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HEALTH AND SAFETY PLAN FOR THE SITE INVESTIGATION AT SITE 7 RUBBLE
DISPOSAL AREA NCBC GULFPORT MS
6/1/2010
TETRA TECH

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62470-08-D-1001



Health and Safety Plan for Site Investigation at Site 7 - Rubble Disposal Area

Naval Construction Battalion Center Gulfport
Gulfport, Mississippi

Contract Task Order JM23

June 2010



NAS Jacksonville
Jacksonville, Florida 32212-0030



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Project Number 112G02723

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Reference: CLEAN Contract Number N62470-08-D-1001
Contract Task Order Number JM23

Subject: Health and Safety Plan for Site Investigation at Site 7 – Rubble Disposal Area
Naval Construction Battalion Center Gulfport
Gulfport, Mississippi

Dear Mr. Fisher:

Tetra Tech NUS Inc. (TtNUS) is pleased to provide you with two hardcopies and one electronic copy of the Health and Safety Plan for Site Investigation at Site 7 – Rubble Disposal Area at Naval Construction Battalion Center (NCBC) Gulfport, Mississippi.

TtNUS appreciates the opportunity to provide you with these services. If you have any questions or require additional information, please feel free to contact me by phone at (904) 730-4669, extension 215, or via e-mail at Gregory.Roof@TetraTech.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gregory S. Roof', is written over a faint circular stamp.

Gregory S. Roof, P.E.
Task Order Manager

GSR/lc

c: Gordon Crane, NCBC Gulfport (1 hardcopy, 1 electronic)
Bob Merrill, Mississippi Department of Environmental Quality (1 hardcopy, 1 electronic)
John Trepanowski, TtNUS (electronic only)
Field (2 hardcopies)
CTO JM23 Project File (1 hardcopy, 1 electronic)

**HEALTH AND SAFETY PLAN
FOR
SITE INVESTIGATION
AT
SITE 7 - RUBBLE DISPOSAL AREA**

**NAVAL CONSTRUCTION BATTALION CENTER GULFPORT
GULFPORT, MISSISSIPPI**

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

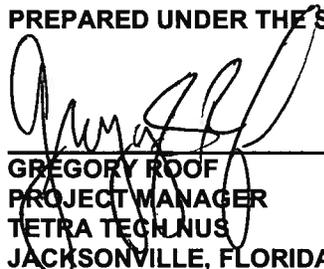
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**CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER JM23**

JUNE 2010

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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. (Tetra Tech) personnel participating in a site investigation including multi media sampling, ground water monitoring and well abandonment (one event) activities at the NCBC located in Gulfport, Mississippi.

This HASP is to be used in conjunction with the Tetra Tech NUS Health and Safety Guidance Manual. The Guidance Manual provides detailed information pertaining to hazard recognition and control, and Tetra Tech standard operating procedures. This HASP and the contents of the Guidance Manual were developed to comply with the requirements stipulated in 29 CFR 1910.120 (OSHA's 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 Tetra Tech Site Safety Officer (SSO) and the Tetra Tech 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 Project Manager (PM), 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 U.S. Navy Southeast, Naval Facilities Engineering Command, as defined under Contract No. N62470-08-D-1001; Contract Task Order (CTO) Number JM23.

1.2 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines responsibilities for site safety and health for Tetra Tech employees conducting sampling and other supporting field activities under this field effort. The personnel assigned to participate in the field work have the primary responsibility for performing their work tasks in a manner that is consistent with the Tetra Tech 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 Tetra Tech PM is responsible for the overall direction and implementation of health and safety for this work.

The Tetra Tech 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 Tetra Tech with emergency services (if needed)
- Provide elements site-specific training for on site personnel.

The Tetra Tech Site Safety Officer (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
- 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.

1.3 STOP WORK AUTHORITY

ALL employees are empowered, authorized, and responsible to STOP WORK at any time when an imminent and uncontrolled safety or health hazard is perceived. In a Stop Work event (immediately after the involved task has been shut down and the work area has been secured in a safe manner) the employee shall contact the Project Manager and the Corporate Health and Safety Manager. Through observations and communication, the parties involved shall then develop, communicate, and implement corrective actions necessary and appropriate to modify the task and to resume work.

1.4 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: Naval Construction Battalion Center Gulfport

Site Address: 5200 NCBC 2nd Street, Gulfport, Mississippi 39501-5000

Site Contact: Gordon Crane **Phone:** (228) 871-2485

Navy Engineer-in-Charge (EIC): Robert Fisher **Phone:** (904) 542-6827

Purpose of Site Visit: Tetra Tech will perform site investigation including multimedia sampling and monitoring well installation, soil gas survey and landfill gas monitoring.

Proposed Start-up Date: June and July 2010

Project Team:

Tetra Tech Personnel:

Discipline/Tasks Assigned:

Gregory Roof

PM

Bill Olson P.G.

FOL/SSO

Matthew M. Soltis, CIH, CSP

HSM

James K. Laffey

PHSO

Non-Tetra Tech Personnel

Affiliation/Discipline/Tasks Assigned

TBD

Hazard Assessments (for purposes of OSHA 29 CFR 1910.132) and HASP preparation conducted by:

Prepared by: James K. Laffey

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. 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/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 are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time.

Tetra Tech 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/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 which 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 with NCBC Gulfport and/or local emergency response personnel to ensure that Tetra Tech emergency action activities are compatible with existing emergency response procedures.
- 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 onsite), with Material Safety Data Sheets.
 - Onsite personnel medical records (Medical Data Sheets).

- A log book identifying personnel onsite each day.
- Hospital route maps with directions (these should also be placed in each site vehicle).
- Emergency Notification - phone numbers.

The Tetra Tech 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 log book, however, site personnel will be responsible for reporting hazardous situations. Where potential hazards exist, Tetra Tech 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 Tetra Tech to instigate necessary control measures. However, if the FOL and the SSO determine that control measures are not sufficient to eliminate the hazard, Tetra Tech will withdraw from the site and notify the appropriate response agencies listed in Table 2-1.

2.3.2 Prevention

Tetra Tech 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, prior to the commencement of that day's activities, by the FOL and/or the SSO 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 which 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 Tetra Tech 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 Tetra Tech 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 onsite (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.

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.

