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HEALTH AND SAFETY PLAN FOR MONITORING, FREE PRODUCT RECOVERY AND SOIL
REMOVAL ACTIVITIES AT SITES 351-1, 413, 425, 1343, 1585 AND 1586 NS MAYPORT FL
8/1/2010
TETRA TECH NUS

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62470-08-D-1001



**Health and Safety Plan
for
Monitoring, Free Product Recovery, and
Soil Removal Activities
at
Sites 351-1, 413, 425, 1343, 1585, and
1586**

**Naval Station Mayport
Jacksonville, Florida**

Contract Task Order JM33

August 2010



NAS Jacksonville
Jacksonville, Florida 32212-0030

**HEALTH AND SAFETY PLAN
FOR
MONITORING, FREE PRODUCT RECOVERY, AND
SOIL REMOVAL ACTIVITIES
AT
SITES 351-1, 413, 425, 1343, 1585 AND 1586**

**NAVAL STATION MAYPORT
MAYPORT, FLORIDA**

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

**Submitted to:
Naval Facilities Engineering Command Southeast
NAS Jacksonville
Jacksonville, Florida 32212-0030**

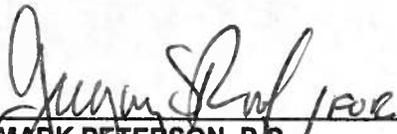
**Submitted by:
Tetra Tech NUS, Inc.
234 Mall Boulevard
King of Prussia, Pennsylvania 19406**

**CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER JM33**

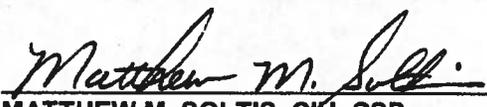
AUGUST 2010

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1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been written to encompass site activities that are to be conducted at various sites at the Naval Station (NS) Mayport, Mayport, Florida as part of Contract Task Order (CTO) JM33. This HASP is being prepared for NS Mayport as part of an overall effort conducted under Comprehensive Long-Term Environmental Action Navy (CLEAN) IV contract administered through the United States Navy (Navy) Naval Facilities Engineering Command, Southeast (NAVFAC SE), as defined under Contract Number N62470-08-D-1001. In addition to the HASP, a copy of the Tetra Tech NUS, Inc. (Tetra Tech) Environmental Health and Safety Guidance Manual must be present at the site during the performance of site activities. The Guidance Manual provides detailed information pertaining to the HASP, as well as Tetra Tech Standard Operating Procedures (SOPs). Both documents must be present at the site to comply with the requirements stipulated in the Occupational Safety and Health Administration (OSHA) Standard 29 Code of Federal Regulations (CFR) 1910.120.

This HASP has been developed using the latest available information regarding known or suspected chemical contaminants and potential physical hazards associated with the proposed work and sites. The HASP will be modified if new information becomes available. Changes to the HASP will be made by the Project Health and Safety Officer (PHSO) and approved by the Tetra Tech Health and Safety Manager (HSM) and the Task Order Manager (TOM). The TOM will notify affected personnel of the changes.

The elements of this HASP are in compliance with the requirements established by OSHA 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response", and sections of 29 CFR 1926, "Safety and Health Regulations for Construction." The information contained in this plan, as well as policies on conducting on-site operations, has been obtained from the Tetra Tech Health and Safety Program.

1.1 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines responsibilities for site safety and health for Tetra Tech employees engaged in onsite activities. 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 Task Order Manager 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.

1.2 STOP WORK AUTHORIZATION

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 Task Order Manager and the Corporate Health and Safety Manager. Through observations and communication, all parties involved shall then develop, communicate, and implement corrective actions necessary and appropriate to modify the task and to resume work.

1.3 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: NS Mayport **Address:** Mayport, Florida
Navy Engineer-in-Charge: Ms. Beverly Washington **Phone Number:** (904) 542-5581
Facility Contact: Ms. Diane Racine **Phone Number:** (904) 270-6730
Purpose of Site Visit: Free product recovery, groundwater sampling program, soil boring activities, etc.
Proposed Dates of Work: August 2010 until completion

Project Team:

Tetra Tech Personnel:

Mark Peterson, P.G.
TBD
Matthew M. Soltis, CIH, CSP
Jennifer Carothers, PhD
TBD
TBD

Discipline/Tasks Assigned:

Task Order Manager (PM)
Field Operations Leader (FOL)
CLEAN Health and Safety Manager (HSM)
Project Health and Safety Officer (PHSO)
Site Safety Officer (SSO)
Excavation Competent Person

Non-Tetra Tech Personnel:

TBD
TBD

Affiliation/Discipline/Tasks Assigned:

Hazard Assessments (for purposes of 29 CFR 1910.132) and HASP preparation conducted by:
Jennifer Carothers, PhD

TBD - To be determined

2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section is part of a planning effort to direct and guide field personnel in the event of an emergency. The site activities will be coordinated with NS Mayport emergency services prior to commencement. In the event of an emergency, which cannot be mitigated using on-site resources, personnel will evacuate to a safe place of refuge and the FOL will dial 911 to report the emergency. Site personnel may transport ill workers or those who have non-serious injuries to medical facilities, provided that such transport can be done safely. 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. NS Mayport Emergency Dispatch will be notified anytime that outside response agencies are required. This Emergency Action Plan conforms to the requirements of 29 CFR 1910.38(a), as allowed in 29 CFR 1910.120(I)(1)(ii).

Tetra Tech will, through necessary services, include initial response measures for incidents 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, injury or illness resulting from exposure to chemical or physical hazards are the most probable emergencies that can be encountered during site activities. The SSO and/or the FOL are responsible for minimizing and eliminating these potential emergency situations, pre-emergency planning activities associated with this project include the following.

- Coordinating response actions with NS Mayport Emergency Services personnel to ensure that Tetra Tech emergency action activities are compatible with existing facility 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 includes the following:
 - Chemical Inventory (for substances used on site), with Material Safety Data Sheets (MSDS).
 - On-site personnel medical records (medical data sheets).
 - A logbook identifying personnel on site each day.
 - Emergency notification phone numbers in the site vehicles.
- 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.

It is the responsibility of the Tetra Tech FOL to ensure that this information is available and present at the site.

