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NCBC GULFPORT  
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WORK PLAN LETTER FOR PHASE 2 OFF BASE GROUNDWATER INVESTIGATION NCBC  
GULFPORT MS  
3/10/2007  
TETRA TECH NUS

TtNUS/TAL-08-096/0049

Project Number 00521

Commander, Southeast  
Naval Facilities Engineering Command Southeast  
Attn: Bill Neimes (Code OPGEVR)  
Remedial Project Manager  
NAS Jacksonville  
Jacksonville, FL 32212-0030

Reference: CLEAN Contract No. N62467-04-D-0055  
Contract Task Order No. 0049

Subject: Workplan: Phase 2 Offbase Groundwater Investigation  
Naval Construction Battalion Center  
Gulfport, Mississippi

Dear Mr. Neimes:

The following workplan letter provides details sampling the Off Base Areas of Concern (AOC). This study is in response to the groundwater results first published in the Offbase Sampling Investigation Field Report Letter, dated 07 Mar 08.

### **Introduction**

Based on our meeting in Jackson, MS and the results from the Phase 1 investigation, this workplan letter provides details for the Phase 2 AOC Groundwater investigation. The site nomenclature will remain consistent with previous investigations and the MDEQ letter requesting action on these areas dated July 12, 2007.

The Phase 2 groundwater fieldwork will include the following tasks:

- GPS mapping of the major features included in the study area.
- Groundwater sampling using a double-cased technique at Arndt and Bennett properties. Due to the potential for cross-media transfer, the preferred drilling technique must completely seal the upper 5 feet of soil from the remainder of the surficial aquifer before sampling.
- All samples will be analyzed for dioxins/furans following USEPA 8290 methodology.

- Other analytical methods will be used, including VOA, SVOA, TAL Metals, Pest/PCB and Herbicides.
- Survey (MS Licensed Surveyor) vertical and horizontal positions of all 4 wells.

The following section provides the details for the Phase 2 sampling.

### **Sampling and Analysis Plan**

**Offbase Groundwater** – Two groundwater samples were collected using temporary wells from the Arndt and Bennett properties during Phase 1 activities (Figure 1). The dioxin TEQs for the northern sample (381 ppq) exceeded the TRG (30 ppq). The closest private groundwater supply wells have been tested at the tap and were non-detect for **ALL** dioxin and furan congeners. See *Offbase Community Sampling Report* (TtNUS, 2003).

**Field Program:** First, install monitoring wells and recollect the 2 groundwater samples described above (located on Figure 1), using a 2-stage, or cased, technique. A minimum of 5 feet of casing will be required to ensure that surface soil will not interfere with the groundwater sample results. Second install two additional monitoring wells within the Turkey Creek floodplain – also shown on Figure 1. These 4 wells will be used to evaluate if the Turkey Creek floodplain is involved in the transport and location of dioxins in offbase groundwater. Note: the double cased technique described here will utilize rotosonic drilling to temporarily install a steel casing while the well is installed. After each well has a protective seal of hydrated bentonite, the surface steel casing will be removed and filled with cement. This method allows for a lighter and more mobile drill rig to be used in the soft sediments of the Turkey Creek floodplain.

Table 1  
Sampling and Analysis Summary Table

Sample Analysis	Total Samples	Analytical Method (SW-846)
Dioxins and Furans	5	8290
VOC	5	8260B
SVOC	5	8270C
Pest/PCB	5	8081A/8082
Herbicides	5	8151A
TAL Metals	5	6010B

### **Data Analysis and Reporting**

Upon receipt of the sampling results, the laboratory data will undergo “full” validation. The results will be evaluated using the WHO 2005 congener toxicity equivalency factors and all applicable state and EPA screening criteria. For the dioxin analysis, the resulting toxicity equivalency quotients will be screened against MDEQ target remedial goals (TRGs).

Summary and conclusions will be reported in a letter report format that includes all field forms and logs, validated data, summary tables, survey information, and figures.

If you have any questions regarding the information presented in this document, please contact me by phone at (850) 385-9899 or via e-mail at [robert.fisher@tetrattech.com](mailto:robert.fisher@tetrattech.com)

Sincerely,

Robert Fisher, P.G.  
Task Order Manager  
Date: December 3, 2008

#### Enclosures

c:      Gordon Crane (2 copies)  
          Debbie Humbert (1 copy)  
          Mark Perry (1 copy)



08SPV101 (0-1 FT)  
 Dioxins (ng/kg)  
 TEQ (WHO 2005) 11.28  
 PERCENT TCDD 9

08SPV102 (0-1 FT)  
 Dioxins (ng/kg)  
 TEQ (WHO 2005) 1.21  
 PERCENT TCDD 0

OBAOCW02 (18-20 FT)  
 Dioxins (pg/L)  
 TEQ (WHO 2005) 381  
 PERCENT TCDD 25

OBAOCW01 (18-20 FT)  
 Dioxins (pg/L)  
 TEQ (WHO 2005) 23  
 PERCENT TCDD 0

300 0 300 Feet



Tetra Tech NUS, Inc.

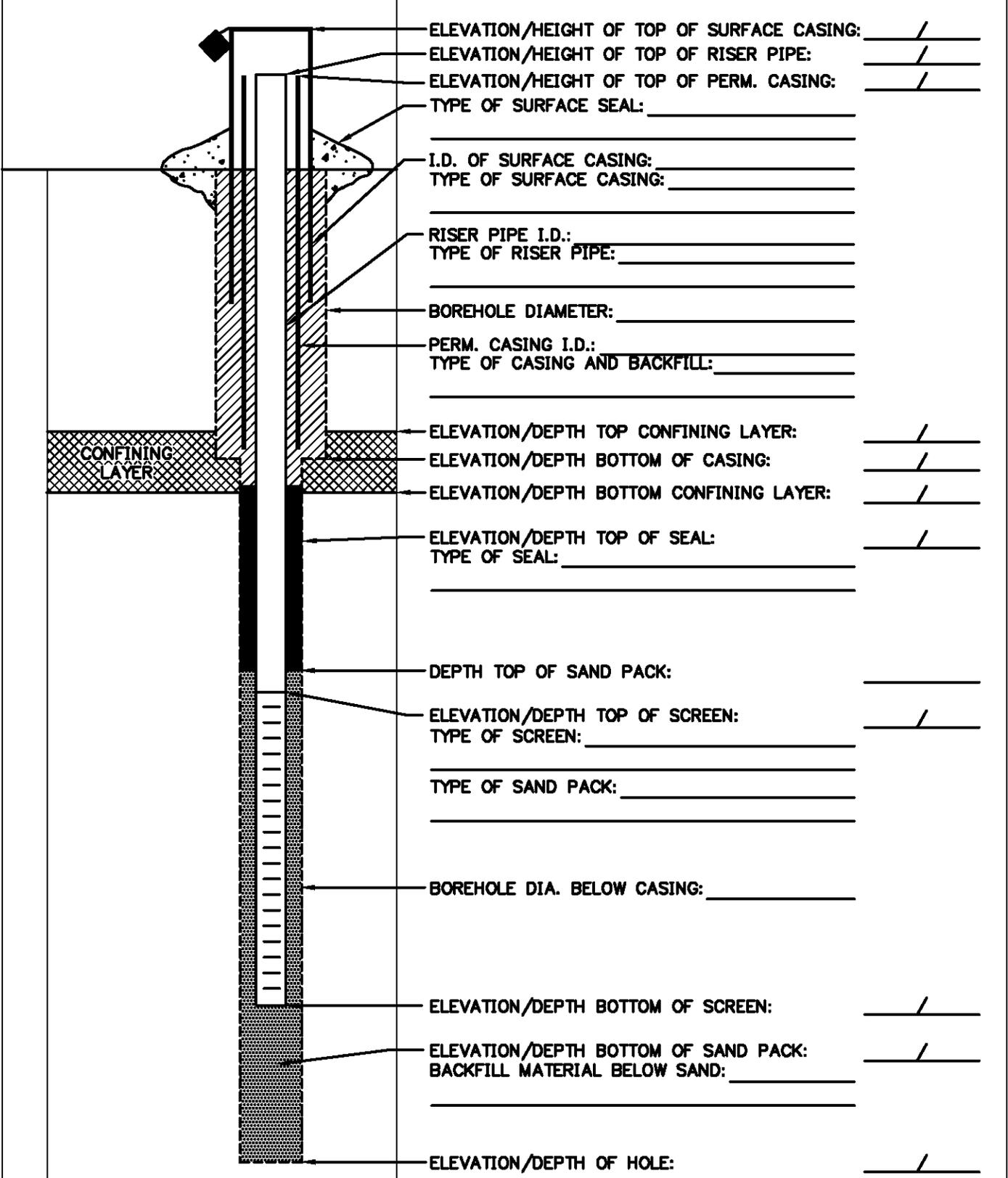
FIGURE 2

WELL NO.: \_\_\_\_\_

# CONFINING LAYER MONITORING WELL SHEET

PROJECT _____	LOCATION _____	DRILLER _____
PROJECT NO. _____	BORING _____	DRILLING METHOD _____
DATE BEGUN _____	DATE COMPLETED _____	DEVELOPMENT METHOD _____
FIELD GEOLOGIST _____		
GROUND ELEVATION _____	DATUM _____	

ACAD: FORM\_CLMW.dwg 07/20/99 INL



ELEVATION/HEIGHT OF TOP OF SURFACE CASING: \_\_\_\_\_ / \_\_\_\_\_

ELEVATION/HEIGHT OF TOP OF RISER PIPE: \_\_\_\_\_ / \_\_\_\_\_

ELEVATION/HEIGHT OF TOP OF PERM. CASING: \_\_\_\_\_ / \_\_\_\_\_

TYPE OF SURFACE SEAL: \_\_\_\_\_

I.D. OF SURFACE CASING: \_\_\_\_\_

TYPE OF SURFACE CASING: \_\_\_\_\_

RISER PIPE I.D.: \_\_\_\_\_

TYPE OF RISER PIPE: \_\_\_\_\_

BOREHOLE DIAMETER: \_\_\_\_\_

PERM. CASING I.D.: \_\_\_\_\_

TYPE OF CASING AND BACKFILL: \_\_\_\_\_

ELEVATION/DEPTH TOP CONFINING LAYER: \_\_\_\_\_ / \_\_\_\_\_

ELEVATION/DEPTH BOTTOM OF CASING: \_\_\_\_\_ / \_\_\_\_\_

ELEVATION/DEPTH BOTTOM CONFINING LAYER: \_\_\_\_\_ / \_\_\_\_\_

ELEVATION/DEPTH TOP OF SEAL: \_\_\_\_\_ / \_\_\_\_\_

TYPE OF SEAL: \_\_\_\_\_

DEPTH TOP OF SAND PACK: \_\_\_\_\_

ELEVATION/DEPTH TOP OF SCREEN: \_\_\_\_\_ / \_\_\_\_\_

TYPE OF SCREEN: \_\_\_\_\_

TYPE OF SAND PACK: \_\_\_\_\_

BOREHOLE DIA. BELOW CASING: \_\_\_\_\_

ELEVATION/DEPTH BOTTOM OF SCREEN: \_\_\_\_\_ / \_\_\_\_\_

ELEVATION/DEPTH BOTTOM OF SAND PACK: \_\_\_\_\_ / \_\_\_\_\_

BACKFILL MATERIAL BELOW SAND: \_\_\_\_\_

ELEVATION/DEPTH OF HOLE: \_\_\_\_\_ / \_\_\_\_\_

# Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055



## Health and Safety Plan for Off Base Area of Concern Hand Augering and Soil Sampling

Naval Construction Battalion Center  
Gulfport  
Gulfport, Mississippi

Contract Task Order 0049

Revision 1  
December 2008



NAS Jacksonville  
Jacksonville, Florida 32212-0030

**HEALTH AND SAFETY PLAN  
FOR  
PHASE 2 OFFBASE GROUNDWATER INVESTIGATION  
NAVAL CONSTRUCTION BATTALION CENTER GULFPORT  
GULFPORT, MISSISSIPPI**

**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:  
Southern Division  
Naval Facilities Engineering Command  
Contract Number N62467-04-D-0055**

**Contract Task Order 00049**

**Submitted by:  
Tetra Tech NUS, Inc.  
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**CONTRACT NO. N62467-04-D-0055  
CONTRACT TASK ORDER 0049**

**REVISION 1  
DECEMBER 2008**

**PREPARED UNDER THE SUPERVISION OF:**



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## **1.0 INTRODUCTION**

The objective of this Health and Safety Plan (HASP) is to provide the safety and health requirements, restrictions, practices, and procedures for Tetra Tech NUS, Inc. (TtNUS) personnel participating in site activities that will be conducted at Phase 2 Offbase Groundwater Investigation for the Naval Construction Battalion Center (NCBC) in Gulfport, Mississippi as part of Contract Task Order (CTO) 0049.