**TABLE 2-1
EMERGENCY CONTACTS
NCBC GULFPORT, MISSISSIPPI**

AGENCY	TELEPHONE
EMERGENCY	9-1-1
Police	(228) 871-2222
Fire/Hazardous Materials Release	(228) 871-2333
Ambulance Services	(228) 871-2444
Memorial Hospital at Gulfport	(228) 867-4000
Chemtrec	(800) 424-9300
National Response Center	(800) 424-8802
Mississippi Regional Poison Control Center	(800) 222-1222
Base Contact, Mr. Gordon Crane	(228) 871-2485 (800) 343-3472 – pager
Navy EIC, Robert Fisher	(904) 542-6827
Utilities (On Base Utility Clearances and Emergencies) Public Works Maintenance Division	(228) 871-2244
Public Utility Locating Service Mississippi One Call System Inc.	811
Tetra Tech NUS, Tallahassee Office	(850) 359-9899
Tetra Tech NUS, Pittsburgh Office	(412) 921-7090
Task Order Manager, Gregory Roof, P.E.	(904) 730-4669
Tetra Tech NUS, FOL, Bill Olson	(850) 385-9866 ext.1359
Tetra Tech NUS, Gulfport, Mississippi Office	(228) 575-6287
Tetra Tech NUS, CLEAN HSM Matthew Soltis, CIH, CSP	(412) 921-8912
Tetra Tech NUS, PHSO, James K. Laffey	(412) 921-8678

2.6 EMERGENCY ROUTE TO HOSPITAL

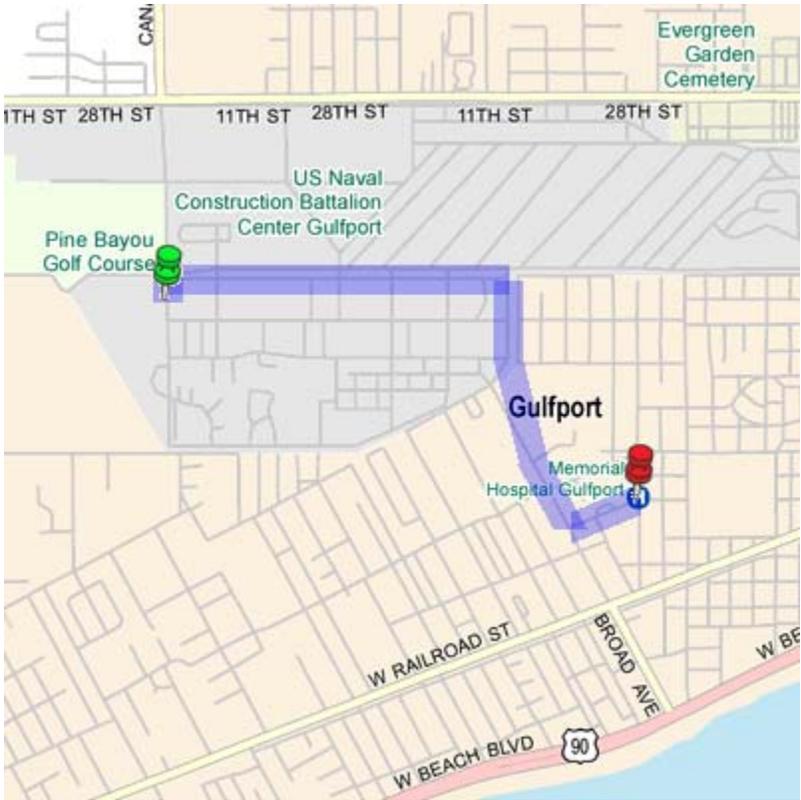
Memorial Hospital at Gulfport
4500 13th Street
Gulfport, Mississippi 39501-2569

Directions from NCBC Gulfport are as follows. See Figure 2-1 for a route map.

Distance: 2 miles

- Start out heading North on Colby Ave. towards 6th St. 0.1 miles.
- Turn Right onto 6th St. 0.9 miles.
- Turn Right onto Decatur Ave. 0.2 miles.
- Decatur Ave. becomes 49th Ave 0.1 miles.
- Turn Left onto Broad Ave. 0.5 miles.
- Turn Left onto 13TH St. 0.2 miles.
- Destination is on the Left

**FIGURE 2-1
MAP TO MEMORIAL HOSPITAL AT GULFPORT**



2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Tetra Tech personnel will be working in close proximity to each other at NCBC. 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 the personnel
- After appropriate evacuation, 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

PPE selected must be adequate to protect employees from the specific hazards which they are likely to encounter during their work onsite for the duration they are likely to encounter these hazards. PPE will be selected based on the tasks to be performed, the anticipated physical and chemical hazards associated with the site, and the conditions at that work site. Selection of appropriate PPE is a complex process that needs to take into consideration a variety of factors. Key factors involved in this process are:

- Identification of the hazards, or suspected hazards;
- Routes of potential exposure (inhalation, skin absorption, ingestion, and eye or skin contact);
- Performance of the PPE material in providing a barrier to these hazards. The amount of protection provided by a particular type of PPE material is dependent upon the type of contaminant of concern and the work that is going to be performed. The durability of PPE materials, such as tear strength and seam strength as well as breakthrough time must be considered in relation to the employee's task.

The SSO will evaluate conditions that may allow the refinement of the level of PPE required at a site. As conditions at the site may change, therefore the on-going level of personal protection will be evaluated on a regular basis to determine the need for change and the extent or level of that change.

A first-aid kit, eye wash units (or bottles of disposable eyewash solution) and fire extinguishers (strategically placed) will be maintained onsite and shall be immediately available for use in the event of an emergency. This equipment will be located in the 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 be postponed 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.

Tetra Tech personnel will perform rescue operations from 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). 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. If the emergency involves personnel exposures to chemicals, follow the steps provided in Figure 2-2.

2.10 INJURY/ILLNESS REPORTING

If any Tetra Tech personnel are injured or develop an illness as a result of working on site, the Tetra Tech "Injury/Illness Procedure" (Attachment I) must be followed. Following this procedure is necessary for documenting of 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 onsite (see Attachment II). 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 Tetra Tech NUS 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 Tetra Tech NUS, Inc. 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.

3.0 SITE BACKGROUND

3.1 SITE LOCATION

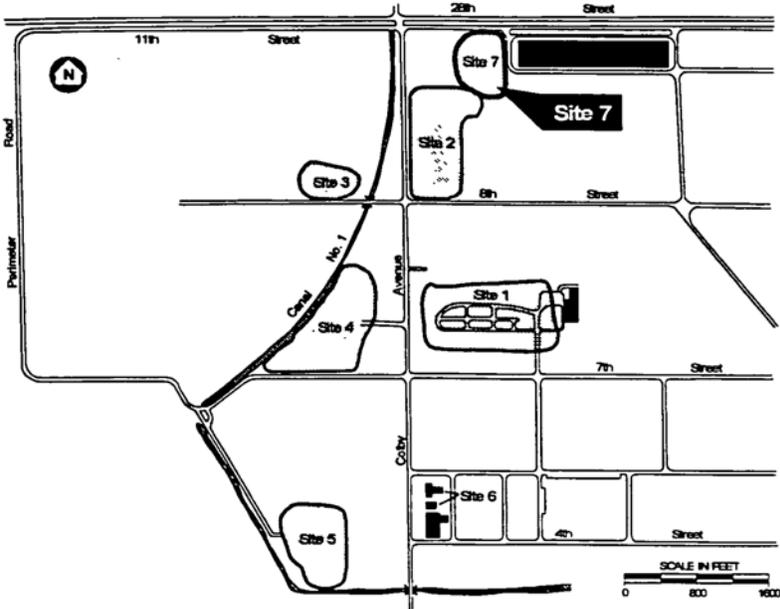
The Naval Construction Battalion Center (NCBC) Gulfport is located in the City of Gulfport, in Harrison County, in the southeast corner of the State of Mississippi. The site is bounded by Building 383 and Fifth Street to the north, Colby Avenue to the west, Simms Avenue to the east, and Building 391 to the south.