2.3 EMERGENCY RECOGNITION AND PREVENTION

2.3.1 Recognition

Foreseeable emergency situations that may be encountered during site activities will generally be recognizable by visual observation. A clear knowledge of the signs and symptoms of overexposure to contaminants of concern (COCs) may alert personnel of the potential hazards concerning themselves or their fellow workers. These potential hazards, the activities with which they have been associated, and the recommended control methods are discussed in detail in Sections 5.0 and 6.0 of this document. Additionally, early recognition will be supported by periodic site surveys to eliminate any conditions that may predispose site personnel or properties to an emergency.

The FOL and the SSO will constitute the site evaluation committee responsible for these periodic surveys. A site survey will be conducted during the initiation of this effort. The survey will be documented.

2.3.2 Prevention

Tetra Tech and subcontractor personnel will minimize the potential for emergencies by ensuring compliance with the HASP, the Health and Safety Guidance Manual, applicable OSHA regulations, and by following directions given by those persons responsible for the health, safety, and welfare of personnel.

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.

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

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

**TABLE 2-1
EMERGENCY CONTACTS
NS MAYPORT**

AGENCY	TELEPHONE
NS Mayport - Emergency Dispatch	911
NS Security	(904) 270-5583 or (904) 270-5584
NS Medical Center (for life threatening emergencies only)	(904) 270-5444
Memorial Health Care Center (for other emergencies)	(904) 858-7500
NS Safety Department (Building 1363)	(904) 270-5218
Site Point of Contact, Ms. Diane Racine	(904) 270-6730
Public Works Office	(904) 270-5580
Duty Officer	(904) 270-5401
Sunshine State Utility One-Call of Florida	811
Poison Control Center	(800) 222-1222
Chemtrec	(800) 424-9300
National Response Center	(800) 424-8802
Tetra Tech Jacksonville Office	(904) 636-6125
Task Order Manager, Mark Peterson, P.G.	(904) 636-6125
CLEAN Health and Safety Manager, Matthew M. Soltis, CIH, CSP	(412) 921-8912
Project Health and Safety Officer, Jennifer Carothers, PhD	(412) 921-8083
WorkCare	800-455-6155 ext. 109

Note: When calling base telephone numbers from within the base (i.e., from an on-base telephone), dial a zero (0) and the last four digits of the telephone number. For example, to contact the Base Medical Clinic dial 05444.

2.6 ROUTE TO HOSPITALS

For emergency care only, non-Navy personnel are permitted to go to the Base Medical Center:

Branch Medical Clinic
NS Mayport
Mayport, FL 32228

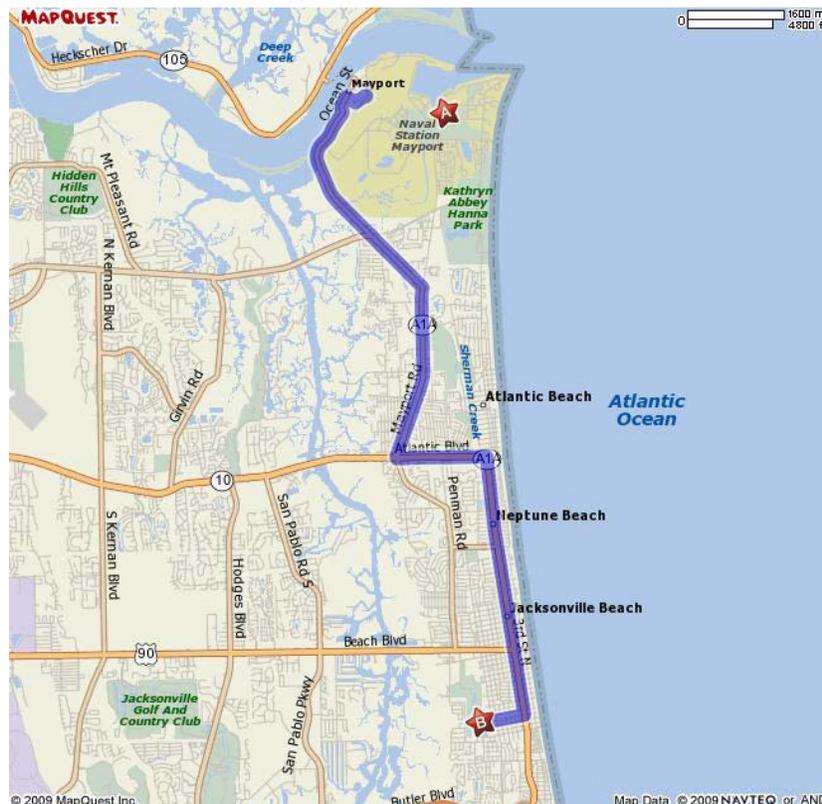
The Base Medical Clinic should be used for life-threatening emergencies only. It is located in Building 1363 on Massey Avenue.

For urgent, but non-emergency care services:

Baptist Medical Center Beaches
1350 13th Ave S
Jacksonville, FL 32250-3203

Baptist Medical Center Beaches will be used for medical care beyond basic first aid treatment. Directions to the Center: Southwest on Ribault Park St. toward Pearl St. Turn right onto Pearl St. then turn left onto Ocean St (FL-A1A). Turn right onto Mayport Rd. (FL-A1A). Turn right onto Atlantic Blvd (FL-A1A). Turn right onto 3rd St. N (FL-A1A). Turn right onto South 13th Ave. Hospital is on the left

**FIGURE 2-1
ROUTE TO MEMORIAL HEALTH CARE CENTER**



2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Tetra Tech personnel will be working in close proximity to each other at Naval Station Mayport. As a result, hand signals, voice commands, and line of site communication will be sufficient to alert site personnel of an emergency. When project tasks are performed simultaneously on different sites, vehicle horns will be used to communicate emergency situations.

If an emergency on Base 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 site personnel
- Once non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

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

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

- On Base, call 911 and other appropriate emergency contacts (Table 2-1) and report the emergency. Give the emergency operator the location of the emergency, the type of emergency, the number of injured, and a brief description of what occurred. Stay on the phone and follow the instructions given by the operator. The operator will then notify and dispatch the proper emergency response agencies.