This HASP is to be used in conjunction with the TtNUS Health and Safety Guidance Manual. The Guidance Manual provides detailed information pertaining to hazard recognition and control, and TtNUS standard operating procedures (SOPs). This HASP and the contents of the Guidance Manual were developed to comply with the requirements stipulated in 29 Code of Federal Regulations (CFR) 1910.120 [Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response Standard]. Both documents must be present at the site to satisfy these requirements.

This HASP has been written to support proposed tasks and techniques associated with the scope of work as presented in Section 4.0. It has been developed using the latest available information regarding known or suspected chemical contaminants and potential physical hazards associated with the proposed work at the site. Should the proposed work site conditions and/or suspected hazards change, or if new information becomes available, this document will be modified. Changes to the HASP will be made with the approval of the TtNUS Site Safety Officer (SSO) and the TtNUS Health and Safety Manager (HSM). Requests for modifications to the HASP will be directed to the SSO who will determine whether to make the changes. The SSO will notify the Task Order Manager (TOM), who will notify the affected personnel of changes.

### **1.1 AUTHORITY**

This work is authorized under the Comprehensive Long-Term Environmental Action Navy (CLEAN) contract, administered through the Naval Facilities Engineering Command Southeast, as defined under Contract No. N62467-04-D-0055, CTO 0049.

### **1.2 KEY PROJECT PERSONNEL AND ORGANIZATION**

This section defines responsibilities for site safety and health for TtNUS employees conducting the hand augering, sampling, and other supporting field activities under this field effort. All personnel assigned to participate in the field work have the primary responsibility for performing all of their work tasks in a manner that is consistent with the TtNUS Health and Safety Policy, the health and safety training that they have received, the contents of this HASP, and in an overall manner that protects their personal

safety and health and that of their co-workers. The following persons are the primary point of contact and have the primary responsibility for observing and implementing this HASP and for overall on-site health and safety.

- The TtNUS TOM is responsible for the overall direction and implementation of health and safety for this work.
- The TtNUS Field Operations Leader (FOL) is responsible for implementation of this HASP. The FOL manages field activities, executes the Work Plan, and enforces safety procedures as applicable to the Work Plan. Specifically, the FOL will:
  - Verify training and medical status of on-site personnel in relation to site activities.
  - Assist and represent TtNUS with emergency services (if needed)
  - Provide elements of site-specific training for on-site personnel.
- The TtNUS SSO or his/her representative supports the FOL concerning the aspects of health and safety including, but not limited to:
  - Coordinating health and safety activities.
  - Selecting, applying, inspecting, and maintaining personal protective equipment (PPE).
  - Establishing work zones and control points.
  - Implementing air monitoring procedures.
  - Implementing hazard communication, respiratory protection, and other associated safety and health programs.
  - Coordinating emergency services.
  - Providing elements of site-specific training.
- Compliance with these requirements is monitored by the Project Health and Safety Officer (PHSO) and is coordinated through the HSM.



## **2.0 EMERGENCY ACTION PLAN**

### **2.1 INTRODUCTION**

This section has been developed as part of a planning effort to direct and guide field personnel in the event of an emergency. In the event of an emergency, the field team will primarily evacuate and assemble to an area unaffected by the emergency and notify the appropriate local emergency response personnel/agencies. TtNUS personnel are not authorized to participate in any emergency response activities. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured or ill person. The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. . These agencies will be contacted through NCBC Gulfport Emergency Dispatch or for off-site work they are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time. The Navy Remedial Project Manager will be notified if outside response agencies are contacted.

TtNUS personnel may participate in minor event response and emergency prevention activities such as:

- Initial fire-fighting support and prevention
- Initial spill control and containment measures and prevention
- Removal of personnel from emergency situations
- Provision of initial medical support for injury or illness requiring only first-aid level support
- Provision of site control and security measures as necessary

### **2.2 EMERGENCY PLANNING**

Through the initial hazard/risk assessment effort, emergencies resulting from chemical, physical, or fire hazards are the types of emergencies that could be encountered during site activities. To minimize or eliminate the potential for these emergency situations, pre-emergency planning activities will include the following (which are the responsibility of the SSO and/or the FOL):

- Coordinating response actions with NCBC Gulfport Emergency Services personnel to ensure that TtNUS emergency action activities are compatible with existing facility emergency response procedures. This will serve as the initial review of the Emergency Action Plan.

- Establishing and maintaining information at the project staging area (support zone) for easy access in the event of an emergency. This information will include the following:
  - Chemical Inventory (of chemicals used on site), with Material Safety Data Sheets (MSDS).
  - On-site personnel medical records (Medical Data Sheets).
  - A log book identifying personnel on site each day.
  - Hospital route maps with directions (these should also be placed in each site vehicle).
  - Emergency Notification - phone numbers.

The TtNUS FOL will be responsible for the following tasks:

- Identifying a chain of command for emergency action.
- Educating site workers to the hazards and control measures associated with planned activities at the site, and providing early recognition and prevention, where possible.
- Periodically performing practice drills to ensure site workers are familiar with incidental response measures.
- Providing the necessary equipment to safely accomplish identified tasks.

## **2.3 EMERGENCY RECOGNITION AND PREVENTION**

### **2.3.1 Recognition**

Emergency situations that may be encountered during site activities will generally be recognized by visual observation. Visual observation will also play a role in detecting potential exposure events to some chemical hazards. To adequately recognize chemical exposures, site personnel must have a clear knowledge of signs and symptoms of exposure associated with the principle site contaminants of concern as presented in this HASP. Tasks to be performed at the site, potential hazards associated with those tasks, and the recommended control methods are discussed in detail in Sections 5.0 and 6.0. Additionally, early recognition of hazards will be supported by daily site surveys to eliminate any situation predisposed to an emergency. The FOL and/or the SSO will be responsible for performing surveys of work areas prior to initiating site operations and periodically while operations are being conducted. Survey findings are documented by the FOL and/or the SSO in the Site Health and Safety logbook; however, site personnel will be responsible for reporting hazardous situations. Where potential hazards

exist, TtNUS will initiate control measures to prevent adverse effects to human health and the environment.

The above actions will provide early recognition for potential emergency situations, and allow TtNUS to initiate necessary control measures. However, if the FOL and the SSO determine that control measures are not sufficient to eliminate the hazard, TtNUS will withdraw from the site and notify the appropriate response agencies listed in Table 2-1.

### **2.3.2 Prevention**

TtNUS and subcontractor personnel will minimize the potential for emergencies by following the Health and Safety Guidance Manual and ensuring compliance with the HASP and applicable OSHA regulations. Daily site surveys of work areas by the FOL and/or the SSO, prior to the commencement of that day's activities, will also assist in prevention of illness/injuries when hazards are recognized early and control measures initiated.

## **2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE**

An evacuation will be initiated whenever recommended hazard controls are insufficient to protect the health, safety, or welfare of site workers. Specific examples of conditions that may initiate an evacuation include, but are not limited to the following: severe weather conditions, fire or explosion, monitoring instrumentation readings that indicate levels of contamination are greater than instituted action levels, and evidence of personnel overexposure to potential site contaminants.

In the event of an emergency requiring evacuation, personnel will immediately stop activities and report to the designated safe place of refuge unless doing so would pose additional risks. When evacuation to the primary place of refuge is not possible, personnel will proceed to a designated alternate location and remain until further notification from the TtNUS FOL. Safe places of refuge will be identified prior to the commencement of site activities by the SSO and will be conveyed to personnel as part of the pre-activities training session. This information will be reiterated during daily safety meetings. Whenever possible, the safe place of refuge will also serve as the telephone communications point for that area. During an evacuation, personnel will remain at the refuge location until directed otherwise by the TtNUS FOL or the on-site Incident Commander of the Emergency Response Team. The FOL or the SSO will perform a head count at this location to account for and to confirm the location of site personnel. Emergency response personnel will be immediately notified of any unaccounted personnel. The SSO will document the names of personnel on site (on a daily basis) in the site Health and Safety Logbook. This information will be utilized to perform the head count in the event of an emergency.

In the event that site personnel cannot control the incident through offensive and defensive measures, the FOL and/or SSO will enact the emergency notification procedures to secure additional outside assistance in the following manner:

- Call NCBC Gulfport Emergency Number
- Give the emergency operator the location of the emergency and a brief description of what has occurred.
- Stay on the phone and follow the instructions given by the operator
- The appropriate agency will be notified and dispatched
- Call Navy On-Site Representative
- Call the TOM and the HSM

If an incident occurs at outside of our designated operating areas impacting field personnel, the following procedures are to be initiated:

- Initiate an evacuation (if needed) by voice commands, hand signals, air horns, or two-way radio.
- Call Navy On-Site Representative
- Proceed to the assembly points as directed by NCBC Gulfport or other Navy personnel.

Evacuation procedures will be discussed during the pre-activities training session, prior to the initiation of project tasks. Evacuation routes from the site and safe places of refuge are dependent upon the location at which work is being performed and the circumstances under which an evacuation is required. Additionally, site location and meteorological conditions (i.e., wind speed and direction) may dictate evacuation routes. As a result, assembly points will be selected and communicated to the workers relative to the site location where work is being performed. Evacuation should always take place in an upwind direction from the site.

## **2.5 EMERGENCY CONTACTS**

Prior to initiating field activities, personnel will be thoroughly briefed on the emergency procedures to be followed in the event of an accident. Table 2-1 provides a list of emergency contacts and their associated telephone numbers. This table must be posted where it is readily available to site personnel. Facility maps should also be posted showing potential evacuation routes and designated meeting areas.

As soon as possible, Navy contact Gordon Crane will be informed of any incident or accident that requires medical attention.

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed on site (See Attachment I). If an exposure to hazardous materials has occurred, provide hazard information from Table 6-1 to medical service personnel.



1. On Greenwood Avenue travel South.
2. Turn Left - At on 7<sup>th</sup> Ave
3. Turn Right onto Decatur Ave
4. Turn Left on Broad
5. Turn Left on 13<sup>th</sup> St.
6. Emergency room is on the left approximately one and one half block travelling distance.

**FIGURE 2-1**  
**HOSPITAL ROUTE MAP**



## **2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES**

TtNUS personnel will be working in close proximity to each other at NCBC Gulfport and other work sites associated with the installation of wells and sampling activities. As a result, hand signals, voice commands, and line of site communication will be sufficient to alert site personnel of an emergency.

If an emergency warranting evacuation occurs, the following procedures are to be initiated:

- Initiate the evacuation via hand signals, voice commands, or line of site communication.
- Report to the designated refuge point where the FOL will account for all personnel.
- Once non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

In the event that site personnel cannot mitigate the hazardous situation, the FOL and SSO will enact emergency notification procedures to secure additional assistance in the following manner:

Dial 911 and call other pertinent emergency contacts listed in Table 2-1 and report the incident. Give the emergency operator the location of the emergency, the type of emergency, the number of injured, and a brief description of the incident. Stay on the phone and follow the instructions given by the operator. The operator will then notify and dispatch the proper emergency response agencies.

## **2.8 PPE AND EMERGENCY EQUIPMENT**

A first-aid kit, eye wash units (or bottles of disposable eyewash solution), and fire extinguishers (strategically placed) will be maintained on site and shall be immediately available for use in the event of an emergency. This equipment will be located in the field office as well as in each site vehicle. At least one first aid kit supplied with equipment to protect against bloodborne pathogens will also be available on site. Personnel identified within the field crew with bloodborne pathogen and first-aid training will be the only personnel permitted to offer first-aid assistance.

## **2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT**

During any site evacuation, decontamination procedures will be performed only if doing so does not further jeopardize the welfare of site workers. Decontamination will not be performed if the incident warrants immediate evacuation. However, it is unlikely that an evacuation would occur which would require workers to evacuate the site without first performing the necessary decontamination procedures.

TtNUS personnel will perform rescue operations for emergency situations and may provide initial medical support for injury/illnesses requiring only "Basic First-Aid" level support, and only within the limits of training obtained by site personnel. Basic First-Aid is considered treatment that can be rendered by a trained first aid provider at the injury location and not requiring follow-up treatment or examination by a physician (for example; minor cuts, bruises, stings, scrapes, and burns). Not included as Basic First-Aid are second or third degree burns, cuts, lacerations requiring stitches or butterfly bandaging, heat exhaustion, severe poisonous plant or insect bite reactions. Personnel providing medical assistance are required to be trained in First-Aid and in the requirements of OSHA's Bloodborne Pathogen Standard (29 CFR 1910.1030). Medical attention above First-Aid level support will require assistance from the designated emergency response agencies. Attachment II provides the procedure to follow when reporting an injury or illness, and the form to be used for this purpose. **If the emergency involves personnel exposures to chemicals, follow the steps provided in Figure 2-2.**

## **2.10 INJURY OR ILLNESS REPORTING**

If any TtNUS personnel are injured or develop an illness as a result of working on site, the TtNUS "Injury or Illness Procedure" (Attachment II) must be followed. Following this procedure is necessary for documenting the information obtained at the time of the incident.