3.2 SITE 7 RUBBLE DISPOSAL AREA

Site 7 - Rubble Disposal Area was operational from 1978 to 1984 during which time it was the disposal area for general rubble and debris generated at NCBC Gulfport. The disposal operation included concrete, lumber, scrap metals, tree clippings and similar inert material. The majority of the waste disposed was due to construction and building demolitions. There have been no reports or evidence of hazardous waste being disposed in the site. Waste was buried just below the surface.

In 1984 landfill activities at Site 7 continued even after it was recommended at that time to post “No dumping” signs to discourage additional dumping. The site was continued to be used as a dumping site. It remained undeveloped until the current golf course fairway was constructed in late 1998.

FIGURE 3-1
SITE MAP AND AREIAL PHOTOGRAPH



Aerial Photo of Site



4.0 SCOPE OF WORK

This section of the HASP addresses proposed site activities that are to be conducted at Site 6 which include:

- Mobilization and Demobilization
- Landfill gas monitoring with Landtec GEM 2000 gas analyzer and extraction monitor
- Passive soil gas survey
 - Advance 1 inch (or smaller) borehole to maximum of 3 feet using hand auger or power auger
 - Screen with Landtec GEM 2000
 - Install Gore-sorber passive sampler
 - Remove Gore-sorber passive sampler two weeks later
- Multi media sampling
 - Surface soil sampling
 - Surface water/sediment sampling
 - Groundwater sampling
 - Monitoring well sampling
- Soil Boring
 - Monitoring well installation HSA
 - Subsurface soil sampling using DPT
 - Groundwater sampling using DPT
- Decontamination of sampling and heavy equipment
- IDW management
- Geographic and Geophysical Surveying

These are the only activities that 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 will only proceed after the FOL or SSO notifies the Project Manager and the HSM, so that any appropriate modifications to this HASP can 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 (SWPs), which are to be reviewed in the field by the SSO with the 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 the following portions of 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 SWPs in Attachment III, 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 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.

5.2 SOIL BORING SAFE WORK PRACTICES

The following Safe Work Practices are to be followed when performing intrusive operations and when working in or around HSA/DPT Operations. Prior to intrusive investigation techniques check the SOP for Utility Locating and Excavation Clearance found in Attachment III of this HASP.

- Identify underground utilities and buried structures before performing intrusive activities
- A Competent Person (the SSO or designee) will inspect rigs, 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.
- Document the inspection by using the Equipment Inspection Checklist provided in Attachment IV.
- Inspections will be conducted once every shift or following any repairs.

- Remove trip hazards around the point of operation hazards.
- The drill/DPT operator helper will establish an equipment staging and lay-down plan in order to keep the work area clear of clutter and slips, trips, and fall hazards.
- Potentially contaminated tool will be wrapped in polyethylene sheeting for storage and transport to the centrally located decontamination unit.
- Prior to the start of boring operations, one individual will be designated as the person responsible for immediate activation of the emergency stop device in the event of an emergency.
- This individual will be identified to the field crew and will be responsible for visually checking the work area and verbally alerting personnel in the vicinity of boring operations prior to engaging the equipment.
- Secure frayed or loose clothing, hair, and jewelry when working with drill/DPT equipment.
- Minimize contact to the extent possible with contaminated tools and environmental media.
- Support functions (sampling and screening stations) will be maintained a minimum distance from the rig of the height of the mast plus five feet to remove these activities from within physical hazard boundaries.
- Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the drill/DPT rig.
- Minimize contact with potentially contaminated tools and media and to minimize lifting hazards, multiple personnel should move auger flights and other heavy tooling.
- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone. Site visitors will be escorted.
- Equipment used within the exclusion zone will undergo a complete decontamination and evaluation by the SSO to determined 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 days activities. During fueling operations the equipment will be shutdown and bonded to the fuel provider.
- When not in use rigs will be shutdown, emergency brakes set, and wheels chocked.
- 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.

5.3 HAND AND POWER AUGERING SAFE WORK PRACTICES

Operating augers 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 include 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 from physical threats during this task include foot injuries, eye injuries, and injuries 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 Tetra Tech Utility Locating And Excavation Clearance SOP in Section 4.0 of the HSGM.

Additional safety measures used to prevent injury during augering 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 auger 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 (work gloves, steel toe shoes, and safety impact eye protection).

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.

6.1 CHEMICAL HAZARDS

Based on an evaluation of previous groundwater samples taken in the vicinity of Site 7 reported low levels of volatile organic compounds (VOCs), metals, and dioxins. These substances were at concentrations below Federal drinking water standards. From a worst case scenario, methylene chloride is the only contaminant of concern (COC) that could potentially reach concentrations that exceed current Occupational Exposure Limits (OEL). These results for VOCs are summarized in Table 6-1.

**TABLE 6-1
COMPARISON OF VOC WORST-CASE AIR CONCENTRATIONS
WITH CURRENT OCCUPATIONAL EXPOSURE LIMITS**

COC	Highest Concentration Previously Detected in Groundwater (μL)	Worst-Case Air Concentration That Could Be Encountered (ppm)	Current OEL
chloroform	14	0.43	ACGIH: 10 ppm TWA ₈
methylene chloride	5,200	199	OSHA: 25 ppm, TWA ₈
toluene	8	0.58	ACGIH: 20 ppm TWA ₈
trichloroethene	5	0.37	ACGIH: 10 ppm TWA ₈ 25 ppm STEL

Table Notes:

TWA₈: Average air concentration over an 8-hour work period that is not to be exceeded

ACGIH STEL: Concentration in air that is not be exceeded for more than 15 minutes more than 4 times per day

As indicated in this table, from a worst-case scenario, concentrations immediately above a captured air phase above contaminated groundwater (such as in the head space of a monitoring well) could reach concentrations that exceed permissible limits. In regarding the results of this data evaluation, it is important to recognize the following:

- the planned work area is outdoors, with ample natural ventilation that will reduce any airborne VOCs through dilution and dispersion,
- the groundwater value used in this evaluation was the highest concentration detected during the two most recent groundwater monitoring events,

As a result of these factors, it is very unlikely that workers participating in this activity will encounter any airborne concentrations of any of the COCs that would represent an occupational exposure concern. To monitor this route, real-time direct reading monitoring instruments will be used (as described in Section 7.0). This will be performed during the intrusive tasks of groundwater sampling and IDW management activities, as these tasks are the most likely to involve encountering/releasing any VOCs into the airphase.