2.8 PPE AND EMERGENCY EQUIPMENT

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

2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT

During any site evacuation, decontamination procedures will be performed only if doing so does not further jeopardize the welfare of site workers. Decontamination will 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). Not included as Basic First-Aid are second or third degree burns, cuts, lacerations requiring stitches or butterfly bandaging, heat exhaustion, severe poisonous plant or insect bite reactions. Personnel providing medical assistance are required to be trained in First-Aid and in the requirements of OSHA's Bloodborne Pathogen Standard (29 CFR 1910.1030). Medical attention above First-Aid level support will require assistance from the designated emergency response agencies. Attachment II provides the procedure to follow when reporting an injury/illness, and the form to be used for this purpose. **If the emergency involves personnel exposures to chemicals, follow the steps provided in Figure 2-2.**

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.

FIGURE 2-2 (continued)
WORKCARE
POTENTIAL EXPOSURE REPORT

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

I. Exposing Agent

Name of Product or Chemicals (if known): _____

Characteristics (if the name is not known)

Solid Liquid Gas Fume Mist Vapor

II. Dose Determinants

What was individual doing? _____

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

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

Was their skin contact? _____

Was the exposing agent inhaled? _____

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

III. Signs and Symptoms (check off appropriate symptoms)

Immediately With Exposure:

Burning of eyes, nose, or throat
Tearing
Headache
Cough
Shortness of Breath

Chest Tightness / Pressure
Nausea / Vomiting
Dizziness
Weakness

Delayed Symptoms:

Weakness
Nausea / Vomiting
Shortness of Breath
Cough

Loss of Appetite
Abdominal Pain
Headache
Numbness / Tingling

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

Burning of eyes, nose, or throat
Tearing
Headache
Cough
Shortness of Breath
Chest Tightness / Pressure
Cyanosis

Nausea / Vomiting
Dizziness
Weakness
Loss of Appetite
Abdominal Pain
Numbness / Tingling

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

Improved: _____ Worsened: _____ Remained Unchanged: _____

V. Treatment of Symptoms (check off appropriate response)

None: _____ Self-Medicating: _____ Physician Treated: _____

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 “Incident Report Form” (Attachment II) must be filled out. 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. 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.

2.10.1 TOTAL Incident Reporting System

TOTAL is Tetra Tech’s new online incident reporting system. Use TOTAL to directly report health and safety incidents, notify key personnel, and initiate the process for properly investigating and addressing the causes of incidents, including near-miss events. An incident is considered any unplanned event. It may include several types of near misses, events where no loss was incurred, or incidents that resulted in injuries or illness, property or equipment damage, chemical spills, fires, or damage to motor vehicles.

TOTAL looks like the incident reporting form in Attachment II. TOTAL is an intuitive system that will guide you through the necessary steps to report an incident within 24 hours of its occurrence. Behind the scenes, TOTAL is a powerful tool for H&S professionals, and will help Tetra Tech to better track incidents, analyze root causes, implement corrective action plans, and share lessons learned. The ultimate result is a more safe and healthy working environment for us all.

TOTAL is maintained on the Tetra Tech Intranet site at <https://my.tetrattech.com/>

Once on the “My Tetrattech” site, TOTAL can be found under the Health and Safety tab, Incident Reporting section, select “Report an Incident (TOTAL)”. This will connect you directly to TOTAL. TOTAL can also be accessed directly from the internet using the following web address: <http://totalhs.tetrattech.com/>

Note: When using the system outside the Tetra Tech intranet system or when operating in a wireless mode, a VPN connection will be required. The speed of the application may be affected dependent upon outside factors such as connection, signal strength, etc. Enter the system using your network user name and password. The user name should be in the following format - TT\nickname.lastname.

3.0 SITE BACKGROUND

NS Mayport is located within the corporate limits of the City of Jacksonville, Duval County, Florida, and approximately 12 miles to the northeast of downtown Jacksonville and adjacent to the Town of Mayport. The station complex is located on the northern end of a peninsula bounded by the Atlantic Ocean to the east and the St. Johns River to the north and west.

3.1 BACKGROUND AND HISTORY

Site 351-1 originally began as Building 351 (Tank N1388) where a 3,000 Gallon Fuel Oil #2 release on July 1, 1999 occurred. Site assessments, contaminated soil removals and free product recovery efforts were performed in hopes of remediating the site. A future release, caused by a faulty day tank, occurred on December 16, 2003 and resulted in separating the site into two distinct sites (351-1 and 351-2).

Building 413 is used as a classroom. A 560-gallon heating oil aboveground storage tank (AST) associated with the building was closed. In April 2001, closure activities for the underground piping and sumps associated with the AST (Tank Number N413) were completed. The piping was removed and the sump was closed in place. In July 2004, a closure assessment was conducted by Earth Systems. Tetra Tech began a site assessment in January 2006.

Buildings 425 and 1343 were previously funded for semi-annual groundwater monitoring for one year. Free product recovery was also underway for one year. Free product has decreased and the pumps can no longer recover product effectively. Additional recovery, utilizing absorbent socks or similar methods, will be addressed via this scope.

Building 1585 underwent a site assessment and an interim measure to monitor groundwater and remove free product during 2006 and 2007, respectively. Additional monitoring and free product recovery as well as quarterly monitoring will be addressed via this scope.

Building 1586 underwent a Treatability Study to determine an effective remediation system for site conditions. Tasks including a site assessment and remedial action plan preparation were previously scoped. A remedial action plan is presently under preparation. Monthly monitoring and free product recovery shall be addressed via this scope for one year.

4.0 SCOPE OF WORK

The following activities are covered in this HASP include:

- Site mobilization/demobilization activities
- Free product recovery (425, 1343, 1586)
- Soil boring and sampling, and monitoring well installation via DPT (1343 and 1585)
- Groundwater sampling (425, 1343, 351-2, 1585, and 1586)
- Soil excavation (413) including:
 - Removal of an existing AST and concrete pad, excavation of soils to a maximum of 3 feet of depth, backfill and compaction, pour a pad and replace the AST. Work will be done via a licensed subcontractor.
- Decontamination
- Investigative-Derived Waste (IDW) Management

Any tasks to be conducted outside of the elements listed here will be considered a change in scope requiring modification of this document. The requested modifications to this document will be submitted to the HSM by the PM or a designated representative.

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 attached to this HASP, the following general safe work practices are to be followed when conducting work on-site.

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

- Establish appropriate safety zones including support, contamination reduction, and exclusion zones.
- Minimize the number of personnel and equipment in contaminated areas (such as the exclusion zone). Non-essential vehicles and equipment should remain within the support zone.
- Establish appropriate decontamination procedures for leaving the site.
- Immediately report 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 DPT SAFE WORK PRACTICES

The following Safe Work Practices are to be followed when working in or around the DPT Rig Operations.