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed on site. If an exposure to hazardous materials has occurred, provide information on the chemical, physical, and toxicological properties of the subject chemical(s) to medical service personnel.

## FIGURE 2-2 POTENTIAL EXPOSURE PROTOCOL

The purpose of this protocol is to provide guidance for the medical management of injury situations. In the event of a personnel injury or accident:

- Rescue, when necessary, employing proper equipment and methods.
- Give attention to emergency health problems -- breathing, cardiac function, bleeding, and shock.
- Transfer the victim to the medical facility designated in this HASP by suitable and appropriate conveyance (i.e. ambulance for serious events)
- Obtain as much exposure history as possible (a Potential Exposure report is attached).
- If the injured person is a TtNUS employee, call the medical facility and advise them that the patient(s) is/are being sent and that they can anticipate a call from the WorkCare physician. WorkCare will contact the medical facility and request specific testing which may be appropriate. WorkCare physicians will monitor the care of the victim. Site officers and personnel should not attempt to get this information, as this activity leads to confusion and misunderstanding.
- Call WorkCare at 1-800-455-6155 and enter Extension 109, being prepared to provide:
  - Any known information about the nature of the injury.
  - As much of the exposure history as was feasible to determine in the time allowed.
  - Name and phone number of the medical facility to which the victim(s) has/have been taken.
  - Name(s) of the involved TtNUS employee(s).
  - Name and phone number of an informed site officer who will be responsible for further investigations.
  - Fax appropriate information to WorkCare at (714) 456-2154.
- Contact Corporate Health and Safety Department (Matt Soltis) and Human Resources Department (Marilyn Duffy) at (412) 921-7090.

As data is gathered and the scenario becomes more clearly defined, this information should be forwarded to WorkCare.

WorkCare will compile the results of data and provide a summary report of the incident. A copy of this report will be placed in each victim's medical file in addition to being distributed to appropriately designated company officials.

Each involved worker will receive a letter describing the incident, but deleting any personal or individual comments. A personalized letter describing the individual findings/results will accompany this generalized summary. A copy of the personal letter will be filed in the continuing medical file maintained by WorkCare.

**FIGURE 2-2 (continued)**  
**WORKCARE**  
**POTENTIAL EXPOSURE REPORT**

Name: \_\_\_\_\_ Date of Exposure: \_\_\_\_\_  
Social Security No.: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_  
Client Contact: \_\_\_\_\_ Phone No.: \_\_\_\_\_  
Company Name: \_\_\_\_\_

**I. Exposing Agent**

Name of Product or Chemicals (if known): \_\_\_\_\_

Characteristics (if the name is not known)

Solid            Liquid            Gas            Fume            Mist            Vapor

**II. Dose Determinants**

What was individual doing? \_\_\_\_\_

How long did individual work in area before signs/symptoms developed? \_\_\_\_\_

Was protective gear being used? If yes, what was the PPE? \_\_\_\_\_

Was their skin contact? \_\_\_\_\_

Was the exposing agent inhaled? \_\_\_\_\_

Were other persons exposed? If yes, did they experience symptoms? \_\_\_\_\_

**III. Signs and Symptoms** (check off appropriate symptoms)

**Immediately With Exposure:**

Burning of eyes, nose, or throat	Chest Tightness / Pressure
Tearing	Nausea / Vomiting
Headache	Dizziness
Cough	Weakness
Shortness of Breath	

**Delayed Symptoms:**

Weakness	Loss of Appetite
Nausea / Vomiting	Abdominal Pain
Shortness of Breath	Headache
Cough	Numbness / Tingling

**IV. Present Status of Symptoms** (check off appropriate symptoms)

Burning of eyes, nose, or throat	Nausea / Vomiting
Tearing	Dizziness
Headache	Weakness
Cough	Loss of Appetite
Shortness of Breath	Abdominal Pain
Chest Tightness / Pressure	Numbness / Tingling
Cyanosis	

Have symptoms: (please check off appropriate response and give duration of symptoms)

Improved: \_\_\_\_\_ Worsened: \_\_\_\_\_ Remained Unchanged: \_\_\_\_\_

**V. Treatment of Symptoms** (check off appropriate response)

None: \_\_\_\_\_ Self-Medicating: \_\_\_\_\_ Physician Treated: \_\_\_\_\_

### **3.0 SITE BACKGROUND**

The Naval Construction Battalion Center (NCBC) Gulfport, Mississippi was commissioned as the homeport of the Atlantic Fleet Seabees in 1966. The Base occupies approximately 1,100 acres in the western part of Gulfport in the southeastern coastal area of Mississippi. The Navy previously used the property as a Naval Training Center and Naval Storehouse starting in 1942. Presently, there are four Naval Mobile Construction Battalions (NMCB) based at Gulfport.

#### **3.1 SITE HISTORY AND CURRENT OPERATIONS**

From 1968 to 1977, nearly 23 acres of the Base were used for storage and handling of approximately 850,000 gallons of Herbicide Orange (HO) - and associated dioxins and furans (hereinafter referred to as "dioxin") - in 55-gallon drums. Spills and leaks of HO occurred during that period in the area later known as Site 8 (Areas A, B, and C). The magnitude of the release of HO and dioxin was first investigated in 1977 under the Initial HO Monitoring Program. Subsequent investigations in 1986 and 1987 delineated the horizontal and vertical extent of dioxin in soil at Site 8 to 1 microgram per kilogram ( $\mu\text{g}/\text{kg}$ ). The 1986 and 1987 delineation work at Site 8 was followed by full-scale incineration of the soil contaminated above 1 ppb. The incineration was completed in 1988, and the resulting ash was stored in piles on Area A of Site 8.

In 1990, the USEPA changed the regulations concerning dioxin and lowered the maximum contaminant levels (MCL) for soil and groundwater below the 1mg/kg clean-up levels achieved in 1988. Subsequent investigations from 1995 through 1998 delineated the remaining dioxin in surface water and sediment, soil, and groundwater at Site 8 and at areas hydraulically connected to Site 8 (both on Base and off Base). The results of these investigations confirmed that dioxin-contaminated sediment had migrated from Site 8 into Base drainage ditches. Further, it was discovered that the contaminated sediment had migrated off Base and into the Turkey Creek Watershed north of the Base in an area called the Outfall 3 Swamp. Groundwater and soil impacted by HO-related dioxins were limited to the immediate area of Site 8 and associated ditches.

#### **3.2 AREAS OF CONCERN**

Initial screening of the soil piles were conducted because of the hydrologic connection between the offbase areas of concern (Canal No. 1 and Turkey Creek basins) and the HO storage area at Site 8 via the base drainage system. The results of that screening indicated the presence of dioxin with TCDD at levels above MDEQ residential screening guidance.

Offbase Areas of Concern were identified as early as the initial Herbicide Orange monitoring studies in 1977 and 1978. The previous action level of 1 part per billion resulted in no remedial activities offbase until the screening level was lowered to 4.26 parts per trillion by MDEQ when a  $10^{-6}$  health based standard was adopted.

Since that time, sampling activities starting in 1995 identified the need for offbase remedial action. Two actions have already been completed offbase: The 28<sup>th</sup> Street Removal Action (1995) and the Site 8 Remedial Action (2005 and 2006). One further area with a planned removal action offbase is the Canal Rd. dredge piles – planned to begin in 2007.

In all three cases described above, the mechanism for dioxin transport from Site 8 was via the drainage system and the primary media was sediment. The funding and scope of this work plan continues that work by investigating the potential that sediment was potentially contaminated by dioxin migrating through the local drainage system. As with Canal Rd, our concern was that ditch cleanout activities removed contaminated sediment and placed them along the side of the drainage system in piles. In this case we are interested in Turkey Creek east of the Canal Rd. Bridge.

The intention of this investigation of the offbase AOCs is to attempt to determine if dioxin contaminated materials may have been taken from NCBC and placed in uncontrolled dumping sites. The reports from local residents identify several potential locations north of NCBC Gulfport. This pathway, mechanical removal and deposition, is much more difficult to investigate because there are no historical records: we must rely on oral history and inferred correlations with historical aerial photographs.

Previous attempts to identify dioxin contaminated material placed on private residential property have been attempted using 1 or 2 samples each: Smith Property, Windham Property, South Blvd., and the Simmons Property. In every case, dioxin samples were collected based on oral history and concerns: no TCDD was identified at these properties. However, based on historical sampling activities and results from the same AOC areas addressed in this HASP, dioxin-in-soil concentrations have been detected and may be encountered at concentrations ranging from 2 to 50 parts per trillion (ppt) or 2-50 micrograms of dioxin per kilogram of soil ( $\mu\text{g}/\text{kg}$ ).

## 4.0 SCOPE OF WORK

This section of the HASP addresses proposed site activities that are to be conducted while performing this investigation and associated tasks. The specific tasks anticipated to be involved with this effort include the following:

- Mobilization/demobilization
- Utility clearance activities
- Direct push technology (DPT) well installation
- Multi media sampling
  - Soil sampling via DPT
  - Groundwater sampling
- Decontamination of personnel, DPT, hand tools, and associated sampling equipment
- Investigation derived waste (IDW) Management
- Surveying

No other activities are anticipated to be necessary. If it becomes apparent that additional or modified tasks must be performed beyond those listed above, the work is not to proceed until the FOL or SSO notifies the TOM and the HSM, so that any appropriate modifications to this HASP can first be developed and communicated to the intended task participants.

## **5.0 IDENTIFYING AND COMMUNICATING TASK-SPECIFIC HAZARDS AND GENERAL SAFE WORK PRACTICES**

The purpose of this section is to identify the anticipated hazards and appropriate hazard prevention/hazard control measures that are to be observed for each planned task or operation. These topics have been summarized for each planned task through the use of task-specific Safe Work Permits, which are to be reviewed in the field by the SSO with all task participants prior to initiating any task. Additionally, potential hazard and hazard control matters that are relevant, but are not necessarily task-specific are addressed in this section.

Section 6.0 presents additional information on hazard anticipation, recognition, and control relevant to the planned field activities.

### **5.1 GENERAL SAFE WORK PRACTICES**

In addition to the task-specific work practices and restrictions identified in the Safe Work Permits provided as Attachment III to this HASP, the following general safe work practices are to be followed when conducting work on site.

Eating, drinking, chewing gum or tobacco, taking medication, or smoking in contaminated or potentially contaminated areas or where the possibility for the transfer of contamination exists is prohibited.

- Wash hands and face thoroughly upon leaving a contaminated or suspected contaminated area. If a source of potable water is not available at the work site that can be used for hands-washing, the use of waterless hands cleaning products will be used, followed by actual hands-washing as soon as practicable upon exiting the site.
- Avoid contact with potentially contaminated substances including puddles, pools, mud, or other such areas. Avoid, kneeling on the ground or leaning or sitting on equipment. Keep monitoring equipment away from potentially contaminated surfaces.
- Plan and mark entrance, exit, and emergency evacuation routes.
- Rehearse unfamiliar operations prior to implementation.
- Buddies should maintain visual contact with each other and with other on-site team members by remaining in close proximity to assist each other in case of emergency.

- Establish appropriate safety zones including support, contamination reduction, and exclusion zones.
- Minimize the number of personnel and equipment in contaminated areas (such as the exclusion zone). Non-essential vehicles and equipment should remain within the support zone.
- Establish appropriate decontamination procedures for leaving the site.
- Immediately report all injuries, illnesses, and unsafe conditions, practices, and equipment to the SSO.
- Observe co-workers for signs of toxic exposure and heat or cold stress.
- Inform co-workers of potential symptoms of illness, such as headaches, dizziness, nausea, or blurred vision.

#### **5.1.1 Safe Lifting and Carrying Practices:**

- First, inspect the area where the load will be lifted, transported, and then deposited. Remove any obstacles that could present a tripping or other hazard.
- Perform a "test lift" by slightly pushing or moving the object to gauge your ability to safely lift, move, and deposit the item without injuring yourself. IF YOU ARE NOT CONFIDENT THAT YOU CAN MOVE THE OBJECT WITHOUT INJURING YOURSELF - THEN EITHER GET A MECHANICAL LIFTING AID OR GET HELP. DO NOT ATTEMPT TO MOVE THE OBJECT YOURSELF.
- Get as close to the object as you can, and bend at the knees (not at the back).
- Assure that you can get a firm grasp on the object.
- Keeping the load as close to your body as possible, lift with your legs, and avoid turning or twisting while lifting, carrying, or depositing the load.
- Carry the object in a manner that it does not obstruct your vision and so that you can maintain a clear line of sight of your path of travel and the area where you will set it down.
- Set the object down using the same techniques as you did in lifting it (don't turn or twist, keep it close to your body, use your legs - not your back, etc.).