6.1.1 Potential Contaminants of Concern

VOCs: Emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Health effects include eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. Key signs or symptoms associated with exposure to VOCs include conjunctival irritation, nose and throat discomfort, headache, allergic skin reaction, dyspnea, declines in serum cholinesterase levels, nausea, emesis, epistaxis, fatigue, dizziness.

Dioxins: The most noted health effect in people exposed to large amounts of dioxin is chloracne. Chloracne is a severe skin disease with acne-like lesions that occur mainly on the face and upper body. Other skin effects noted in people exposed to high doses of dioxin include skin rashes, discoloration, and excessive body hair. Changes in blood and urine that may indicate liver damage also are seen in people. Exposure to high concentrations of CDDs may induce long-term alterations in glucose metabolism and subtle changes in hormonal levels.

In certain animal species, dioxin is especially harmful and can cause death after a single exposure. Exposure to lower levels can cause a variety of effects in animals, such as weight loss, liver damage, and disruption of the endocrine system. In many species of animals, dioxin weakens the immune system and causes a decrease in the system's ability to fight bacteria and viruses. In other animal studies, exposure

to dioxin has caused reproductive damage and birth defects. Some animal species exposed to CDDs during pregnancy had miscarriages and the offspring of animals exposed to dioxin during pregnancy often had severe birth defects including skeletal deformities, kidney defects, and weakened immune responses.

Metals: The physical effects of poisoning from heavy metals tend to be a very slow process and occur over a long period of continued exposure to the source of the toxic metal. The physical symptoms which are typically induced by the presence of toxic metals in the body tend to be very vague and can include symptoms such as persistent fatigue, the appearance of splitting and blinding headaches, the presence of an upset stomach, disorders such as colic and even anemia in some cases. The central nervous system is the main part of the human body likely to be affected by the presence of toxic metals. Symptoms of a disrupted central nervous system include the appearance of muscular tremors, the development of spells of dizziness, the presence of insomnia, the poor concentration abilities in the person and a sudden lack of muscular coordination in the body.

6.1.2 Potential Exposure Concerns

Potential exposure concerns to COCs may also occur through ingesting or coming into direct skin contact with contaminated groundwater. 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 whenever handling potentially-contaminated media, including groundwater and any potential free product, sampling equipment, and sample containers.

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.

- Contact with heavy equipment and tools (related to well abandonment activities)

- Slip, trips, and falls
- Contact with overhead electric lines and telephone lines (well abandonment activities)
- 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 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 (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.

6.2.2 Contact with Overhead and Underground Utilities

If heavy equipment such as drill rigs are used for well abandonment activities, the potential exists for contact with overhead power lines and underground utilities such as pressurized lines, water lines, telephone lines, buried utility lines, and high voltage power lines. Clearance of underground utilities for each well abandonment location will be coordinated through NCBC Public Works Maintenance Division. See the Tetra Tech Utility Locating and Excavation Clearance SOP in Section 7.0 of the HSGM.

6.2.3 Strain/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.

6.2.4 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 Tetra Tech 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 Tetra Tech Health and Safety Guidance Manual.

6.2.5 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.

6.2.6 Compressed Gas Safety

It is the responsibility of the SSO to assure that all compressed gas cylinders are handled stored and used according to the procedures outlined in this document. Further, the SSO shall ensure that affected Tetra Tech personnel are trained in the safe handling procedures for compressed gases present at the site.

- Compressed cylinders must be stored outside of buildings and away from doors, windows, and building air intakes.
- Compressed gas cylinders must be protected from adverse weather, heat, and any other type of adverse atmosphere.
- The storage area should be paved and easily accessible to delivery trucks and users.
- Cylinders must be secured and locked in an upright position with chains or straps and secured to a poll or post.
- Cylinder storage areas must be designed to prevent flame and spark contact with the cylinders.
- Empty cylinders are to be stored separately from full cylinders, and tagged with surveyor tape.

When transported, cylinders must be secured to prevent rolling or cylinder damage. Cylinders shall only be transported in a van or pick-up truck, and only when the valve cap is secured. Cylinders should only be transported using a dolly or other piece of material handling equipment.

- Cylinders then must be secured during use and located in a well ventilated area.
- Never use of oil and grease as lubricants with on system fittings.

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 II 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 performed work on or near roadways. To minimize the potential for injuries associated with these hazards, a traffic control plan has been prepared and submitted for approval by the NCBC Public Works. A subcontractor will be present to implement the traffic control plan through the use of warning signs, traffic cones, and flagmen. 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.

7.0 AIR MONITORING

None of the contaminants are expected to be present in significant concentrations to present an inhalation hazard during planned site activities. As a precautionary measure to assure that such exposures are avoided and documented, a direct reading instrument will be used to monitor worker exposures to chemical hazards present at the site.

7.1 INSTRUMENTS AND USE

For this project, based on the properties of the primary contaminant of concern, a Flame Ionization Detector (FID) may be used to monitor the air.

Instruments will be used primarily to monitor source points and worker breathing zone areas, while observing instrument action levels. The SSO shall obtain and document the daily background (BG) reading at an upwind, unaffected area and observe for readings above that BG level. The SSO shall monitor source areas (e.g., monitoring wells) for the presence of any reading above the daily-established BG level. If elevated readings are observed, the SSO shall monitor the workers breathing zone (BZ) areas with the PID/FID. If the appropriate instrument Action Level is exceeded (see below), the following process will be followed:

- The SSO shall order site personnel to stop work and retreat upwind to a safe, unaffected area, where they will remain until further directed by the SSO.
- The SSO shall allow at least 5 minutes to pass so that the work area can ventilate, and will then re-approach the work area while continuously monitoring the BZ areas.
- Only when BG levels are regained in BZ areas will work be permitted to resume.
- If BG levels are not regained, the SSO will contact the HSM for additional direction.

7.1.1 FID Action Level

- Any reading above 90 ppm above BG in BZ areas sustained for 4 exposures of 5 minutes in any one work day.

7.2 LANDTEC GEM 2000

During this project, the Landtec GEM 2000 gas analyzer and extraction monitor is used to conduct passive and landfill gas surveys. This portable instrument is used to monitor landfill gas extraction systems where for H₂S and CO. It analyzes landfill gas composition, calculates flow and it is intrinsically safe. It also measures and displays british thermal unit content, temperature, relative and atmospheric pressures as well as CH₄ Lower Explosive Limit.