- Identify underground utilities and buried structures before commencing any DPT operations. Follow the Tetra Tech Utility Locating and Excavation Clearance Standard Operating Procedure.
- DPT rigs will be inspected by the SSO or designee, prior to the acceptance of the equipment at the site and prior to the use of the equipment. Repairs or deficiencies identified will be corrected prior to use. The inspection will be accomplished using the Equipment Inspection Checklist for DPT rigs provided in Attachment III. After the initial inspection and release for use on site, additional inspections will be performed at least at the beginning of every 5 or 10-day shift, or following any repairs or significant maintenance activities.
- Ensure that all machine guarding is in place and properly adjusted.
- Block the DPT rig and use levelers to prevent inadvertent movement.
- The work area around the point of operation will be cleared to the extent possible to remove any trip hazards near or surrounding operating equipment.

- The driller's helper will establish an equipment staging and laydown plan. The purpose of this is to keep the work area clear of clutter and slips, trips, and fall hazards. Mechanisms to secure heavy objects such as DPT flights will be provided to avoid the collapse of stacked equipment.
- Minimize contact to the extent possible with contaminated tooling and environmental media. Potentially contaminated tooling will be placed on polyethylene sheeting for storage and wrapped for transport to the centrally located equipment decontamination area
- Support functions (sampling and screening stations) will be maintained a minimum distance from the DPT rig of the height of the mast plus five feet , but not less than 25 feet around the rig.
- Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the DPT rig.
- During maintenance, use only manufacturer provided/approved equipment (i.e. auger flight connectors, etc.)
- In order to minimize contact with potentially contaminated tooling and media and to minimize lifting hazards, multiple personnel should be used to move auger flights and other heavy tooling.
- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone.
- Equipment used within the exclusion zone will undergo a complete decontamination and evaluation by the FOL and/or the SHSO to determine cleanliness prior to moving to the next location, exiting the site, or prior to down time for maintenance.
- Motorized equipment will be fueled prior to the commencement of the day's activities.
- When not in use DPT rig will be shutdown, and emergency brakes set and wheels will be chocked to prevent movement.
- Investigative areas will be restored to equal or better condition than original to remove any contamination brought to the surface and to remove any physical hazards. In situations where these hazards cannot be immediately removed, the area will be barricaded to limit access.

5.3 EXCAVATION SAFE WORK PRACTICES

The following information summarizes the main points of these procedures and regulations and is for Tetra Tech and subcontractor personnel awareness.

- Utility clearances must be in place prior to the beginning of excavation (in accordance with the Tetra Tech Utility Locating SOP in the Health and Safety Guidance Manual Section 7.0).
- Excavation boundaries must be demarcated with appropriate warning signs (e.g., construction activities in progress).
- Traffic patterns for equipment and the loading of trucks must be established. This pattern should form a loop to minimize backing, an activity which causes many accidents.
- Traffic patterns for foot and small vehicular traffic must keep workers away from heavy equipment.
- Traffic patterns for heavy equipment must be constructed to maintain traffic flow a minimum of 10 feet from unsupported walls or excavation boundaries.
- Excavation along thoroughfares will require the use of warning signs, barricades and flag-persons for alteration of traffic patterns, as necessary.
- Ground personnel should be provided with reflective vests to increase visibility and air horns to signal loud trucks and heavy equipment.
- Ground activities with heavy equipment must be supported with a ground spotter. The operators should be instructed that they are to follow the instructions provided by the ground spotter unless another party is otherwise authorized.
- Surface encumbrances within the intended work area of the excavation will be removed or supported, as necessary, in accordance with OSHA 1926.651(a).
- Prior to being put into service at the site, the excavator will be inspected by the SSO, and this inspection will be documented using the applicable forms in Attachment III.
- Heavy equipment will be positioned and operated so that it never approaches closer than 4 feet from the edge of an open excavation (other than the boom and bucket portion of the excavator).

- A decontamination station should be established at the loading and off-loading areas to flush mud and dirt from the wheels and tires as well as any areas of the vehicle impacted during the loading operation.
- Tetra Tech personnel WILL NOT enter a trench past 4 feet deep.

5.3.1 Employer Designated “Excavation Competent Person”

The Employer Designated “Competent Person” is responsible for all aspects of excavation safety as detailed in the OSHA Health & Safety Construction-Related Regulations - P - 650 to 699 - Subpart P - Excavations. This includes, but is not limited to:

5.3.1.1 Pre-Excavation Activities

- Utility Clearance identification and marking (Follow Tetra Tech Utility Locating and Excavation Clearance SOP in the Tetra Tech HSGM).
- Establishment of site control measures (temporary utilities, temporary traffic patterns, barricades, signs, etc.)
- Removal and/or control of Surface and Subsurface Encumbrances
- Traffic (Foot/Vehicular) Impact and routing
- Surface drainage patterns and impact

5.3.1.2 Post Excavation Activities

- All excavations will be backfilled no excavation will be left open overnight

5.3.1.3 Competent Persons Qualifications

- The employer designates Competent Person(s) based on knowledge and training.
- Capable of identifying existing or predictable hazards associated with excavated cuts or cavities in the earth.
- Has the authority to take prompt action to abate these hazards.
- Working knowledge of Soil Analysis/Soil Classification.
- Knowledgeable in the area of Protective Systems.

- Working knowledge of the requirements of 29 CFR 1926 Subpart P.
- 30 hour OSHA Construction Training and 10 hour OSHA Excavation training.

This position will typically be filled by Site Safety Officer (SSO), Field Operations Leader (FOL), or a Registered Professional Engineer (PE). The Excavation Competent Person must be specifically identified to handle this responsibility prior to work beginning. Detailed Tetra Tech Excavation Safety Procedures can be found in the Tetra Tech HSGM and the Heavy Equipment Inspection Checklist is included in Attachments III and must be completed prior to beginning work.