### 5.1.2 **Safe Work Practices Associated with DPT Operations**

DPT operations can present a variety of physical hazards to personnel. These potential hazards can be minimized or controlled through a variety of methods. These control mechanisms are summarized below:

- Identify underground utilities and buried structures before drilling. Follow the TtNUS Utility Locating and Excavation Clearance SOP located in the TtNUS Health and Safety Guidance Manual Section 7.
- Hearing protection (e.g., ear plugs or ear muffs with noise reduction rating values on the product packaging labels of at least 25 decibels) to protect personnel from exposure to excessive impact and continuous noise levels during DPT operations.
- DPT rigs will be inspected by the SSO or designee, prior to the acceptance of the equipment at the site and prior to the use of the equipment. Repairs or deficiencies identified will be corrected prior to use. Ensure that all machine guarding is in place and properly adjusted. After the initial inspection and release for use on site, additional inspections will be performed at least at the beginning of every 5- or 10-day shift, or following any repairs or significant maintenance activities.
- Block the DPT rig and use levelers to prevent movement of the drill.
- The work area around the point of operation will be graded to the extent possible to remove any trip hazards near or surrounding operating equipment. Mechanisms to secure heavy objects such as DPT tooling sections such as rack storage devices.
- Minimize contact to the extent possible with contaminated tooling and environmental media. Potentially contaminated tooling will be placed on polyethylene sheeting for storage and wrapped for transport to the centrally located equipment decontamination area.
- Support functions (sampling and screening stations) will be maintained a minimum distance from the drill rig of the height of the mast plus 5 feet or 25 feet, whichever is greater.
- Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the DPT rig.
- During maintenance, use only manufacturer provided or approved equipment.

- In order to minimize contact with potentially contaminated tooling and media and to minimize lifting hazards, multiple personnel should be used to move auger flights and other heavy tooling.
- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone.
- Equipment used within the exclusion zone will undergo a complete decontamination and evaluation by the FOL and/or the SSO to determine cleanliness prior to moving to the next location, exiting the site, or prior to down time for maintenance.
- Motorized equipment will be fueled prior to the commencement of the day's activities.
- When not in use, DPT rigs will be shutdown, and emergency brakes set and wheels will be chocked to prevent movement.
- Investigative areas will be restored to equal or better condition than original to remove any contamination brought to the surface and to remove any physical hazards. In situations where these hazards cannot be immediately removed, the area will be barricaded to limit access.

## 6.0 HAZARD ASSESSMENT AND CONTROLS

This section provides reference information regarding the chemical and physical hazards which may be associated with activities that are to be conducted as part of the scope of work.

This section provides reference information regarding the chemical and physical hazards which may be associated with activities that are to be conducted as part of the scope of work.

### 6.1 CHEMICAL HAZARDS

Based on the site history and prior sampling efforts, the contaminant of principal concern at the offsite AOCs is 2,3,7,8 – Tetrachlorodibenzo-p-dioxin (TCDD). A summary hazard assessment of this substance is provided in the following paragraphs.

#### TCDD

There are theoretically 75 different possible chlorinated species. Of those the one considered most toxic is TCDD. Historical data from previous sampling events at the intended work areas indicate that concentrations of TCDD that may be encountered could reach as high as 50 ppt or 0.05 µg/kg. Table 6-1 illustrates the amount of airborne dust that would have to be generated from soil contaminated with this much TCDD before an Occupational Exposure Limit (OEL) would be reached. As indicated in that table, no OEL has been established for TCDD by any of the three US agencies that promulgate these levels (OSHA, NIOSH, and ACGIH). In fact, the only country that currently has an OEL established for TCDD is Germany. Therefore, the German OEL was used to assess the inhalation risk for workers engaged in the planned activities at this site.

**TABLE 6-1  
COMPARISON OF WORST-CASE DIOXIN AIR CONCENTRATIONS  
WITH CURRENT OCCUPATIONAL EXPOSURE LIMIT (OEL)**

Contaminant of Concern	Highest Concentration Anticipated in Soils	Amount Of Dust-In-Air That Would Have To Be Generated Before OEL Concentration Would Be Reached	Current OEL
TCDD	0.05 µg/kg	5.0 mg/m <sup>3</sup>	OSHA, NIOSH & ACGIH: None Germany MAK: 1x10 <sup>-8</sup> mg/m <sup>3</sup> TWA <sub>8</sub>

#### Table Notes:

TWA<sub>8</sub>: Average air concentration over an 8-hour work period that is not to be exceeded

### **TCDD Properties and Exposure Signs/Symptoms**

Under standard temperature and pressure conditions (which are reasonably anticipated to be encountered in the field) TCDD is a colorless to white, crystalline solid. Acute (short term) exposures can result from inhalation of TCDD as airborne solid particulates, through ingestion, or contact with exposed skin or eye contact. The signs and symptoms of an acute exposure may include irritation of the eyes, an allergic dermatitis (resembling acne, commonly referred to as "chloracne"), and gastrointestinal tract disturbances.

The principle routes that a worker could be exposed to this COC include inhalation, ingestion, and some concern for exposure via direct skin contact. These potential exposure routes and the means that will be used to prevent or control them are addressed below.

**Inhalation:** Based on the data from previous investigations at this worksite, worker exposure to airborne concentrations of PCE that could represent a health concern is considered to be possible, but not highly likely. Table 6-1 illustrates that assuming the highest level of contamination in soils or sediments is actually encountered, that soil would have to be disturbed to the point where at least 5.0 mg/m<sup>3</sup> would have to be generated before an OEL concentration would be approached. This level of dust in air is well within the range of what is recognized as being visible to the unaided human eye (>2.5 mg/m<sup>3</sup>). Recognizing that the planned activities (hand augering and soil sampling) do not generally result in the creation of significant levels of suspended dust in air conditions, and that the soil/sediment conditions that are anticipated to be encountered will be damp or saturated, it is unlikely that workers would encounter airborne concentrations that would represent an inhalation exposure concern. If dust generation does occur, area wetting techniques will be employed to suppress the dust.

**Ingestion and Skin Contact:** Potential exposure concerns to TCDD may also occur through ingesting or coming into direct skin or eye contact with contaminated soils. The likelihood of worker exposure concerns through these two routes are also considered very unlikely, provided that workers follow good personal hygiene and standard good sample collection/sample handling practices, and wear appropriate PPE as specified in this HASP. Examples onsite practices that are to be observed that will protect workers from exposure via ingestion or skin contact include the following:

- No hand-to-mouth activities on site (eating, drinking, smoking, etc.)
- Washing hands upon leaving the work area and prior to performing any hand to mouth activities
- Wearing surgeon's-style gloves and eye protection whenever handling potentially-contaminated media, including soils, hand tools, and sample containers.

Other sources of potential chemical exposure are decontamination fluids (e.g., Liquinox, isopropanol), and analytical preservatives. For any substances brought onto the site, the SSO is responsible for instituting a site-specific Hazard Communication Program (see Section 5.0 of the TtNUS Health and Safety Guidance Manual) and for collecting the appropriate Material Safety Data Sheets (MSDS) from the chemical manufacturers/suppliers. .

## **6.2 PHYSICAL HAZARDS**

The following is a list of physical hazards that may be encountered at the site or may be present during the performance of site activities.

- Injury due to overexertion from operating the hand auger
- Slip, trips, and falls
- Contact with underground (electric lines, gas lines, water lines, etc.)
- Strain/muscle pulls from heavy lifting
- Heat stress
- Pinch/compression points
- Natural hazards (snakes, ticks, poisonous plants, etc.)
- Vehicular and equipment traffic
- Inclement weather

These hazards are discussed further below, and are presented relative to each task in the task-specific Safe Work Permits.

### **6.2.1 Injury Due to Hand Augering**

Operating a hand auger can be physically demanding depending on factors such as the conditions of the soil, the conditions of the auger tooling, and the physical capabilities of the operator(s). Potential injuries such as muscle strains, tendon or ligament sprains, or back or other soft-tissue injuries, as well as bruises, abrasions or cuts from handling or operating the hand auger tooling.

Other potential injuries that could be presented from physical threats during this task include foot injuries, eye injuries, and injury from unintentional contact with underground utilities.

As part of the site-specific training, site personnel shall be advised of the hazards associated with working this equipment. Prior to beginning any soil-disturbance activities, the FOL/SSO shall be responsible for assuring that the intended location is clear of any underground utilities by following the TtNUS Utility Locating And Excavation Clearance SOP attached to this HASP.

Additional safety measures used to prevent injury during this task include: assuring that only persons who are confident that they can physically perform this activity without injuring themselves participate in operating a hand auger, performing simple stretches prior to beginning the task, ensuring that the hand auger tooling is maintained in effective working order, avoiding injury by stopping if strong resistance is encountered (such as if impassable rocky conditions are encountered), getting assistance if needed, and wearing appropriate PPE (i.e., work gloves, steel toe shoes, and safety impact eye protection).

### **6.2.2 Slips, Trips, and Falls**

During various site activities there is a potential for slip, trip, and fall hazards associated with wet, steep, or unstable work surfaces. To minimize hazards of this nature, personnel required to work in and along areas prone to these types of hazards will be required to exercise caution, and use appropriate precautions (e.g., restrict access, guardrails, life lines and/or safety harnesses) and other means suitable for the task at hand. Site activities will be performed using the buddy system.

### **6.2.3 Contact with Underground Utilities**

Underground utilities such as pressurized lines, water lines, telephone lines, buried utility lines, and high voltage power lines are known to be present throughout the facility. Clearance of underground utilities for each hand auger location will be coordinated Sunshine State One Call of Florida. The TtNUS Utility Locating and Excavation Clearance SOP is located in the Tetra Tech NUS Health and Safety Guidance Manual Section 7.

### **6.2.4 Strain, Sprains, and Muscle Pulls from Heavy Lifting**

During execution of planned activities there is some potential for strains, sprains, and/or muscle pulls due to the physical demands and nature of this site work. To avoid injury during lifting tasks, personnel are to lift with the force of the load carried by their legs and not their backs. When lifting or handling heavy material or equipment use an appropriate number of personnel. Keep the work area free from ground clutter to avoid unnecessary twisting or sudden movements while handling loads.

### **6.2.5 Heat Stress**

Because of the geographical location of the planned work, the likely seasonal weather conditions that will exist during the planned schedule, and the physical exertion that can be anticipated with some of the planned tasks, it will be necessary for the field team to be aware of the signs and symptoms and the measures appropriate to prevent heat stress. This is addressed in detail in section 4.0 of the TtNUS

Health and Safety Guidance Manual, which the SSO is responsible for reviewing and implementing as appropriate on this project.

In general, early signs of heat-related disorders include heat rash, cramps, heavy sweating which may be followed by the complete shutdown of a person's ability to sweat, pale/clammy skin, headaches, dizziness, incoordination, and other maladies. To prevent heat stress disorders, the following preventive measures are to be implemented by the SSO:

- When possible, schedule the most physically-demanding tasks so that they are performed during cooler periods of the day such as early morning or late afternoon.
- Educate the field staff in heat stress signs and symptoms so that they can monitor themselves and their co-workers.
- Schedule frequent breaks during the hottest parts of the day (such as a few minutes each hour). Breaks should be in shaded areas, and in a location where workers can remove PPE, wash their hands, and drink fluids.
- Drinking fluids should be cool and non-caffeinated. Sports-drinks with electrolytes are acceptable provided that they do not contain alcohol. Water is also acceptable.

For more information on heat stress recognition and prevention, consult section 4.0 of the TtNUS Health and Safety Guidance Manual.

#### **6.2.6 Pinch/Compression Points**

Handling of tools, machinery, and other equipment on site may expose personnel to pinch/compression point hazards during normal work activities. Where applicable, equipment will have intact and functional guarding to prevent personnel contact with hazards. Personnel will exercise caution when working around pinch/compression points, using additional tools or devices (e.g., pinch bars) to assist in completing activities.

#### **6.2.7 Natural Hazards**

Natural hazards such as poisonous plants, bites from poisonous or disease carrying animals or insects (e.g., snakes, ticks, mosquitoes) are often prevalent at sites that are being investigated as part of hazardous waste site operations. Given the geographic location and the environment (marshes and lakes), alligators are also assumed to be potentially present at the NCBC Gulfport facility. To minimize

the potential for site personnel to encounter these hazards, nesting areas in and about work areas will be avoided to the greatest extent possible. Work areas will be inspected to look for any evidence that dangerous animals may be present. Based on the planned location for the work covered by this HASP, encountering alligators is not a likely probability.

During warm months (spring through early fall), tick-borne Lyme Disease may pose a potential health hazard. The longer a disease carrying tick remains attached to the body, the greater the potential for contracting the disease. Wearing long sleeved shirts and long pants (tucked into boots and taped) will prevent initial tick attachment, while performing frequent body checks will help prevent long term attachment. Site first aid kits should be equipped with medical forceps and rubbing alcohol to assist in tick removal. For information regarding tick removal procedures and symptoms of exposure, consult Section 4.0 of the Health and Safety Guidance Manual.