The manufacturer publishes an extensive Operation Manual which is available on-line at <http://www.landtecna.com>. Prior to the beginning of work, field technicians will read this document. In addition to operational information, important safety information is also covered.

7.3 INSTRUMENT MAINTENANCE AND CALIBRATION

Hazard monitoring instruments will be maintained and pre-field calibrated by the equipment provider (i.e., rental agency used). Operational checks and field calibration will be performed on site instruments each day prior to their use. Field calibration will be performed on instruments according to manufacturer's recommendations. These operational checks and calibration efforts will be performed in a manner that complies with the employees health and safety training, the manufacturer's recommendations, and with the applicable manufacturer standard operating procedure (which the SSO must assure are included with the instrument upon its receipt onsite). Field calibration efforts must be documented. Figure 7-1 is provided for documenting these calibration efforts. This information may instead be recorded in a field operations logbook, provided that the information specified in Figure 7-1 is recorded. This required information includes the following:

- Date calibration was performed
- Individual calibrating the instrument
- Instrument name, model, and serial number
- Any relevant instrument settings and resultant readings (before and after) calibration
- Identification of the calibration standard (lot no., source concentration, supplier)
- Any relevant comments or remarks

7.4 DOCUMENTING INSTRUMENT READINGS

The SHSO is responsible for ensuring that air monitoring instruments are used in accordance with the specifications of this HASP and with manufacturer's specifications/recommendations. In addition, the SHSO is also responsible for ensuring that the instrument use is documented. This requirement can be satisfied either by recording instrument readings on pre-printed sampling log sheets or in a field log book.

This includes the requirement for documenting instrument readings that indicate no elevated readings above noted daily background levels (i.e., no-exposure readings). At a minimum, the SHSO must document the following information for each use of an air monitoring device:

- Date, time, and duration of the reading
- Site location where the reading was obtained
- Instrument used (e.g., FID, PID, LEL/O₂ meter, etc.)
- Personnel present at the area where the reading was noted
- Other conditions that are considered relevant to the SHSO (such as weather conditions, possible instrument interferences, etc.)

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 Tetra Tech personnel participating in on site activities. Tetra Tech personnel must complete 40 hours of introductory hazardous waste site training prior to performing work at the NCBC Gulfport. Tetra Tech 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 Tetra Tech 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

Tetra Tech SSO will provide site-specific training to Tetra Tech 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 Tetra Tech 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

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

9.0 SITE CONTROL

This section outlines the means by which Tetra Tech 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 those areas of active operations plus an established safety zone depending on the task. The following represent the exclusion zone boundaries for the following identified tasks:

- Surface soil, sediment and groundwater sampling – 5 feet surrounding the sample collection points
- Decontamination – 5 feet surrounding the point of operation
- DPT drilling – 25 feet surrounding the point of operation
- Passive and Landfill gas sampling – 10 feet surrounding point of operation

Exclusion zones will be delineated using barrier tape, cones and/or drive poles, and postings to inform and direct facility site personnel and visitors, as necessary.

9.2 CONTAMINATION REDUCTION ZONE

The contamination reduction zone (CRZ) 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 where 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 (SWPs) to guide and direct field crews on a task by task basis. An example of the SWP to be used is provided in Figure 9-1. Partially completed SWPs for the work to be performed are 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 the blank portions of the SWPs based on current, existing conditions the day the task is to be performed, and then review that completed permit with the 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 SWP, 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. The SWPs 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 Tetra Tech
- Regulatory personnel (i.e., DOD, EPA, OSHA)
- Property Owners
- Authorized Navy Personnel
- Other authorized visitors

Non-DOD personnel working on this project are required to gain initial access to the base by coordinating with the Tetra Tech 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 PM. Upon gaining access to the site, site visitors wishing to observe operations in progress will be escorted by a Tetra Tech representative and shall be required to meet the minimum requirements discussed below:

- Site visitors will be directed to the FOL/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 are required to provide proof of clearance to the site, and training and medical surveillance documentation.
- 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 Tetra Tech representative. Only visitors meeting the requirements, stipulated in this plan for site clearance, will 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. If necessary, local law enforcement personnel will be notified.

9.6 SITE SECURITY

Site security will be accomplished using Tetra Tech field personnel. Tetra Tech will retain complete control over active operational areas. As this activity takes place at a Navy facility open to public access, the first line of security will take place using exclusive zone barriers, site work permits, and any existing barriers at the sites to restrict the general public. The second line of security will take place at the work site referring interested parties to the Base Contact. The Base Contact will serve as a focal point for base personnel, interested parties, and serve as the final line of security and the primary enforcement 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

Tetra Tech and subcontractor personnel will provide MSDSs 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 communication will be accomplished by using cellular telephones at approved locations. External communication will primarily be used for the purpose of resource and emergency resource communications. Prior to the commencement of activities at the site, it is strongly recommended that cell signal strength be checked in the work areas and the relevant project phone numbers (Table 2-1) are programmed on site worker cell phones. The FOL will determine and arrange for telephone communication procedures.

NOTE: The gas sensors in the GEM2000, especially the methane sensor, are sensitive to radio frequency (RF) interference. Any device that transmits radio waves can cause the gas readings to fluctuate. Cell phones are the most common cause of the problem. Never use a cell phone while taking gas readings.

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 _____ Tetra Tech
Equipment Inspection required [] Yes [] No Initials of Inspector _____ Tetra Tech

V. Protective equipment required Respiratory equipment required
Level D [] Level B [] Yes [] Specify on the reverse
Level C [] Level A [] No []
Modifications/Exceptions: _____

Table with 4 columns: Chemicals of Concern, Hazard Monitoring, Action Level(s), Response Measures. Includes a row for Primary Route(s) of Exposure/Hazard.

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

VII. Additional Safety Equipment/Procedures
Hard-hat [] Yes [] No Hearing Protection (Plugs/Muffs) [] Yes [] No
Safety Glasses [] Yes [] No Safety belt/harness [] Yes [] No
Chemical/splash goggles [] Yes [] No Radio/Cellular Phone [] Yes [] No
Splash Shield [] Yes [] No Barricades [] Yes [] No
Splash suits/coveralls [] Yes [] No Gloves (Type - _____) [] Yes [] No
Impermeable apron [] Yes [] No Work/rest regimen [] Yes [] No
Steel toe Work shoes or boots [] Yes [] No Chemical Resistant Boot Covers [] Yes [] No
High Visibility vest [] Yes [] No Tape up/use insect repellent [] Yes [] No
First Aid Kit [] Yes [] No Fire Extinguisher [] Yes [] No
Safety Shower/Eyewash [] Yes [] No Other [] Yes [] No
Modifications/Exceptions: _____

VIII. Site Preparation
Utility Locating and Excavation Clearance completed [] Yes [] No [] NA
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place [] Yes [] No [] NA
Physical Hazards Identified and Isolated (Splash and containment barriers) [] Yes [] No [] NA
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc.) [] Yes [] No [] NA

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

X. Special instructions, precautions: _____

Permit Issued by: _____ Permit Accepted by: _____

10.0 SPILL CONTAINMENT PROGRAM

10.1 SCOPE AND APPLICATION

It is not anticipated that bulk hazardous materials (over 55-gallons) will be generated or 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, some potential may exist for accumulating Investigative Derived Wastes (IDW) such as decontamination fluids, soil cuttings, disposable sampling equipment and PPE.