6.0 HAZARD ASSESSMENT

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

The sites to be investigated as part of this CTO are sites with historical releases of petroleum products (fuel oil, diesel fuel, heating oil). Petroleum products and fuel oils are refined from crude petroleum and may be categorized as either a distillate fuel or a residual fuel depending on the method of production. Diesel fuels are similar to fuel oils used for heating (fuel oils Number 1, Number 2, and Number 4). Fuel oils consist of complex mixtures of aliphatic and aromatic hydrocarbons (i.e., paraffins and naphthalenes, benzene, toluene, ethylbenzene, and xylenes [BTEX], and styrene and indene). Due to the low volatility of fuel oil, human exposure to vapor concentrations above occupational exposure limits is unlikely. From an occupation exposure standpoint, exposures to constituents of fuel oils (e.g., BTEX, etc.) are of greater concern and are used as the basis for establishing action levels for air monitoring instrumentation. The greatest potential for exposure is anticipated to occur whenever free product is encountered or if soils that are saturated with free product are handled.

Based on historical information, the predominant chemical substances assumed to be encountered at the sites are diesel fuels, toluene, xylenes, benzene, ethylbenzene, and general PAHs. Table 6-1 below shows the COCs for the site compared to their current occupational exposure limits (OELs).

**TABLE 6-1
VOLATILE ORGANICS
AND THEIR CURRENT OCCUPATIONAL EXPOSURE LIMITS**

Volatile Organics			
Contaminant of Concern	Maximum Concentration Previously Detected	Possible Worst-Case-Scenario Concentration	Current OSHA PEL and ACGIH TLV
Benzene	87.5 ug/L	6.06 ppm	OSHA: 1 ppm, TWA ₈ 5 ppm STEL ACGIH: 0.5 ppm TWA ₈ 25 ppm STEL
Toluene	0.22 ug/L	0.02 ppm	OSHA: 200 ppm 300 ppm (Ceiling) ACGIH: 50 ppm (skin)
Xylenes	42.1 ug/L	2.65 ppm	ACGIH: 100 ppm, 150 ppm STEL OSHA: 100 ppm
Ethylbenzene	37.8 ug/L	2.81 ppm	ACGIH: 100 ppm; 125 ppm STEL OSHA: 100 ppm
PAHs	NA	NA	OSHA: 0.2 mg/m ³
Diesel fuel	NA	NA	ACGIH 100mg/m ³

Table Notes:

- TWA₈: Average air concentration over an 8-hour work period that is not to be exceeded
- TCE OSHA STEL: Concentration in air that is not to be exceeded for more than 5 minutes in any 3 hour period
- ACGIH STEL: Concentration in air that is not to be exceeded for more than 15 minutes more than 4 times per day

6.1.1 Properties and Exposure Signs/Symptoms

Benzene

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities. Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume.

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

The major effect of benzene from long-term exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.

Long-term exposure to high levels of benzene in the air can cause leukemia, particularly acute myelogenous leukemia, often referred to as AML. This is a cancer of the blood-forming organs. The Department of Health and Human Services (DHHS) has determined that benzene is a known carcinogen. The International Agency for Research on Cancer (IARC) and the EPA have determined that benzene is carcinogenic to humans.

The principle route that a worker could be exposed to this COC is inhalation. Secondary pathways include ingestion, and a possibility for exposure via direct skin contact.

Diesel Fuel

Prolonged or repeated exposures to diesel fuels may cause skin and eye irritation. Due its defatting capabilities, exposure may lead to a dermatitis condition. High vapor concentrations are irritating to the eyes and respiratory tract. Exposure to high airborne concentrations may result in narcotic effects including dizziness, headaches, and anesthetic to unconsciousness. High concentrations in a confined space may adequately displace oxygen thereby resulting in suffocation.

Toluene

Overexposure to this substance may result in mild to moderate irritation at the points of contact, and central nervous system (CNS) changes including euphoria, confusion, nervousness, and possibly paresthesia characterized by an abnormal burning sensation, pricking, or numbness. At 200-500 ppm exposure has resulted in headaches, nausea, eye irritation, loss of appetite, bad taste, impair coordination, fatigue, and weariness. Chronically, toluene overexposure may result in dermatitis, liver, and kidney damage.

Xylenes

Effects may of overexposure include irritation at the points of contact, CNS changes (i.e., dizziness, excitement, drowsiness, incoherent, staggering gait), difficulty in breathing, pulmonary edema, and possibly respiratory failure. Chronic effects may include dermatitis and cornea vacuolization.

Ethylbenzene

Ethylbenzene is regulated primarily because of its potential to irritate the eyes and respiratory system. In addition, effects of overexposure may include headaches, narcotic effects, CNS changes (i.e., coordination impairment, impaired reflexes, tremors), difficulty breathing, possible chemical pneumonia, and potential respiratory failure or coma.

PAHs

PAHs are regulated based on effects on respiratory tract and skin irritation. Other effects may include eye irritation and central nervous system disturbances. Acute exposures may result in difficulty breathing, respiratory failure and skin and eye irritation and burns. Chronic exposure may damage the liver, kidneys, lungs, and skin, or cause photosensitivity. The United States Environmental Protection Agency (USEPA) list some PAHs such as benzo(a)pyrene as potential carcinogens.

6.1.2 Inhalation

Based on the historical data and previous investigations at the sites, worker exposure to airborne concentrations of these COCs that could represent a health concern is considered to be possible, but not likely.

6.1.3 Ingestion and Skin Contact

Potential exposure concerns to the primary COC may also occur through ingesting or coming into direct skin contact with contaminated water and soils. The likelihood of worker exposure concerns through these two routes are also considered 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 of 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 appropriate gloves whenever handling potentially-contaminated media, including soils, water, hand tools, and sample containers.

6.2 PHYSICAL HAZARDS

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

- Slip, trip, and fall hazards
- Heat/cold stress
- Natural hazards
- Vehicle 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 Heat Stress

Because of the length of planned project activities, 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, un-coordination, 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

- 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. Water and sports-drinks with electrolytes are acceptable provided that they do not contain alcohol.

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

6.2.3 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.

6.2.4 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. 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.

West Nile Virus (WNV) and other mosquito-borne diseases may occur when an infected mosquito sucks blood from a person. About one in 150 people infected with WNV will develop severe illness. Severe

symptoms can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. These symptoms may last several weeks, and neurological effects may be permanent. Up to 20 percent of the people who become infected have symptoms such as fever, headache, and body aches, nausea, vomiting, and sometimes swollen lymph glands or a skin rash on the chest, stomach and back. Symptoms can last for as short as a few days, though even healthy people have become sick for several weeks. Approximately 80 percent of people (about 4 out of 5) who are infected with WNV will not show any symptoms at all.

