hearing protection (if appropriate).</li> <li>• One standby person shall be available within the vicinity of the pump during jetting operation.</li> <li>• The work area shall be isolated and adequate barriers will be used to warn other site personnel.</li> </ul>
	Unqualified operators	<ul style="list-style-type: none"> <li>• Only qualified and trained personnel are permitted to operate machinery and mechanized equipment associated with water jet cutting and cleaning.</li> </ul>
	Out of control equipment	<ul style="list-style-type: none"> <li>• No machinery or equipment is permitted to run unattended.</li> <li>• Machinery or equipment will not be operated in a manner that will endanger persons or property nor will the safe operating speeds or loads be exceeded.</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>• Sound levels above 85 dBA mandates hearing protection by nearby site personnel.</li> </ul>
	Activation during repairs	<ul style="list-style-type: none"> <li>• All machinery or equipment will be shut down and positive means taken to prevent its operation while repairs or manual lubrications are being done.</li> </ul>
	Pinch points	<ul style="list-style-type: none"> <li>• Keep feet and hands clear of moving/suspended materials and equipment.</li> <li>• Stay alert and clear of materials suspended</li> </ul>
	Falling objects	<ul style="list-style-type: none"> <li>• Hard hats are required by site personnel.</li> <li>• Stay alert and clear of material suspended overhead.</li> </ul>
	Flying debris	<ul style="list-style-type: none"> <li>• Impact-resistant safety glasses with side shields are required.</li> </ul>
	Contact with potentially contaminated materials	<ul style="list-style-type: none"> <li>• All site personnel will wear the appropriate PPE.</li> </ul>