Contact with poisonous plants and bites or stings from poisonous insects are other potential natural hazards. Long sleeved shirts and long pants (tucked into boots), and avoiding potential nesting areas, will minimize the potential for exposure. Additionally, insect repellents may be used by site personnel. Personnel who are allergic to stinging insects (such as bees, wasps, and hornets) must be particularly careful since severe illness and death may result from allergic reactions. As with any medical condition or allergy, information regarding the condition must be listed on the Medical Data Sheet (see Attachment I of this HASP), and the FOL or SSO notified.

#### **6.2.8      Vehicular and Equipment Traffic**

Hazards associated with vehicular and equipment traffic are likely to exist during various site activities and whenever site personnel perform work on or near roadways. Additionally, site personnel will be instructed to maintain awareness of traffic and moving equipment when performing site activities. When working near roadways, site personnel will wear high visibility vests.

#### **6.2.9      Inclement Weather**

Project tasks under this scope of work will be performed outdoors. As a result, inclement weather may be encountered. In the event that adverse weather (electrical storms, tornadoes, etc.) conditions arise, the FOL and/or the SSO will be responsible for temporarily suspending or terminating activities until hazardous conditions no longer exist.

## Tropical Storms and Hurricanes

As Mississippi is a tropical storm, hurricane prone area, the following information is supplied to explain the potential severity of these natural hazards. The decision to curtail operations and evacuate the area should be made by the FOL, PM, and the HSM.

During the early summer to late fall months, typically from the first of June through the end of November, disturbances migrating off the West Coast of Africa move into the Atlantic Ocean and develop into tropical cyclones known as tropical storms and hurricanes. Many of these cyclones become strong enough to threaten life and property along the Eastern Seaboard and Gulf Coast. There are three main threats associated with tropical storms and hurricanes:

- High winds
- Excessive rainfall
- Storm surge

The impacts of high winds and excessive rainfall occur hours, maybe days, before the tropical storm or hurricane makes landfall. However, the storm surge accompanies the storm or hurricane at the time that landfall occurs.

### High Winds

Sustained winds vary greatly from storm to storm, but can range from 39 to 73 miles per hour (wind speeds associated with a tropical storm) to greater than 74 miles per hour (minimal wind speed for a Category 1 hurricane). Table 6-2 compares the type of storm or hurricane and the corresponding wind speed.

**TABLE 6-2  
TROPICAL STORM/HURRICANE RATING SCALE**

TYPE	CATEGORY*	WINDS (MPH)
Tropical Depression	NA	>35-38
Tropical Storm	NA	39 – 73
Hurricane	1	74 – 95
Hurricane	2	96 – 110
Hurricane	3	111 – 130
Hurricane	4	131 – 155
Hurricane	5	>155

Based on the Saffir-Simpson scale

NA – Not Applicable

In addition to strong winds, there is the threat of debris (i.e. building material, trees, etc.) becoming airborne projectiles as they are carried by the high winds. Thunderstorms and tornadoes embedded within the tropical storm or hurricane can further increase the wind speeds on a localized level.

### Excessive Rainfall

Heavy rains associated with tropical storms and hurricanes also vary greatly from storm to storm. On average, an inch of rainfall an hour is not uncommon with major hurricanes, somewhat lesser amounts with tropical storms. However, the primary threat is not the intensity of rain, but the duration of rainfall. Since many tropical storms and hurricanes are slow-movers, they are capable of producing sustained heavy rainfall over a long period of time. It is not uncommon for an area to receive nearly 20 inches of rain in 24 hours. Under these conditions, street; stream and creek flooding is inevitable only to be exacerbated by locally heavier rains from thunderstorms.

### Storm Surge

The storm surge is an abnormal rise in sea level accompanying a hurricane or tropical storm. The height of the storm surge (usually measured in feet) is the difference in sea level from the observed level (during the storm) and the level that would have occurred in the absence of the storm or hurricane. The more intense the storm or hurricane the higher the storm surge. Storm surges become even higher if they occur during periods of high tide. Table 6-3 defines some of the terminology and possible calls to action regarding tropical cyclones:

**TABLE 6-3**  
**TROPICAL STORM/HURRICANE**  
**WATCH AND WARNING**

<b>STORM DESCRIPTION</b>	<b>DEFINITION</b>	<b>CALL TO ACTION</b>
Tropical Storm Watch	Tropical storm conditions are possible in the specified area of the watch, usually within 36 hours	Weather conditions should be monitored for further advisories.  Prepare for possible evacuation by local officials
Tropical Storm Warning	Tropical storm conditions are expected in the specified area of the warning, usually within 24 hours.	Work should be suspended in areas where lightning, high winds and rainfall could pose a threat to life.  Mandatory evacuations may be enforced by local officials.
Hurricane Watch	Hurricane conditions are possible in the specified area of the watch, usually within 36 hours.	Weather conditions should be monitored for further advisories.  Prepare for possible evacuation by local officials
Hurricane Warning	Hurricane conditions are expected in the specified area of the warning,	Mandatory evacuations will most likely be enforced by local officials.

	usually within 24 hours.	
--	--------------------------	--

A NOAA Weather Radio is the best means to receive watches and warnings from the National Weather Service. The National Weather Service continuously broadcasts updated hurricane advisories that can be received by widely available NOAA Weather Radios.

## **7.0 AIR MONITORING**

Historical documentation indicates that contaminant of concern is TCDD which is a solid and non-volatile. As summarized in Section 6.0 of this HASP, a worst-case analysis of available historical data indicate that reliance on recognizing and avoiding visibly dusty conditions will be adequate to protect site workers from encountering any inhalation exposure concerns. Therefore, direct reading instruments will not be required to monitor worker exposures for the work covered by this HASP.

## **8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS**

### **8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING**

This section is included to specify health and safety training and medical surveillance requirements for TtNUS personnel participating in on-site activities. TtNUS personnel must complete 40 hours of introductory hazardous waste site training prior to performing work at the NCBC Gulfport. TtNUS personnel who have had introductory training more than 12 months prior to site work must have completed 8 hours of refresher training within the past 12 months before being cleared for site work. In addition, 8-hour supervisory training in accordance with 29 CFR 1910.120(e)(4) will be required for site supervisory personnel.

Documentation of TtNUS introductory, supervisory, and refresher training as well as site-specific training will be maintained at the site. Copies of certificates or other official documentation will be used to fulfill this requirement.

### **8.2 SITE-SPECIFIC TRAINING**

TtNUS SSO will provide site-specific training to TtNUS employees who will perform work on this project. Figure 8-1 will be used to document the provision and content of the project-specific and associated training. Site personnel will be required to sign this form prior to commencement of site activities. This training documentation will be employed to identify personnel who, through record review and attendance of the site-specific training, are cleared for participation in site activities. This document shall be maintained at the site to identify and maintain an active list of trained and cleared site personnel.

The TtNUS SSO will also conduct a pre-activities training session prior to initiating site work. This will consist of a brief meeting at the beginning of each day to discuss operations planned for that day, and a review of the appropriate Safe Work Permits with the planned task participants. A short meeting may also be held at the end of the day to discuss the operations completed and any problems encountered.

### **8.3 MEDICAL SURVEILLANCE**

TtNUS personnel participating in project field activities will have had a physical examination meeting the requirements of TtNUS's medical surveillance program. Documentation for medical clearances will be maintained in the TtNUS Pittsburgh office and made available, as necessary, and will be documented using Figure 8-1 for every employee participating in on-site work activities.

Each field team member, including visitors, entering the exclusion zone(s) shall be required to complete and submit a copy of the Medical Data Sheet (see Attachment I of this HASP). This shall be provided to the SSO, prior to participating in site activities. The purpose of this document is to provide site personnel and emergency responders with additional information that may be necessary in order to administer medical attention.

#### **8.4 SITE VISITORS**

All site visitors to the site must be escorted at all times and restricted from approaching any work areas where they could be exposed to hazards from TtNUS operations. If a visitor has authorization from the client and from the TtNUS TOM to approach our work areas, the FOL must assure that the visitor first provides documentation indicating successful completion of the necessary OSHA introductory training, receive site-specific training from the SSO, and that they have been physically cleared to work on hazardous waste sites.



## **9.0 SITE CONTROL**

This section outlines the means by which TtNUS will delineate work zones and use these work zones in conjunction with decontamination procedures to prevent the spread of contaminants into previously unaffected areas of the site. It is anticipated that a three-zone approach will be used during work at this site. This approach will be comprised of an exclusion zone, a contamination reduction zone, and a support zone. It is also anticipated that this approach will control access to site work areas, restricting access by the general public, minimizing the potential for the spread of contaminants, and protecting individuals who are not cleared to enter work areas.

### **9.1 EXCLUSION ZONE**

The exclusion zone will be considered the areas of the site of known or suspected contamination. Therefore, the exclusion zones for this project will be limited to those areas of the site where active work (DPT rig plus height of mast plus 5 feet or 25 feet from rig, whichever is greater, and 15 feet area around hand augering and sample collection points) is being performed. Exclusion zones will be delineated as deemed appropriate by the FOL, through means such as erecting visibility fencing, barrier tape, cones, and/or postings to inform and direct personnel.

#### **9.1.1 Exclusion Zone Clearance**

A pre-startup site visit will be conducted by members of the identified field team in an effort to identify proposed subsurface investigation locations, conduct utility clearances, and provide upfront notices concerning scheduled activities within the facility.

Subsurface activities will proceed only when utility clearance has been obtained. In the event that a utility is struck during a subsurface investigative activity, the emergency numbers provided in Section 2.0, Table 2-1, will be notified.

### **9.2 CONTAMINATION REDUCTION ZONE**

The contamination reduction zone will be a buffer area between the exclusion zone and any area of the site where contamination is not suspected. This area will also serve as a focal point in supporting exclusion zone activities. This area will be delineated using barrier tape, cones, and postings to inform and direct facility personnel. Decontamination will be conducted at a central location. Equipment potentially contaminated will be bagged and taken to that location for decontamination.

### **9.3 SUPPORT ZONE**

The support zone for this project will include a staging area where site vehicles will be parked, equipment will be unloaded, and where food and drink containers will be maintained. The support zones will be established at areas of the site away from potential exposure to site contaminants during normal working conditions or foreseeable emergencies.

### **9.4 SAFE WORK PERMITS**

Exclusion Zone work conducted in support of this project will be performed using Safe Work Permits to guide and direct field crews on a task by task basis. An example of the Safe Work Permits to be used is provided in Figure 9-1. Partially completed Safe Work Permits for the work to be performed are provided in Attachment III. These permits were completed to the extent possible as part of the development of this HASP. It is the SSO's responsibility to finalize and complete all blank portions of the Safe Work Permits based on current, existing conditions the day the task is to be performed, and then review that completed permit with all task participants as part of a pre-task tail gate briefing session. This will ensure that site-specific considerations and changing conditions are appropriately incorporated into the Safe Work Permit, provide the SSO with a structured format for conducting the tail gate sessions, as well will also give personnel an opportunity to ask questions and make suggestions. All Safe Work Permits require the signature of the FOL or SSO.

### **9.5 SITE VISITORS**

Site visitors for the purpose of this document are identified as representing the following groups of individuals:

- Personnel invited to observe or participate in operations by TtNUS
- Regulatory personnel (i.e., DOD, USEPA, OSHA)
- Property Owners
- Authorized Navy Personnel
- Other authorized visitors

Non-Department of Defense (DOD) personnel working on this project are required to gain initial access to the base by coordinating with the TtNUS FOL or designee and following established base access procedures.

Once access to the base is obtained, personnel who require site access into areas of ongoing operations will be required to obtain permission from the TOM. Upon gaining access to the site, site visitors wishing

to observe operations in progress will be escorted by a TtNUS representative and shall be required to meet the minimum requirements discussed below:

- Site visitors will be directed to the FOL or SSO, who will sign them into the field logbook. Information to be recorded in the logbook will include the individual's name (proper identification required), the entity which they represent, and the purpose of the visit.
- Site visitors wishing to enter the exclusion zone will be required to produce the necessary information supporting clearance to the site. This shall include information attesting to applicable training and medical surveillance as stipulated in Section 8.0 of this document. In addition, to enter the site operational zones during planned activities, visitors will be required to first go through site-specific training covering the topics stipulated in Section 8.2 of this HASP.

Once the site visitors have completed the above items, they will be permitted to enter the operational zone. Visitors are required to observe the protective equipment and site restrictions in effect at the site at the time of their visit. Visitors entering the exclusion zones during ongoing operations will be accompanied by a TtNUS representative. Visitors not meeting the requirements, as stipulated in this plan, for site clearance will not be permitted to enter the site operational zones during planned activities. Any incidence of unauthorized site visitation will cause the termination of on-site activities until the unauthorized visitor is removed from the premises. Removal of unauthorized visitors will be accomplished with support from base security personnel.

## **9.6 SITE SECURITY**

As the AOCs covered by this HASP are all located outside of the property lines of the Base, site security will be accomplished by TtNUS field personnel. TtNUS will retain complete control over active operational areas. The first line of security will take place using exclusive zone demarcations (such as barriers, flagging, cones, etc.) to clearly identify the active work areas where safety and health requirements must be observed, and to also restrict the general public or other unauthorized persons from approaching our work areas putting either themselves or TtNUS staff at risk of injury. The second line of security will take place at the work site referring interested parties to the Base Contact

## **9.7 SITE MAP**

Once the areas of contamination, access routes, topography, and dispersion routes are determined, a site map will be generated and adjusted as site conditions change. These maps will be posted to illustrate up-to-date collection of contaminants and adjustment of zones and access points.