Although no longer common in the United States, malaria may occur when a mosquito or other infected insect sucks blood from an infected person, and the insect becomes the carrier to infect other hosts. The parasite reproduces within the mosquito, and is then passed on to another person through the biting action. Acute symptoms include chills accompanied by fever and general flu-like symptoms. This generally terminates in a sweating stage. These symptoms may recur every 48 to 72 hours.

Fire Ants

Various insects and animals may be present and should be considered. For example, fire ants present a unique situation when working outdoors in Florida. Their aggressive behavior and their ability to sting repeatedly can pose a unique health threat. The sting injects venom (formic acid) that causes an extreme burning sensation. Pustules form which can become infected if scratched. Allergic reactions of people sensitive to the venom include dizziness, swelling, shock and in extreme cases unconsciousness and death. People exhibiting such symptoms should see a physician. Fire ants can be identified by their habitat. They build mounds in open sunny areas sometimes supported by a wall or shrub. The mound has no external opening. The size of the mound can range from a few inches across to some which are in excess of two feet or more in height and diameter. When disturbed the ants defend it by swarming out and over the mound, even running up grass blades and sticks.

Also, areas to be investigated could be prime nesting and/or hiding locations for snakes and other insects. Personnel should avoid reaching into areas that are not visibly clear of snakes or insects. Snake chaps will be worn in areas of known or anticipated snake infestation. Site 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 and the FOL and SSO notified.

Alligators

Alligators are indigenous to southeastern portion of the United States and may be present in ponds, swamps, drainage channels, and other wet areas. Alligators are fairly inactive in the winter months when

the water temperatures are cool; their metabolism slows down and there is little need for food. The breeding season is mostly during April and May (but may begin as early as mid-February); male and female move around more during this time. Nests are constructed by the female during June and July. The female will build a nest of leaves and vegetation up to 6 feet across and several feet high. She lays and buries her eggs in the center of this mound, allowing the warmth of the pile to incubate the eggs. Females typically lay over 50 eggs and each egg is about 3 inches long. The eggs incubate for about 9 weeks, and the female will watch and defend the nest during this time. As the young hatch, they "peep" and the female will assist them by digging them out of the nest. Newborn alligators are about 9 inches long and will stay near the female for up to a year. The female will continue to protect the young during this period. Alligators are very protective of their domain during courtship and nesting. Alligators can outrun humans for short distances. Other indication of their presence includes slides (areas marked by entering and exiting the water) and areas of cleared access for purposes of sunning (internal thermal regulation).

- Treat alligators with extreme caution. Never approach an alligator, either on land or in the water.
- If activities (wells near drainage channels or ponds or other surface water impoundments) involves entering areas where alligators may be present, use an "alligator-watch" as a lookout.
- When in areas where alligators may exist, always leave yourself a clear means of retreat.

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

Snakes

There are both non-venomous and venomous snakes living in Florida. Some key physical differences between these two groups of snakes facilitates their identification. These characteristics do not necessarily apply to the differentiation of species not native to the area.

The native venomous snakes possess:

- Indentation or pit on each side of the head between the eye and nostril,
- Vertically elliptical eye pupil resembling that of a cat, and

- Single row of scales on the underside of the tail.

Of course, rattlesnakes usually display one or more rattles. However, these can be missing because of natural causes.

Non-venomous native snakes do not possess facial pits, their eye pupils are round like a human's, and there is a double row of scales on the underside of the tail.

Head shape often presents problems in identification. Rattlesnakes and copperheads have obviously flattened, triangular-shaped heads. However, some non-venomous species can also at times display a flattened head. The average person often misinterprets head shape in snakes that one has seen. Therefore, it is wise to focus on the other characteristics when identifying snakes.

Venomous snakes

Venomous snake bites usually occur while a person is trying to catch or carelessly handle one of these snakes. All of these species are usually non-aggressive and prefer to avoid confrontation. Thus, they often quietly move away from an approaching human or remain completely still and allow what they perceive as a threat to pass by.

Contrary to popular belief, rattlesnakes do not always rattle when a person or animal is near. When traveling through areas thought to contain venomous snakes, people can minimize the possibilities of an unintended encounter by using some common sense. In the vast majority of encounters with snakes, people have more than ample opportunity to stop, back up or otherwise avoid the snake.

Snakes tend to be found near cover such as fallen logs, brush piles, rock walls, abandoned house foundations or rock ledges. They may be resting or lying in wait for prey. Encounters can be reduced by watching where you place your hands and feet. One should try to walk around, rather than step over, fallen logs.

Sometimes a person's curiosity or fear can lead to poor judgment and possibly result in a snakebite. There are several signs and symptoms of venom entering the body. They include fang marks, pain and possibly a metallic or rubbery taste in the mouth several minutes after a bite, with a tingling or numbness of the tongue. Other signs include significant swelling within 10 minutes of a bite. Nausea, weakness and temperature change may occur. Black and blue discoloration may appear within three to six hours.

If a person is bitten by a venomous snake, there are several steps that should be taken. The following are important do's and don'ts in the event of a snakebite.

Do's

- Calm and reassure the victim, and keep the victim immobile.
- Call the Poison Control Center at (800) 222-1222.
- You may apply a light constricting band above the bite area (be able to insert a finger under the band). Do not release the band unless it becomes too tight from swelling.
- Move the victim to a medical facility without delay.
- A tetanus shot may also be required.

Don'ts

- Don't use ice, cold packs or sprays.
- Don't incise and suction unless directed by a physician.
- Don't use a tourniquet.
- Don't give alcohol or any drugs.
- Don't wait to see if symptoms develop. Immediately transport the victim to a medical facility.

Poisonous Plants

Various plants which can cause allergic reactions may be encountered during field work. These include poison ivy, poison oak, and poison sumac. Contact with these plants may occur when clearing vegetation for access to work areas, or as a result of movement through these plants. An irritating, allergic reaction can occur after direct contact with the plant or indirect contact through some piece of equipment or clothing article. Oils are transferred from the plant to exposed skin, clothing, or piece of equipment. The degree of the irritating, allergic reaction can vary significantly from one person to the next.