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. DOT 17-E or 17-H)
- Shovels, rakes, and brooms
- Container labels

10.6 SPILL CONTROL PLAN

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

- 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.
- Employ the personal protective equipment 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.
- 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.
- 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 an area which has one or more of the following characteristics:

- 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 (for example, tanks, manholes, sewers, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
- Is not designed for continuous employee occupancy.

Additionally, a Permit-Required Confined Space must also have one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly caving walls or by a floor that 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.

12.0 MATERIALS AND DOCUMENTATION

The Tetra Tech Field Operations Leader (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
- Material Safety Data Sheets for chemicals brought on site, including decontamination solutions, fuels, sample preservatives, calibration gases, etc.
- A full-size OSHA Job Safety and Health Poster (Attachment V)
- 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 the 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 the site personnel. These documents should match the listings on the chemical inventory list for the 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 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 the 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 the 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.
- **Personnel Monitoring (maintained)** - The 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 / ABBREVIATIONS

ACGIH	American Conference of Governmental and Industrial Hygienists
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSP	Certified Safety Professional
COC	Contaminants of Concern
DRI	Direct Reading Instrument
FOL	Field Operations Leader
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSM	Health and Safety Manager
IDW	Investigation Derived Waste
N/A	Not Available
NIOSH	National Institute for Occupational Safety and Health
OEL	Occupational Exposure Limits
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PEL	Permissible Exposure Limits
PHSO	Project Health and Safety Officer
PM	Project Manager
PPE	Personal Protective Equipment
SSO	Site Safety Officer
TBD	To be determined
TLV	Threshold Limit Value
Tetra Tech	Tetra Tech NUS, Inc.
VOCs	Volatile Organic Compounds

ATTACHMENT I

INCIDENT REPORT FORM

Report Date	Report Prepared By	Incident Report Number
INSTRUCTIONS:		
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		
Description of Incident		
<hr/> <hr/> <hr/>		
Date of Incident	Time of Incident	
	_____ AM <input type="checkbox"/> PM <input type="checkbox"/> OR Cannot be determined <input type="checkbox"/>	
Weather conditions at the time of the incident	Was there adequate lighting?	
	_____ Yes <input type="checkbox"/> No <input type="checkbox"/>	
Location of Incident		
_____ Was location of incident within the employer's work environment? Yes <input type="checkbox"/> No <input type="checkbox"/>		
Street Address	City, State, Zip Code and Country	
Project Name	Client:	
Tt Supervisor or Project Manager	Was supervisor on the scene?	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	
WITNESS INFORMATION (attach additional sheets if necessary)		
Name	Company	
Street Address	City, State and Zip Code	
Telephone Number(s)		

CORRECTIVE ACTIONS				
Corrective action(s) immediately taken by unit reporting the incident:				
<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black;"></div>				
Corrective action(s) still to be taken (by whom and when):				
<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black;"></div>				
ROOT CAUSE ANALYSIS LEVEL REQUIRED				
Root Cause Analysis Level Required: Level - 1 <input type="checkbox"/> Level - 2 <input type="checkbox"/> None <input type="checkbox"/>				
Root Cause Analysis Level Definitions				
Level - 1	<p>Definition: 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"> ▪ Work related fatality ▪ Hospitalization of one or more employee where injuries result in total or partial permanent disability ▪ Property damage in excess of \$75,000 ▪ When requested by senior management 			
Level - 2	<p>Definition: 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"> ▪ OSHA recordable lost time incident ▪ Near miss incident that could have triggered a Level 1 RCA ▪ When requested by senior management 			
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.				
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? <input type="checkbox"/> TetraTech subcontractor employee (directly supervised by Tt personnel)? <input type="checkbox"/>		
Full Name	Company (if not Tt employee)	
Street Address, City, State and Zip Code	Address Type	
_____	Home address (for Tt employees) <input type="checkbox"/>	
_____	Business address (for subcontractors) <input type="checkbox"/>	
Telephone Numbers		
Work: _____	Home: _____	Cell: _____
Occupation (regular job title)	Department	
Was the individual performing regular job duties?	Time individual began work	
Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ AM <input type="checkbox"/> PM <input type="checkbox"/> OR Cannot be determined <input type="checkbox"/>	
Safety equipment		
Provided? Yes <input type="checkbox"/> No <input type="checkbox"/>	Type(s) provided: <input type="checkbox"/> Hard hat <input type="checkbox"/> Protective clothing	
Used? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, explain why	<input type="checkbox"/> Gloves <input type="checkbox"/> High visibility vest	
_____	<input type="checkbox"/> Eye protection <input type="checkbox"/> Fall protection	
_____	<input type="checkbox"/> Safety shoes <input type="checkbox"/> Machine guarding	
_____	<input type="checkbox"/> Respirator <input type="checkbox"/> 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 <input type="checkbox"/> No <input type="checkbox"/>	
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 <input type="checkbox"/> No <input type="checkbox"/> 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"

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"

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".

MEDICAL CARE PROVIDED

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

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

Name of physician or health care professional	Facility Name
Street Address, City State and Zip Code	Type of Care?
	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"/>
Telephone Number	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)

Property Damage Equipment Damage Fire or Explosion Spill or Release

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)? Tt Client Other Name: _____

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.

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

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 black border, intended for drawing a diagram. The box is positioned below the instruction text and occupies most of the page's vertical space.

ATTACHMENT II

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: _____

=====

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 Tetra Tech 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. Only include information that you wish others to know, only information that may be pertinent in an emergency situation or treatment.

=====

Name (Print clearly)

Signature

Date

ATTACHMENT III

SAFE WORK PERMITS

SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION ACTIVITIES
NCBC GULFPORT, MISSISSIPPI
CTO JM23

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Mobilization and demobilization activities

II. Primary Hazards: lifting, pinches and compressions, slip, trips and falls, vehicular and foot traffic, insect/animal bites and stings, poisonous plants, inclement weather.

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B
 Level C Level A

Respiratory equipment required

Yes Specify on the reverse
 No

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.

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>None anticipated</u>	<u>None</u>	<u>None</u>	<u>None</u>

Primary Route(s) of Exposure/Hazard: None

(Note to FOL and/or SHSO: 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 checked="" type="checkbox"/> No	Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" 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 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 – <u>Work</u>) <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 checked="" type="checkbox"/> No
Safety toe work shoes/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 up/use insect repellent <input checked="" 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: Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET. Follow manufacturer's recommendations for proper application and reapplication. High visibility vests in active traffic areas.