## **9.8 BUDDY SYSTEM**

Personnel engaged in on-site activities will practice the "buddy system" to ensure the safety of personnel involved in this operation.

## **9.9 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS**

TtNUS and subcontractor personnel will provide MSDS for chemicals brought on site. The contents of these documents will be reviewed by the SSO with the user(s) of the chemical substances prior to any actual use or application of the substances on site. A chemical inventory of the chemicals used on site will be developed using the Health and Safety Guidance Manual. The MSDSs will then be maintained in a central location (i.e., temporary office) and will be available for anyone to review upon request.

## **9.10 COMMUNICATION**

As personnel will be working in proximity to one another during field activities, a supported means of communication between field crew members will not be necessary.

External communications will be accomplished utilizing telephones at predetermined and approved locations or through cellular phones. External communication will primarily be used for the purpose of resource and emergency resource communications. Prior to the commencement of site activities, the FOL will determine and arrange for telephone communications, if it is determined a cellular means will not be used.

**FIGURE 9-1  
SAFE WORK PERMIT**

Permit No. \_\_\_\_\_ Date: \_\_\_\_\_ Time: From \_\_\_\_\_ to \_\_\_\_\_

**I. Work limited to the following (description, area, equipment used):** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**II. Primary Hazards:** Potential hazards associated with this task:  
 \_\_\_\_\_  
 \_\_\_\_\_

**III. Field Crew:** \_\_\_\_\_

**IV. On-site Inspection conducted**  Yes  No Initials of Inspector \_\_\_\_\_ TtNUS  
**Equipment Inspection required**  Yes  No Initials of Inspector \_\_\_\_\_ TtNUS

**V. Protective equipment required**

Level D  Level B   
 Level C  Level A

Modifications/Exceptions: \_\_\_\_\_

**Respiratory equipment required**

Yes  Specify on the reverse  
 No

<b>VI. Chemicals of Concern</b>	<b>Hazard Monitoring</b>	<b>Action Level(s)</b>	<b>Response Measures</b>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Primary Route(s) of Exposure/Hazard:** \_\_\_\_\_  
 \_\_\_\_\_

**(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)**

**VII. Additional Safety Equipment/Procedures**

Hard-hat.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Hearing Protection (Plugs/Muffs)...	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety Glasses .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Safety belt/harness .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Chemical/splash goggles .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Radio/Cellular Phone .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Splash Shield .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Barricades.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Splash suits/coveralls .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Gloves (Type – ) .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Impermeable apron.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Work/rest regimen .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Steel toe Work shoes or boots...	<input type="checkbox"/> Yes <input type="checkbox"/> No	Chemical Resistant Boot Covers ...	<input type="checkbox"/> Yes <input type="checkbox"/> No
High Visibility vest .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Tape up/use insect repellent .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
First Aid Kit .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Fire Extinguisher .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety Shower/Eyewash .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Other.....	<input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: \_\_\_\_\_

**VIII. Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical Hazards Identified and Isolated (Splash and containment barriers).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**IX. Additional Permits required** (Hot work, confined space entry, excavation etc.).....  Yes  No  
*If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090*

**X. Special instructions, precautions:** \_\_\_\_\_  
 \_\_\_\_\_

Permit Issued by: \_\_\_\_\_ Permit Accepted by: \_\_\_\_\_

Figure 9-2  
Aerial Site Map Denoting The AOC Work Areas



## **10.0 SPILL CONTAINMENT PROGRAM**

### **10.1 SCOPE AND APPLICATION**

It is not anticipated that bulk hazardous materials (over 55-gallons) will be handled at any given time as part of this scope of work. It is also not anticipated that such spillage would constitute a danger to human health or the environment. However, as the job progresses, the potential may exist for accumulating IDW such as decontamination fluids in a central staging area. As needed, 55-gallon drums will be used to contain decontamination fluids generated during field activities. Once the fluids and other materials have been characterized, they can be removed from this area and properly disposed. Because these fluids and soils remained uncharacterized while in the staging area, a spill containment program will be developed and instituted as part of this HASP.

### **10.2 POTENTIAL SPILL AREAS**

Potential spill areas will be periodically monitored in an ongoing attempt to prevent and control further potential contamination of the environment. Currently, limited areas are vulnerable to this hazard including:

- Resource deployment
- Waste transfer
- Central staging

It is anticipated that the IDW generated as a result of this scope of work will be containerized, labeled, and staged to await further analyses. The results of these analyses will determine the method of disposal.

### **10.3 LEAK AND SPILL DETECTION**

To establish an early detection of potential spills or leaks, a periodic walk-around by the personnel staging or disposing of drums area will be conducted during working hours to visually determine that storage vessels are not leaking. If a leak is detected, the contents will be transferred, using a hand pump, into a new vessel. The leak will be collected and contained using absorbents such as Oil-Dry, vermiculite, or sand, which are stored at the vulnerable areas in a conspicuously marked drum. This used material, too, will be containerized for disposal pending analysis. Inspections will be documented in the project logbook.

#### **10.4 PERSONNEL TRAINING AND SPILL PREVENTION**

Personnel will be instructed in the procedures for incipient spill prevention, containment, and collection of hazardous materials in the site-specific training. The FOL and the SSO will serve as the Spill Response Coordinators for this operation, should the need arise.

#### **10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT**

The following represents the types of equipment that should be maintained at the staging areas for the purpose of supporting this Spill Prevention/Containment Program.

- Sand, clean fill, vermiculite, or other non combustible absorbent (Oil-dry)
- Drums [55-gallon U.S. Department of Transportation (DOT) 1A1 or 1A2]
- Shovels, rakes, and brooms
- Container labels

#### **10.6 SPILL CONTROL PLAN**

This section describes the procedures the TtNUS field crew members will employ upon the detection of a spill or leak.

1. Notify the SSO or FOL immediately upon detection of a leak or spill. Activate emergency alerting procedures for that area to remove non-essential personnel.
2. Employ the PPE stored at the staging area. Take immediate actions to stop the leak or spill by plugging or patching the container or raising the leak to the highest point in the vessel. Spread the absorbent material in the area of the spill, covering it completely.
3. Transfer the material to a new vessel; collect and containerize the absorbent material. Label the new container appropriately. Await analyses for treatment and disposal options.
4. Re-containerize spills, including 2-inch of top cover impacted by the spill. Await test results for treatment or disposal options.

It is not anticipated that a spill will occur that the field crew cannot handle. Should this occur, notification of the appropriate Emergency Response agencies will be carried out by the FOL or SSO in accordance with the procedures discussed in Section 2.0 of this HASP.

## 11.0 CONFINED-SPACE ENTRY

It is not anticipated under the proposed scope of work that confined space and permit-required confined space activities will be conducted. Therefore, personnel under the provisions of this HASP are not allowed under any circumstances to enter confined spaces.

### **A confined space is defined as a space that:**

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
- Is not designed for continuous employee occupancy.

### **A Permit-Required Confined Space is a confined space that has one or more of the following characteristics:**

- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material that has the potential to engulf an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
- Contains any other recognized, serious safety or health hazard.

For further information on confined space, consult the Health and Safety Guidance Manual or call the PHSO. If confined space operations are to be performed as part of the scope of work, detailed procedures and training requirements will have to be addressed, and the HSM will have to be notified.

## 12.0 MATERIALS AND DOCUMENTATION

The TtNUS FOL shall ensure the following materials/documents are taken to the project site and used when required.

- A complete copy of this HASP
- Health and Safety Guidance Manual
- Incident Reports
- Medical Data Sheets
- MSDS for chemicals brought on site, including decontamination solutions, fuels, sample preservatives, calibration gases, etc.
- A full-size OSHA Job Safety and Health Poster (posted in the site trailer)
- Training/Medical Surveillance Documentation Form (Blank)
- First-Aid Supply Usage Form
- Emergency Reference Form (Section 2.0, extra copy for posting)
- Directions to the Hospital

### 12.1 MATERIALS TO BE POSTED AT THE SITE

The following documentation is to be posted or maintained at the site for quick reference purposes. In situations where posting these documents is not feasible (such as no office trailer), these documents should be separated and immediately accessible.

- **Chemical Inventory Listing (posted)** - This list represents all chemicals brought on site, including decontamination solutions, sample preservations, fuel, etc. This list should be posted in a central area.
- **MSDSs (maintained)** - The MSDSs should also be in a central area accessible to all site personnel. These documents should match all the listings on the chemical inventory list for all substances employed on-site. It is acceptable to have these documents within a central folder and the chemical inventory as the table of contents.
- **The OSHA Job Safety & Health Protection Poster (posted)** - This poster (Attachment IV) should be conspicuously posted in places where notices to employees are normally posted, as directed by 29 CFR 1903.2 (a)(1). Each FOL shall ensure that this poster is not defaced, altered, or covered by other material. The law also states that reproductions or facsimiles of the poster shall be at least 8 1/2 by 14 inches with 10 point type.

- **Site Clearance (maintained)** - This list is found within the training section of the HASP (Figure 8-1). This list identifies all site personnel, dates of training (including site-specific training), and medical surveillance. The list indicates not only clearance, but also status. If personnel do not meet these requirements, they do not enter the site while site personnel are engaged in activities.
- **Emergency Phone Numbers and Directions to the Hospital(s) (posted)** - This list of numbers and directions will be maintained at all phone communications points and in each site vehicle.
- **Medical Data Sheets/Cards (maintained)** - Medical Data Sheets will be filled out by on-site personnel and filed in a central location. The Medical Data Sheet will accompany any injury or illness requiring medical attention to the medical facility. A copy of this sheet or a wallet card will be given to all personnel to be carried on their person.
- **Personnel Monitoring (maintained)** - All results generated through personnel sampling (levels of airborne toxins, noise levels, etc.) will be posted to inform individuals of the results of that effort.
- **Placards and Labels (maintained)** - Where chemical inventories have been separated because of quantities and incompatibilities, these areas will be conspicuously marked using DOT placards and acceptable [Hazard Communication 29 CFR 1910.1200(f)] labels.

The purpose of maintaining or posting this information, as stated above, is to allow site personnel quick access. Variations concerning location and methods of presentation are acceptable providing the objective is accomplished.

### 13.0 ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
CERCLA	Comprehensive Environmental Response, Compensation, and Liabilities Act
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSP	Certified Safety Professional
CTO	Contract Task Order
DOD	Department of Defense
DPT	Direct Push Technology
DRI	Direct Reading Instrument
FDEP	Florida Department of Environmental Protection
FOL	Field Operations Leader
HASP	Health and Safety Plan
HSM	Health and Safety Manager
IDW	Investigation Derived Waste
MSDS	Material Safety Data Sheet
NCBC	Naval Construction Battalion Center
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PEL	permissible exposure limit
PHSO	Project Health and Safety Officer
PPE	Personal Protective Equipment
ppm	parts per million
REL	recommended exposure limit
SOP	Standard Operating Procedure
SSO	Site Safety Officer
STEL	short term exposure limit
TLV	threshold limit value
TOM	Task Order Manager
TtNUS	Tetra Tech NUS, Inc.
TWA <sub>8</sub>	time weighted average 8-hours
USEPA	United States Environmental Protection Agency

# **ATTACHMENT I**

## **MEDICAL DATA SHEET**

## MEDICAL DATA SHEET

This Medical Data Sheet must be completed by on-site personnel and kept in the command post during the conduct of site operations. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

Project \_\_\_\_\_

Name \_\_\_\_\_ Home Telephone \_\_\_\_\_

Address \_\_\_\_\_

Age \_\_\_\_\_ Height \_\_\_\_\_ Weight \_\_\_\_\_

Person to notify in the event of an emergency: Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Drug or other Allergies: \_\_\_\_\_

Particular Sensitivities: \_\_\_\_\_

Do You Wear Contacts? \_\_\_\_\_

What medications are you presently using? \_\_\_\_\_

Name, Address, and Phone Number of personal physician: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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### **Note: Health Insurance Portability and Accountability Act (HIPAA) Requirements**

HIPAA took effect April 14, 2003. Loosely interpreted, HIPAA regulates the disclosure of Protected Health Information (PHI) by the entity collecting that information. PHI is any information about health status (such as that you may report on this Medical Data Sheet), provision of health care, or other information. HIPAA also requires TtNUS to ensure the confidentiality of PHI. This Act can affect the ability of the Medical Data Sheet to contain and convey information you would want a Doctor to know if you were incapacitated. So before you complete the Medical Data Sheet understand that this form will not be maintained in a secure location. It will be maintained in a file box or binder accessible to other members of the field crew so that they can accompany an injured party to the hospital.