Protective measures to control and minimize the effects of this hazard may include, but not be limited to, the following:

- Identify plants for field personnel.
 - Poison Ivy - Characterized by climbing vines, three leaf configuration ovate to elliptical in shape, deep green leaves with a reddish tint, greenish flowers, and white berries.
 - Poison Sumac - Characterized as a tall bush of the sumac family bearing compound leaves (7-13 entire leaflets), branched from a central axis, drooping, with auxiliary clusters of white fruit: However, these white fruits and berries may exist only during pubescent stages.

- Poison oak - Characterized as similar to poison ivy consisting of a shrub, stems erect, 0.3 to 2.0 meters tall, leaflets consist of broad thick lobes coarsely serrated configuration, denser at the base, less so than the top.
- Protective measures may include wearing disposable garments such as Tyvek when clearing brush. These may be carefully removed and disposed of along with any oils accumulated from the plants.
- Personal Hygiene - The oils obtained from the plants will only elicit an allergic response when the person's bare skin layer is contacted. This can be aggravated when skin pores are open (perspiring), or through breaks in the skin such as cuts, nicks, scratches, etc. This can also be accomplished when using excessively hot water for cleaning the skin, which also causes pores to open. Prior to break time, lunchtime, etc. personnel should wash with cool water and soap to remove as much of the oils as possible. In heavily vegetated areas of these plants, additional measures including barrier creams and blocks may be used to prevent the oils from accessing and penetrating the skin.

These plants present an airborne sensitization hazard when burned.

6.2.5 Incllement Weather

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

Tropical Storms and Hurricanes

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

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

- High winds
- Excessive rainfall

- Storm surge

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

High Winds

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

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

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

Based on the Saffir-Simpson scale
NA – Not Applicable

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

Excessive Rainfall

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

Storm Surge

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

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

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

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

7.0 AIR MONITORING

Direct reading instruments will be used at the site to detect and evaluate the presence of site contaminants and other potentially hazardous conditions. As a result, specific air monitoring measures and requirements are established pertaining to the specific hazards and tasks of an identified operation. Additionally, the Health and Safety Guidance Manual, Section 1.0, contains detailed information regarding direct reading instrumentation, as well as general calibration procedures of various instruments.

7.1 INSTRUMENTS AND USE

Instruments will be used primarily to monitor source points and worker breathing zone areas, while observing instrument action levels.

7.1.1 PID or FID

In order to accurately monitor for any substances that may present an exposure potential to site personnel, a PID with a lamp energy of 10.6 eV or higher will be used. This instrument will be used to monitor potential source areas and to screen the breathing zones of employees during site activities. The PID with this lamp strength has been selected because it is capable of detecting the organic vapors of concern. A FID, which may be less susceptible to variations in humidity, may be used in place of a PID to detect VOCs.

Prior to the commencement of any field activities, the background levels of the site must be determined and noted. Daily background readings will be taken away from any areas of potential contamination. These readings, any influencing conditions (i.e., weather, temperature, humidity), and site location must be documented in the field operations logbook or other site documentation (e.g., sample log sheet). 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., above collected samples and confined areas, etc.) 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.

Instrument Action Levels: The use of either a PID or an FID will be acceptable, provided that the following action levels are observed:

- PID Action Level: 1.75 ppm above BG in BZ areas for four exposures of no more than 5 minutes in ANY ONE work day
- FID Action Level: 2.75 ppm above BG in BZ areas for four exposures of no more than 5 minutes in ANY ONE work day

7.2 INSTRUMENT MAINTENANCE AND CALIBRATION

Hazard monitoring instruments will be maintained and pre-field calibrated by the Tetra Tech Equipment Manager. Operational checks and field calibration will be performed on the instruments each day prior to and after 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 SOPs (copies of which can be found in the Health and Safety Guidance Manual which will be maintained on site for reference). The 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 number, source concentration, supplier).
- Any relevant comments or remarks.

7.3 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., PID, FID, 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

This section specifies health and safety training and medical surveillance requirements for both Tetra Tech and subcontractor personnel participating in on-site activities.

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 NS Mayport. 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 and subcontractor personnel 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 posted to maintain an active list of cleared site personnel.

Tetra Tech will conduct a pre-activities training session prior to initiating site work. Additionally, a brief meeting may be held daily to discuss operations planned for that day as well as a short meeting that may be held at the end of the day to discuss the operations completed and any problems encountered. This activity will be supported through the use of a Safe Work Permit System (see Section 9.4) and/or documented in the Project Logbook.

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.

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

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 the areas of the site of known or suspected contamination. It is anticipated that the areas around intrusive activities will have the potential for contaminants brought to the surface. These areas will be marked and personnel will maintain safe distances. Once intrusive activities have been completed and surface contamination has been removed, the potential for exposure is again diminished and the area can then be reclassified as part of the contamination reduction zone. Therefore, the exclusion zones for this project will be limited to those areas of the site where active work (excavation, monitoring well installation, excavation, tank removal, sample collection, etc.) is being performed plus a designated area of at least 25 feet surrounding the work area. Exclusion zones will be delineated as deemed appropriate by the FOL, through means such as erecting visibility fencing, barrier tape, cones, and/or postings to inform and direct personnel.

9.2 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 can be found in Attachment IV of this HASP. 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 must be escorted and restricted from approaching any work areas where they could be exposed to hazards from Tetra Tech operations. If a visitor has authorization from the client and from the Tetra Tech Task Order Manager to approach our work areas, the FOL must assure that the visitor first provides documentation indicating that he/she/they have successfully completed the necessary OSHA introductory training, receive site-specific training from the SSO, and that they have been physically cleared to work on hazardous waste sites.

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 will be required to produce the necessary information supporting clearance to the site. This shall include information attesting to applicable training and medical surveillance as stipulated in Section 8.0 of this document. In addition, to enter the site operational zones during planned activities, visitors will be required to first go through site-specific training covering the topics stipulated in Section 8.2 of this HASP.

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

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 the telephones at predetermined and 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 NS Mayport, the FOL will determine and arrange for telephone communications.