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, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Review PPE needs based on activities being performed and the associated hazards. Use safe lifting procedures and obtain assistance when handling heavy or awkward objects. Suspend site activities in the event of inclement weather. Observe site workers for signs and symptoms of heat stress. Use sun block (SPF > 15) to prevent sunburn.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
PASSIVE GAS AND LANDFILL GAS SURVEY
NCBC GULFPORT, MISSISSIPPI
CTO JM23**

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Passive gas and landfill gas survey
II. Primary Hazards: Chemical exposure, transfer of contamination, lifting, pinches and compressions, slip, trips and falls, vehicular and foot traffic, insect/animal bites and stings, poisonous plants, inclement weather.

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required **Respiratory equipment required**
 Level D Level B Yes Specify on the reverse
 Level C Level A No
 Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety shoes, safety glasses, and hardhat.

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>Landfill gas including methylene chloride and methane</u>	<u>1)GEM 2000 landfill gas monitor 2)FID for ambient breathing zone levels</u>	<u>1) N/A 2) 90ppm for four 5 min exposures in work day</u>	<u>Suspend site activities and retreat to an unaffected area.</u>

Primary Route(s) of Exposure/Hazard: Inhalation. **NOTE:** Outside air methane concentrations do NOT pose an inhalation or explosion hazard..

(Note to FOL and/or SHSO: 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 checked="" type="checkbox"/> No	Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" 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 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 – work/surgeon's)..... <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
Safety toe work shoes/boots <input checked="" 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 checked="" 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: Reflective vests for work performed on or near road. Tyvek coverall if working in high grass area for insect protection. Tape up and use insect repellants containing at least 10% DEET. Follow manufacturer's recommendations for repellent application and re-application.

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, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: The GEM2000 instruments are normally used for measuring gases from landfill sites. Inhalation of any gas may be harmful to health and in some cases may be fatal. It is the responsibility of the user to ensure that they are adequately trained in the safety aspects of the gases being used and that appropriate procedures be followed. In particular, where hazardous gases are being monitored or used the gas exhausted from the analyzer must be piped to an area where it is safe to discharge the gas. Hazardous gas can also be expelled from the instrument when purging with clean air. Avoid using cellular telephones phones and other radios while using this instrument as the radio frequency (RF) will adversely affect the performance of this instrument. Follow hand and power augering Safe Work Practices in Section 5.3 of the HASP

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
SOIL BORING ACTIVITIES
NCBC GULFPORT, MISSISSIPPI
CTO JM27**

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Monitoring well installation using HSA techniques and subsurface soil and groundwater sampling using DPT.

II. Primary Hazards: Chemical exposure, transfer of contamination, lifting, pinches and compressions, slip, trips and falls, vehicular and heavy equipment traffic, insect/animal bites and stings, poisonous plants, inclement weather.

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B
 Level C Level A

Respiratory equipment required

Yes Specify on the reverse
 No

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety shoes, safety glasses, and hardhat (if working near operating equipment).

VI. Chemicals of Concern

Methyl chloride

Hazard Monitoring

FID

Action Level(s)

90 ppm for 4 exposures
of 5 minutes in 1 day

Response Measures

Suspend site activities and
retreat to unaffected area.

Primary Route(s) of Exposure/Hazard: Inhalation

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

VII. Additional Safety Equipment/Procedures

Hard-hat Yes No
 Safety Glasses Yes No
 Chemical/splash goggles Yes No
 Splash Shield Yes No
 Splash suits/coveralls Yes No
 Impermeable apron Yes No
 Safety toe work shoes/boots Yes No
 High Visibility vest Yes No
 First Aid Kit Yes No
 Safety Shower/Eyewash Yes No

Hearing Protection (Plugs/Muffs) Yes No
 Safety belt/harness Yes No
 Radio/Cellular Phone Yes No
 Barricades Yes No
 Gloves (Type – work/surgeon's) Yes No
 Work/rest regimen Yes No
 Chemical Resistant Boot Covers Yes No
 Tape up/use insect repellent Yes No
 Fire Extinguisher Yes No
 Other Yes No

Modifications/Exceptions: Hard hats and hearing protection if working around heavy equipment. Cotton or leather work gloves and surgeon's gloves when handling potential contaminated items or grout mixtures. Reflective vests for work performed in active traffic areas. Tyvek coverall if working in high grass area for insect protection. Tape up and use insect repellants containing at least 10% DEET. Follow manufacturer's recommendations for repellent application and re-application.

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, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Use safe lifting practices when handling heavy components or other heavy/awkward equipment. Prevent access of unauthorized personnel into exclusion zone. SSO to monitor field team for heat stress and implement breaks and fluid replenishment in shaded areas, following appropriate decon and hands washing.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
MULTI-MEDIA SAMPLING
NCBC GULFPORT, MISSISSIPPI
CTO JM23**

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Groundwater monitoring using low flow techniques (peristaltic pump), surface soil sampling, surface water/sediment sampling.

II. Primary Hazards: Chemical exposure, transfer of contamination, lifting, pinches and compressions, slip, trips and falls, vehicular and foot traffic, insect/animal bites and stings, poisonous plants, inclement weather.

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B
 Level C Level A

Respiratory equipment required

Yes Specify on the reverse
 No

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety shoes, safety glasses, and hardhat.

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
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<u>Methyl chloride</u>	<u>FID</u>	<u>90 ppm for 4 exposures of 5 minutes in 1 day</u>	<u>Suspend site activities and retreat to unaffected area.</u>
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Primary Route(s) of Exposure/Hazard: Inhalation

(Note to FOL and/or SHSO: 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 checked="" type="checkbox"/> No	Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input checked="" 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 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 – work/surgeon's) <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
Safety toe work shoes/boots <input checked="" 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 checked="" 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: Reflective vests for work performed on or near road. Tyvek coverall if working in high grass area for insect protection. Tape up and use insect repellants containing at least 10% DEET. Follow manufacturer's recommendations for repellent application and re-application.

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, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Use safe lifting practices when handling sample coolers or other heavy/awkward equipment. Avoid contact with contaminated groundwater. Elevated airborne concentrations are unlikely to be present in worker breathing zones. Prevent access of unauthorized personnel into exclusion zone. SSO to monitor field team for heat stress and implement breaks and fluid replenishment in shaded areas, following appropriate decon and hands washing.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
DECONTAMINATION OF HEAVY AND SAMPLING EQUIPMENT
NCBC GULFPORT, MISSISSIPPI
CTO JM23**

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): Decontamination of heavy and sampling equipment (i.e., DPT rigs, etc.). Pressure washers or steam cleaning units will be used to decontaminate heavy equipment. Decontamination of sampling equipment (i.e., reusable stainless steel trowels, etc.). Brushes and spray bottles will be used to decontaminate small sampling equipment.