DO NOT include information that you do not wish others to know, only information that may be pertinent in an emergency situation or treatment.

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\_\_\_\_\_

Name (Print clearly)

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

# **ATTACHMENT II**

## **INCIDENT REPORT FORM**

Report Date	Report Prepared By	Incident Report Number
<b>INSTRUCTIONS:</b>		
All incidents (including those involving subcontractors under direct supervision of Tetra Tech personnel) must be documented on the IR Form.		
Complete any additional parts to this form as indicated below for the type of incident selected.		
TYPE OF INCIDENT (Check all that apply)		Additional Form(s) Required for this type of incident
Near Miss (No losses, but could have resulted in injury, illness, or damage)	<input type="checkbox"/>	Complete IR Form Only
Injury or Illness	<input type="checkbox"/>	Complete Form IR-A; Injury or Illness
Property or Equipment Damage, Fire, Spill or Release	<input type="checkbox"/>	Complete Form IR-B; Damage, Fire, Spill or Release
Motor Vehicle	<input type="checkbox"/>	Complete Form IR-C; Motor Vehicle
INFORMATION ABOUT THE INCIDENT		
<b>Description of Incident</b>		
<hr/> <hr/> <hr/>		
<b>Date of Incident</b>	<b>Time of Incident</b>	
	_____ AM <input type="checkbox"/> PM <input type="checkbox"/> OR Cannot be determined <input type="checkbox"/>	
<b>Weather conditions at the time of the incident</b>	<b>Was there adequate lighting?</b>	
	_____ Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Location of Incident</b>		
_____ Was location of incident within the employer's work environment? Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Street Address</b>	<b>City, State, Zip Code and Country</b>	
<b>Project Name</b>	<b>Client:</b>	
<b>Tt Supervisor or Project Manager</b>	<b>Was supervisor on the scene?</b>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	
WITNESS INFORMATION (attach additional sheets if necessary)		
<b>Name</b>	<b>Company</b>	
<b>Street Address</b>	<b>City, State and Zip Code</b>	
<b>Telephone Number(s)</b>		

CORRECTIVE ACTIONS				
<b>Corrective action(s) immediately taken by unit reporting the incident:</b>				
<hr/> <hr/> <hr/>				
<b>Corrective action(s) still to be taken (by whom and when):</b>				
<hr/> <hr/> <hr/>				
ROOT CAUSE ANALYSIS LEVEL REQUIRED				
Root Cause Analysis Level Required: Level - 1 <input type="checkbox"/> Level - 2 <input type="checkbox"/> None <input type="checkbox"/>				
<b>Root Cause Analysis Level Definitions</b>				
<b>Level - 1</b>	<p><b>Definition:</b> A Level 1 RCA is conducted by an individual(s) with experience or training in root cause analysis techniques and will conduct or direct documentation reviews, site investigation, witness and affected employee interviews, and identify corrective actions. Activating a Level 1 RCA and identifying RCA team members will be at the discretion of the Corporate Administration office.</p> <p>The following events may trigger a Level 1 RCA:</p> <ul style="list-style-type: none"> <li>▪ Work related fatality</li> <li>▪ Hospitalization of one or more employee where injuries result in total or partial permanent disability</li> <li>▪ Property damage in excess of \$75,000</li> <li>▪ When requested by senior management</li> </ul>			
<b>Level - 2</b>	<p><b>Definition:</b> A Level 2 RCA is self performed within the operating unit by supervisory personnel with assistance of the operating unit HSR. Level 2 RCA will utilize the 5 Why RCA methodology and document the findings on the tools provided.</p> <p>The following events will require a Level 2 RCA:</p> <ul style="list-style-type: none"> <li>▪ OSHA recordable lost time incident</li> <li>▪ Near miss incident that could have triggered a Level 1 RCA</li> <li>▪ When requested by senior management</li> </ul>			
<b>Complete the Root Cause Analysis Worksheet and Corrective Action form. Identify a corrective action(s) for each root cause identified within each area of inquiry.</b>				
NOTIFICATIONS				
Title	Printed Name	Signature	Telephone Number	Date
Project Manager or Supervisor				
Site Safety Coordinator or Office H&S Representative				
Operating Unit H&S Representative				
Other: _____				

The signatures provided above indicate that appropriate personnel have been notified of the incident.

**INSTRUCTIONS:**

Complete all sections below for incidents involving injury or illness.  
Do NOT leave any blanks.  
Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)

**EMPLOYEE INFORMATION**

**Company Affiliation**

Tetra Tech Employee?

TetraTech subcontractor employee (directly supervised by Tt personnel)?

Full Name

Company (if not Tt employee)

Street Address, City, State and Zip Code

Address Type

Home address (for Tt employees)

Business address (for subcontractors)

**Telephone Numbers**

Work: \_\_\_\_\_

Home: \_\_\_\_\_

Cell: \_\_\_\_\_

Occupation (regular job title)

Department

Was the individual performing regular job duties?

Yes  No

Time individual began work

\_\_\_\_\_ AM  PM  OR Cannot be determined

**Safety equipment**

Provided? Yes  No

Used? Yes  No  If no, explain why

Type(s) provided:  Hard hat  Protective clothing  
 Gloves  High visibility vest  
 Eye protection  Fall protection  
 Safety shoes  Machine guarding  
 Respirator  Other (list)

**NOTIFICATIONS**

Name of Tt employee to whom the injury or illness was first reported

Was H&S notified within one hour of injury or illness?

Yes  No

Date of report

H&S Personnel Notified

Time of report

Time of Report

If subcontractor injury, did subcontractor's firm perform their own incident investigation?

Yes  No  If yes, request a copy of their completed investigation form/report and attach it to this report.

## INJURY / ILLNESS DETAILS

**What was the individual doing just before the incident occurred?** Describe the activity as well as the tools, equipment, or material the individual was using. Be specific. Examples: "Climbing a ladder while carrying roofing materials"; "Spraying chlorine from a hand sprayer"; "Daily computer key-entry"

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**What Happened?** Describe how the injury occurred. Examples: "When ladder slipped on wet floor and worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time"

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**Describe the object or substance that directly harmed the individual:** Examples: "Concrete floor"; "Chlorine"; "Radial Arm Saw". If this question does not apply to the incident, write "Not Applicable".

---



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## MEDICAL CARE PROVIDED

Was first aid provided at the site: Yes  No  If yes, describe the type of first aid administered and by whom?

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Was treatment provided away from the site: Yes  No  If yes, provide the information below.

<b>Name of physician or health care professional</b>	<b>Facility Name</b>
<b>Street Address, City State and Zip Code</b>	<b>Type of Care?</b>
	Was individual treated in emergency room? Yes <input type="checkbox"/> No <input type="checkbox"/>
	Was individual hospitalized overnight as an in-patient? Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Telephone Number</b>	Did the individual die? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, date: _____
	Will a worker's compensation claim be filed? Yes <input type="checkbox"/> No <input type="checkbox"/>

**NOTE: Attach any police reports or related diagrams to this report.**

## SIGNATURES

I have reviewed this report and agree that all the supplied information is accurate

Affected individual (print)	Affected individual (signature)	Telephone Number	Date

This form contains information relating to employee health and must be used in a manner that protects the confidentiality of the employee to the extent possible while the information is being used for occupational safety and health purposes.

**INSTRUCTIONS:**

Complete all sections below for incidents involving property/equipment damage, fire, spill or release.  
Do NOT leave any blanks.  
Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)

**TYPE OF INCIDENT (Check all that apply)**

**INCIDENT DETAILS**

**Results of Incident:** Fully describe damages, losses, etc.

**Response Actions Taken:**

Responding Agency(s) (i.e. police, fire department, etc.)

Agency(s) Contact Name(s)

**DAMAGED ITEMS (List all damaged items, extent of damage and estimated repair cost)**

Item:	Extent of damage:	Estimated repair cost

**SPILLS / RELEASES (Provide information for spilled/released materials)**

Substance	Estimated quantity and duration	Specify Reportable Quantity (RQ)
		_____ Exceeded? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>

**FIRES / EXPLOSIONS (Provide information related to fires/explosions)**

Fire fighting equipment used? Yes  No  If yes, type of equipment: \_\_\_\_\_

**NOTIFICATIONS**

Required notifications	Name of person notified	By whom	Date / Time
Client: _____ Yes <input type="checkbox"/> No <input type="checkbox"/>			
Agency: _____ Yes <input type="checkbox"/> No <input type="checkbox"/>			
Other: _____ Yes <input type="checkbox"/> No <input type="checkbox"/>			

Who is responsible for reporting incident to outside agency(s)? Yes  No  If yes, place in project file.

Was an additional written report on this incident generated? Yes  No  If yes, place in project file.

**INSTRUCTIONS:**

Complete all sections below for incidents involving motor vehicle accidents. Do NOT leave any blanks.  
Attach this form to the IR FORM completed for this incident.

<b>Incident Report Number: (From the IR Form)</b>							
<b>INCIDENT DETAILS</b>							
<b>Name of road, street, highway or location where accident occurred</b>				<b>Name of intersecting road, street or highway if applicable</b>			
<b>County</b>			<b>City</b>			<b>State</b>	
<b>Did police respond to the accident?</b>				<b>Did ambulance respond to the accident?</b>			
Yes <input type="checkbox"/> No <input type="checkbox"/>				Yes <input type="checkbox"/> No <input type="checkbox"/>			
<b>Name and location of responding police department</b>				<b>Ambulance company name and location</b>			
<b>Officer's name/badge #</b>							
Did police complete an incident report? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, police report number: _____ Request a copy of completed investigation report and attach to this form.							
<b>VEHICLE INFORMATION</b>							
How many vehicles were involved in the accident? _____ (Attach additional sheets as applicable for accidents involving more than 2 vehicles.)							
<b>Vehicle Number 1 – Tetra Tech Vehicle</b>				<b>Vehicle Number 2 – Other Vehicle</b>			
<b>Vehicle Owner / Contact Information</b>				<b>Vehicle Owner / Contact Information</b>			
<b>Color</b>				<b>Color</b>			
<b>Make</b>				<b>Make</b>			
<b>Model</b>				<b>Model</b>			
<b>Year</b>				<b>Year</b>			
<b>License Plate #</b>				<b>License Plate #</b>			
<b>Identification #</b>				<b>Identification #</b>			
<b>Describe damage to vehicle number 1</b>				<b>Describe damage to vehicle number 2</b>			
<b>Insurance Company Name and Address</b>				<b>Insurance Company Name and Address</b>			
<b>Agent Name</b>				<b>Agent Name</b>			
<b>Agent Phone No.</b>				<b>Agent Phone No.</b>			
<b>Policy Number</b>				<b>Policy Number</b>			

### DRIVER INFORMATION

Vehicle Number 1 – Tetra Tech Vehicle		Vehicle Number 2 – Other Vehicle	
Driver's Name		Driver's Name	
Driver's Address		Driver's Address	
Phone Number		Phone Number	
Date of Birth		Date of Birth	
Driver's License #		Driver's License #	
Licensing State		Licensing State	
Gender	Male <input type="checkbox"/> Female <input type="checkbox"/>	Gender	Male <input type="checkbox"/> Female <input type="checkbox"/>
Was traffic citation issued to Tetra Tech driver? Yes <input type="checkbox"/> No <input type="checkbox"/>		Was traffic citation issued to driver of other vehicle? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Citation #		Citation #	
Citation Description		Citation Description	

### PASSENGERS IN VEHICLES (NON-INJURED)

List all non-injured passengers (excluding driver) in each vehicle.  
 Driver information is captured in the preceding section.  
 Information related to persons injured in the accident (non-Tt employees) is captured in the section below on this form.  
 Injured Tt employee information is captured on FORM IR-A

Vehicle Number 1 – Tetra Tech Vehicle		Vehicle Number 2 – Other Vehicle	
How many passengers (excluding driver) in the vehicle? ____		How many passengers (excluding driver) in the vehicle? ____	
Non-Injured Passenger Name and Address		Non-Injured Passenger Name and Address	
Non-Injured Passenger Name and Address		Non-Injured Passenger Name and Address	
Non-Injured Passenger Name and Address		Non-Injured Passenger Name and Address	

### INJURIES TO NON-TETRATECH EMPLOYEES

Name of injured person 1				Address of injured person 1		
Age	Gender	Car No.	Location in Car	Seat Belt Used?	Ejected from car?	Injury or Fatality?
	Male <input type="checkbox"/> Female <input type="checkbox"/>			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Injured <input type="checkbox"/> Died <input type="checkbox"/>
Name of injured person 2				Address of injured person 2		
Age	Gender	Car No.	Location in Car	Seat Belt Used?	Ejected from car?	Injury or Fatality?
	Male <input type="checkbox"/> Female <input type="checkbox"/>			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Injured <input type="checkbox"/> Died <input type="checkbox"/>

### OTHER PROPERTY DAMAGE

Describe damage to property other than motor vehicles	
Property Owner's Name	Property Owner's Address

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED

A large, empty rectangular box with a thin black border, intended for drawing a diagram. The box occupies most of the page below the instruction header.