II. Primary Hazards: Chemical exposure, transfer of contamination, strain/muscle pulls, inclement weather, noise, flying projectiles.

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D Level B
 Level C Level A

Respiratory equipment required

Yes Specify on the reverse
 No

Modifications/Exceptions: _____

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>Decontamination Fluids</u>	<u>FID</u>	<u>above BG levels</u>	<u>Re-wash and re-scan</u>
_____	_____	_____	_____
_____	_____	_____	_____

Primary Route(s) of Exposure/Hazard: Inhalation and direct contact

(Note to FOL and/or SHSO: 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 checked="" 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 checked="" type="checkbox"/> No
Splash Shield.....	<input type="checkbox"/> Yes <input 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 – Nitrile).....	<input checked="" 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 checked="" 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 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: Chemical resistant boot covers if excessive liquids are generated or to protect footwear. Hearing protection for any pressure wash/steam cleaning operation. When using pressure washers, steam cleaners field crews will wear hearing protection, and face shields. PVC rain suits or PE or PVC coated Tyvek will be used if/when impermeable apron are inadequate to offer adequate protection. Hearing protection is required when operating the steam cleaner or pressure washer.

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 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, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Suspend site activities in the event of inclement weather. Employ proper lifting techniques. When/where possible use heavy equipment to move and place containers.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
IDW MANAGEMENT
NCBC GULFPORT, MISSISSIPPI
CTO JM23

Permit No. _____ Date: _____ Time: From _____ to _____

I. Work limited to the following (description, area, equipment used): IDW management an storage

II. Primary Hazards: Chemical exposure; transferring contamination; lifting; heavy equipment hazards; pinch and compressions; noise; slip, trip and fall, vehicular and foot traffic; ambient temperature extremes, and inclement weather

III. Field Crew: _____

IV. On-site Inspection conducted Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

V. Protective equipment required Level D Level B Level C Level A
Respiratory equipment required Yes Specify on the reverse
 No
 Modifications/Exceptions: _____

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>Methyl chloride</u>	<u>FID</u>	<u>90 ppm for 4 exposures of 5 minutes in 1 day</u>	<u>Suspend site activities and retreat to unaffected area.</u>
_____	_____	_____	_____

Primary Route(s) of Exposure/Hazard: Exposure to site contaminants is not likely to occur during this activity since IDW will be containerized. If action levels do not subside, contact PHSO for further direction.

(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 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 checked="" type="checkbox"/> No
Splash suits/coveralls..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gloves (Type – 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
Safety toe work shoes/ 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 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 checked="" type="checkbox"/> No
Safety Shower/Eyewash..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other <input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: High visibility vests in active traffic areas. If heavy equipment is used to move IDW containers, then SSO may also require hard hats and hearing protection. Tape up and use insect repellants. Follow manufacturer's label instructions for proper application and re-application of insect repellants. Hard hat if near overhead hazards. Hearing protection in high ambient noise areas.

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 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: Inspect drums used to store IDW prior to use. Use caution when opening drums that may have been exposed to sunlight or excessive heat as they may become pressurized. Stand in a clear area and allow drums to vent by slowly opening. Use proper lifting practices and obtain assistance when handling heavy drums. Use equipment whenever possible to move heavy items.

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT IV

EQUIPMENT INSPECTION CHECKLIST FOR DPT RIGS

Equipment Inspection Checklist

Company: _____

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____ Time: ____ : ____

Equipment Type: _____

Project Name: _____

Project No#: _____

Yes	No	NA	Requirement	Comments
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Emergency Stop Devices	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Emergency Stop Devices (At points of operation) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Have all emergency shut offs identified been communicated to the field crew? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Has a person been designated as the Emergency Stop Device Operator? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Highway Use	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Cab, mirrors, safety glass? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Turn signals, lights, brake lights, etc. (front/rear) for equipment approved for highway use? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Seat Belts? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Is the equipment equipped with audible back-up alarms and back-up lights? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Horn and gauges 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Brake condition (dynamic, park, etc.) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Tires (Tread) or tracks 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Windshield wipers 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Exhaust system 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Steering (standard and emergency) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Wheel Chocks? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Are tools and material secured to prevent movement during transport? Especially those within the cab? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Are there flammables or solvents or other prohibited substances stored within the cab? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Are tools or debris in the cab that may adversely influence operation of the vehicle (in and around brakes, clutch, gas pedals) 	

Equipment Inspection Checklist

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____ Time: ____ : ____

Equipment Type: _____

Project Name: _____

Yes	No	NA	Requirement	Comments
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Fluid Levels:</p> <ul style="list-style-type: none"> • Engine oil • Transmission fluid • Brake fluid • Cooling system fluid • Hoses and belts • Hydraulic oil 	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>High Pressure Hydraulic Lines</p> <ul style="list-style-type: none"> • Obvious damage • Operator protected from accidental release • Coupling devices, connectors, retention cables/pins are in good condition and in place 	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Mast Condition</p> <ul style="list-style-type: none"> • Structural components/tubing • Connection points • Pins • Welds • Outriggers • Operational • Plumb (when raised) 	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Hooks</p> <ul style="list-style-type: none"> • Are the hooks equipped with Safety Latches? • Does it appear that the hook is showing signs of wear in excess of 10% original dimension? • Is there a bend or twist exceeding 10% from the plane of an unbent hook? • Increase in throat opening exceeding 15% from new condition • Excessive nicks and/or gouges • Clips • Number of U-Type (Crosby) Clips (cable size 5/16 – 5/8 = 3 clips minimum) (cable size 3/4 – 1 inch = 4 clips minimum) (cable size 1 1/8 – 1 3/8 inch = 5 clips minimum) 	

Equipment Inspection Checklist

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____ Time: ____ : ____

Equipment Type: _____

Project Name: _____

Yes	No	NA	Requirement	Comments
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	PPE Required for Drill Rig Exclusion Zone <ul style="list-style-type: none"> • Hardhat • Safety glasses • Work gloves • Chemical resistant gloves _____ • Safety toed Work Boots • Chemical resistant Boot Covers • Apron • Coveralls Tyvek, Saranex, cotton) _____ 	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Other Hazards <ul style="list-style-type: none"> • Excessive Noise Levels? _____ dBA • Chemical hazards (Drilling supplies - Sand, bentonite, grout, fuel, etc.) <ul style="list-style-type: none"> - MSDSs available? • Will On-site fueling occur <ul style="list-style-type: none"> - Safety cans available? - Fire extinguisher (Type/Rating - _____) 	

Approved for Use Yes No See Comments

Site Health and Safety Officer

Operator

ATTACHMENT V

OSHA POSTER

Job Safety and Health

It's the law!



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

OSHA 3165-12-06R