# **ATTACHMENT III**

## **SAFE WORK PERMITS**

**SAFE WORK PERMIT**  
**MOBILIZATION AND DEMOBILIZATION**  
**NCBC GULFPORT, GULFPORT, MISSISSIPPI**

Permit No. \_\_\_\_\_ Date: \_\_\_\_\_ Time: From \_\_\_\_\_ to \_\_\_\_\_

**SECTION I: General Job Scope**

- I. Work limited to the following (description, area, equipment used): Packaging/unpackaging, inspecting, and handling equipment and supplies, inspecting work areas, establishing work zones, and other such activities.
- II. Required Monitoring Instruments: None
- III. Field Crew: \_\_\_\_\_
- IV. On-site Inspection conducted  Yes  No Initials of Inspector \_\_\_\_\_

TtNUS

**SECTION II: General Safety Requirements (To be filled in by permit issuer)**

- |  |   |
|--|---|
| IV. Protective equipment required  | Respiratory equipment required  |
| Level D <input checked="" type="checkbox"/> Level B <input type="checkbox"/> | Full face APR <input type="checkbox"/> Escape Pack <input type="checkbox"/> |
| Level C <input type="checkbox"/> Level A <input type="checkbox"/>            | Half face APR <input type="checkbox"/> SCBA <input type="checkbox"/>        |
| Detailed on Reverse  | PAPR <input type="checkbox"/> Bottle Trailer <input type="checkbox"/>       |
|  | Skid Rig <input type="checkbox"/> None <input checked="" type="checkbox"/>  |

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, or coveralls, safety glasses and safety footwear. Hard hats and hearing protection will be worn when working near operating equipment

- |                         |                 |                   |
|-------------------------|-----------------|-------------------|
| V. Chemicals of Concern | Action Level(s) | Response Measures |
| <u>None anticipated</u> | <u>NA</u>       | <u>NA</u>         |

- VI. Additional Safety Equipment/Procedures
- |                                 |   |                                     |   |
|---------------------------------|---|-------------------------------------|---|
| Hard-hat.....                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hearing Protection (Plugs/Muffs)... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Safety Glasses .....            | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Safety belt/harness.....            | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles .....   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio.....                          | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash Shield .....             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades .....                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash suits/coveralls .....    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type - cotton/leather)..... | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe work shoes/boots..... | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Work/rest regimen .....             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Modifications/Exceptions: Safety glasses in wooded or brushy areas and at other times at SSO's discretion. Leather or cotton work gloves when handling sharp or rough tools or other items. Pant legs taped to work boots if in an area of high grass or heavy vegetation. Follow manufacturer's directions for repellent application/re-application. Tyvek coverall may also be used to protect against natural hazards (e.g., ticks). Use insect repellents in these areas. If working in areas where snakes are a threat, wear snake chaps to protect against bites. Area which are frequented by alligators should also take the necessary precautions listed in Section 6.3.2 of this HASP.

- |  |                          |                                     |                         |                                     |                          |
|--|--------------------------|-------------------------------------|-------------------------|-------------------------------------|--------------------------|
| VII. Procedure review with permit acceptors    | Yes                      | NA                                  |                         | Yes                                 | NA                       |
| Safety shower/eyewash (Location & Use).....    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Emergency alarms .....  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Procedure for safe job completion .....        | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Evacuation routes ..... | <input type="checkbox"/>            | <input type="checkbox"/> |
| Contractor tools/equipment/PPE inspected ..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Assembly points .....   | <input type="checkbox"/>            | <input type="checkbox"/> |

- |  |                          |                          |                                     |
|--|--------------------------|--------------------------|-------------------------------------|
| VIII. Site Preparation                                       | Yes                      | No                       | NA                                  |
| Utility Locating and Excavation Clearance completed.....     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Vehicle and Foot Traffic Routes Cleared and Established..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Physical Hazards Barricaded and Isolated.....                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Emergency Equipment Staged .....                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

- IX. Additional Permits required (Hot work, confined space entry, excavation etc.).....  Yes  No  
*If yes, complete permit required or contact Health Sciences, Pittsburgh Office*

- X. Special instructions, precautions: Use dollies or other aids to lift or move heavy or bulky items or get help. Always use safe lifting techniques (FIRST preview the area where the item will be lifted, the path of travel, and the area where it will be deposited). Bend at the knees and use the legs (not the back) get close to the load, ensure good handhold, do not twist or turn while lifting or carrying. Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Avoid potential nesting areas. Wear light colored clothing so that ticks and other biting insects can be easily visible and can be removed. Inspect clothing and body for ticks. Minimize contact with potentially contaminated media. Suspend site activities in the event of inclement weather.

Permit Issued by: \_\_\_\_\_ Permit Accepted by: \_\_\_\_\_

**SAFE WORK PERMIT**  
**MONITORING WELL INSTALLATION**  
**NCBC GULFPORT, GULFPORT, MISSISSIPPI**

Permit No. \_\_\_\_\_ Date: \_\_\_\_\_ Time: From \_\_\_\_\_ to \_\_\_\_\_

- I. Work limited to the following (description, area, equipment used):** Boring and soil sample collection using direct-push technology (DPT). This task includes monitoring well installation.
- II. Primary Hazards:** Potential hazards associated with this task: contact with site contaminants; transfer of contamination; heavy lifting; slip, trip and fall; ambient temperature extremes; insect/animal bites and stings, inclement weather, mechanical hazards from working around the DPT rig.
- III. Field Crew:** \_\_\_\_\_
- IV. On-site Inspection conducted**  Yes  No Initials of Inspector \_\_\_\_\_ TtNUS  
**Equipment Inspection required**  Yes  No Initials of Inspector \_\_\_\_\_ TtNUS

- V. Protective equipment required** **Respiratory equipment required**
- Level D  Level B  Yes  Specify on the reverse  
 Level C  Level A  No

Modifications/Exceptions: \_\_\_\_\_

V. Chemicals of Concern	Action Level(s)	Response Measures
<u>TCDD</u>	<u>Visible dust in air</u>	<u>Retreat upwind, control via dust suppression /area wetting</u>

Modifications/Exceptions: If visibly dusty conditions are generated or observed, retreat upwind until they subside. If they do not subside, control via wetting the work area/sampling location. If this is not practical, stop work and contact Health and Safety for guidance. Minimum PPE requirement are stated below.

**(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)**

**VII. Additional Safety Equipment/Procedures**

- |                                    |   |                                       |   |
|------------------------------------|---|---------------------------------------|---|
| Hard-hat.....                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs)..... | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Glasses .....               | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Safety Belt/Harness .....             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/Splash Goggles.....       | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone .....            | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Splash Shield .....                | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades.....                       | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Splash Suits/Coveralls .....       | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Gloves (Type – Nitrile/work).....     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable Apron .....            | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen .....               | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Steel Toe Work Shoes or Boots..... | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers ....   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| High Visibility Vest .....         | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Tape/Insect Repellent .....           | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| First Aid Kit .....                | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Fire Extinguisher.....                | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Safety Shower/Eyewash .....        | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Other.....                            | <input type="checkbox"/> Yes <input type="checkbox"/> No            |

Modifications/Exceptions: Hard hat, hearing protection, and safety glasses for sampling at the DPT rig or within the established exclusion zones for soil boring; High Visibility Vests for active traffic areas; Tape up and use insect repellent to combat insect bites. Follow manufacturer's label instructions for proper application/re-application of repellants. During concrete coring avoid contact or inhalation of airborne dusts (silica).

**VIII. Site Preparation**

- |   | Yes                      | No                       | NA                       |
|---|--------------------------|--------------------------|--------------------------|
| Utility Locating and Excavation Clearance completed.....                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place ..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Identified and Isolated (Splash and containment barriers).....             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc). .....  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- IX. Additional Permits required** (Hot work, confined space entry, excavation etc.).....  Yes  No  
*If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090*

- X. Special instructions, precautions:** SSO to monitor staff for heat stress and implement work/rest regimen if/as necessary (per section 4.6.1 of the TtNUS H&S Guidance Manual). Practice safe lifting and carrying techniques as described in section 5.0 of the HASP.

Permit Issued by: \_\_\_\_\_ Permit Accepted by: \_\_\_\_\_



**SAFE WORK PERMIT**  
**DECONTAMINATION ACTIVITIES**  
**NCBC GULFPORT, GULFPORT, MISSISSIPPI**

Permit No. \_\_\_\_\_ Date: \_\_\_\_\_ Time: From \_\_\_\_\_ to \_\_\_\_\_

**SECTION I: General Job Scope**

- I. Work limited to the following (description, area, equipment used): Decontamination of DPT and sampling equipment using pressure washer, brushes and spray bottles to decon small sampling equipment.
- II. Required Monitoring Instrument(s): None
- III. Field Crew: \_\_\_\_\_
- IV. On-site Inspection conducted  Yes  No Initials of Inspector \_\_\_\_\_  
TtNUS

**SECTION II: General Safety Requirements (To be filled in by permit issuer)**

- |   |  |
|---|--|
| IV. Protective equipment required<br>Level D <input checked="" type="checkbox"/> Level B <input type="checkbox"/><br>Level C <input type="checkbox"/> Level A <input type="checkbox"/><br>Detailed on Reverse | Respiratory equipment required<br>Full face APR <input type="checkbox"/> Escape Pack <input type="checkbox"/><br>Half face APR <input type="checkbox"/> SCBA <input type="checkbox"/><br>PAPR <input type="checkbox"/> Bottle Trailer <input type="checkbox"/><br>Skid Rig <input type="checkbox"/> None <input checked="" type="checkbox"/> |
|---|--|
- Modifications/Exceptions: None anticipated.

- |   |  |   |
|---|--|---|
| V. Chemicals of Concern<br><u>TCDD</u><br><u>Decontamination products</u> | Action Level(s)<br><u>Visible dust in air</u><br><u>Read/follow MSDS</u> | Response Measures<br><u>Retreat upwind, control via dust suppression /area wetting</u><br><u>Per MSDS</u> |
|---|--|---|

- VI. Additional Safety Equipment/Procedures
- |  |   |
|--|---|
| Hard-hat ..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Safety Glasses ..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Chemical/splash goggles ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Splash Shield ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Splash suits/coveralls ..... <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Steel toe work shoes/boots ..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Chemical Resistant Boot Covers ..... <input type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Safety belt/harness ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Radio ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Barricades ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Gloves (Type - Nitrile) ..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Work/rest regimen ..... <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Impermeable apron ..... <input type="checkbox"/> Yes <input type="checkbox"/> No |
|--|---|

Modifications/Exceptions: Consult MSDS for additional PPE for any decon solvents or solution products used. Chemical resistant boot covers if excessive liquids are generated or to protected footwear. Impermeable aprons at SSO's discretion. Contact with decon fluids, slips/trips/falls, noise, contact with high-pressure or excessively hot water, and inclement weather conditions SSO to monitor for heat stress and implement heat stress controls as appropriate.

- |  |   |
|--|---|
| VII. Procedure review with permit acceptors Yes NA<br>Safety shower/eyewash (Location & Use) ..... <input type="checkbox"/> <input checked="" type="checkbox"/><br>Procedure for safe job completion ..... <input type="checkbox"/> <input checked="" type="checkbox"/><br>Contractor tools/equipment/PPE inspected ..... <input type="checkbox"/> <input checked="" type="checkbox"/> | Emergency alarms ..... <input type="checkbox"/> <input checked="" type="checkbox"/><br>Evacuation routes ..... <input type="checkbox"/> <input type="checkbox"/><br>Assembly points ..... <input type="checkbox"/> <input type="checkbox"/> |
|--|---|

- |   |           |
|---|-----------|
| VIII. Site Preparation<br>Utility Locating and Excavation Clearance completed ..... <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/><br>Vehicle and Foot Traffic Routes Cleared and Established ..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>Physical Hazards Barricaded and Isolated ..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/><br>Emergency Equipment Staged ..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Yes No NA |
|---|-----------|

- IX. Additional Permits required (Hot work, confined space entry, excavation etc.)  Yes  No  
If yes, complete permit required or contact Health Sciences, Pittsburgh Office

- X. Special instructions, precautions: Refer to the manufacturer's MSDS regarding PPE, handling, storage, and first-aid measures related to decontamination fluids. To prevent heat stress, monitor workers for symptoms, provide frequent breaks in shaded areas, after workers have performed personal decontamination, encourage drinking water (or sports drinks containing electrolytes).

Permit Issued by: \_\_\_\_\_ Permit Accepted by: \_\_\_\_\_



**ATTACHMENT IV**  
**OSHA POSTER**

# **ATTACHMENT IV**

## **OSHA POSTER**

# Job Safety and Health

## It's the law!

**OSHA**  
Occupational Safety  
and Health Administration  
U.S. Department of Labor

### EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

### EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –  
*The Best Resource for Safety and Health*



Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

**1-800-321-OSHA**  
[www.osha.gov](http://www.osha.gov)

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