**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: _____

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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

Modifications/Exceptions: _____

VIII. Site Preparation

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

IX. Additional Permits required (Hot work, confined space entry, excavation etc.) Yes No
 If yes, 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 possible that as the job progresses, disposable PPE and other non-reusable items may be generated. As needed, 55-gallon drums will be used to contain unwanted items generated during sampling activities. The drum(s) will be labeled with the site name and address, the type of contents, and the date the container was filled as well as an identified contact person. As warranted, samples will be collected and analyzed to characterize the material and determine appropriate disposal measures. Once characterized the drum(s) will be removed from the staging area and disposed of in accordance with Federal, State, and local regulations. Given the likely solid nature of drum contents, a comprehensive Spill Containment Program is not necessary. The following discussion is provided as contingency information only.

10.2 POTENTIAL SPILL AREAS

Should drums contain liquid wastes, potential spill areas will be monitored in an ongoing attempt to prevent and control further potential contamination of the environment. Areas designated for handling, loading, and unloading of potentially contaminated waters and debris present limited potential for leaks or spills.

The drums/containers used for containing liquids will be sealed, labeled, and staged within a centralized area awaiting shipment or disposal.

10.3 LEAK AND SPILL DETECTION

To establish an early detection of potential spills or leaks, periodic inspections by the SSO will be conducted during working hours to visually determine that containers are not leaking. If a leak is detected, the first approach will be to transfer the container contents using a hand pump into a new container. Other provisions for the transfer of container contents will be made and appropriate emergency contacts will be notified, if necessary. In most instances, leaks will be collected and contained using absorbents such as Oil-dry, vermiculite, and/or sand, which may be stored at the staging area in a conspicuously marked drum. This material will be containerized for disposal pending analyses. The inspections will be documented in the Project Logbook.

10.4 PERSONNEL TRAINING AND SPILL PREVENTION

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

10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

The following represents the types of equipment that may be maintained at the staging area for the purpose of supporting this Spill Containment Program (depending on the likelihood that drums, excavated soil, and/or liquid wastes are generated):

- Sand, clean fill, vermiculite, or other noncombustible absorbent (oil-dry).
- Drums [55-gallon United States Department of Transportation (DOT) 1A1 or 1A2]
- Shovels, rakes, and brooms.
- Labels.

10.6 SPILL CONTROL PLAN

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

- Notify the SSO or FOL immediately.
- Take immediate actions to stop the leak or spill by plugging or patching the drum or raising the leak to the highest point. Avoid contacting drum contents. Spread the absorbent material in the area of the spill covering completely.

It is not anticipated that a spill will occur in which the field crews cannot handle. Should this occur; however, the FOL or SSO will notify appropriate emergency response agencies.

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

A Permit-Required Confined Space is one that has the following characteristics:

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

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

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 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. A copy of this sheet or a wallet card will be given to site personnel to be carried on their person.

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 GLOSSARY

ACGIH	American Conference of Governmental Industrial Hygienists
AST	Aboveground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-term Environmental Action Navy
CNS	Central Nervous System
COCs	Contaminates of Concern
CTO	Contract Task Order
°C	Degrees Celsius
°F	Degrees Fahrenheit
DoD	Department of Defense
DOT	Department of Transportation
DPT	Direct Push Technology
eV	Electron Volts
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FOL	Field Operations Leader
GCTL	Groundwater Cleanup Target Level
HASP	Health and Safety Plan
HSM	Health and Safety Manager
IDLH	Immediate Dangerous to Life or Health
IDW	Investigative-Derived Waste
LEL/LFL	Lower Explosive Limit / Lower Flammable Limit
mg/m ³	Milligrams per Cubed Meter
mmHg	Millimeter of Mercury
MSDS	Material Safety Data Sheet
NAVFAC SE	Naval Facilities Engineering Command, Southeast
NS	Naval Station
Navy	United States Navy
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PHSO	Project Health and Safety Officer
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	parts per million

SOPs	Standard Operating Procedures
SSO	Site Safety Officer
TBD	To Be Determined
PM	Task Order Manager
Tetra Tech	Tetra Tech NUS, Inc.
UEL/UFL	Upper Exposure Limit / Upper Flammable Limit
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

ATTACHMENT I

MEDICAL DATA SHEET

MEDICAL DATA SHEET

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

Project: _____

Name: _____ Home Telephone: _____

Address: _____

Age: _____ Height: _____ Weight: _____

Person to notify in the event of an emergency: _____

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.

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

Name (Print clearly)

Signature

Date

ATTACHMENT II

INCIDENT REPORT FORM

Report Date	Report Prepared By	Incident Report Number
INSTRUCTIONS:		
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:				
<hr/> <hr/> <hr/> <hr/>				
Corrective action(s) still to be taken (by whom and when):				
<hr/> <hr/> <hr/> <hr/>				
ROOT CAUSE ANALYSIS LEVEL REQUIRED				
Root Cause Analysis Level Required: Level - 1 <input type="checkbox"/> Level - 2 <input type="checkbox"/> None <input type="checkbox"/>				
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? TetraTech subcontractor employee (directly supervised by Tt personnel)?

Full Name

Company (if not Tt employee)

Street Address, City, State and Zip Code

Address Type

Home address (for Tt employees)

Business address (for subcontractors)

Telephone Numbers

Work: _____

Home: _____

Cell: _____

Occupation (regular job title)

Department

Was the individual performing regular job duties?

Yes No

Time individual began work

_____ AM PM OR Cannot be determined

Safety equipment

Provided? Yes No

Used? Yes No If no, explain why

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

NOTIFICATIONS

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

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

Yes No

Date of report

H&S Personnel Notified

Time of report

Time of Report

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

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

INJURY / ILLNESS DETAILS

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

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 No

Was individual hospitalized overnight as an in-patient? Yes No

Telephone Number

Did the individual die? Yes No If yes, date: _____

Will a worker's compensation claim be filed? Yes No

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

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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 occupies most of the page below the header.

ATTACHMENT III

HEAVY EQUIPMENT INSPECTION CHECKLIST

Heavy Equipment Inspection Checklist

Company: _____

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

Time: _____ :

Equipment Type: _____

(e.g, earthmoving equipment - tractors backhoes, bulldozers, etc.)

Project Name: _____

Project No#: _____

Yes	No	NA	Requirements	Comments
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seat Belts <ul style="list-style-type: none"> • Are available for intended operator and passengers (where applicable) • Seat Belts are operational? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Roll-Over Protection (ROPS) <ul style="list-style-type: none"> • Roll-over protection structures (ROPS) are provided on vehicles and heavy equipment (including scrapers, tractors, loaders, bulldozers, carryalls, etc.) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Brakes <ul style="list-style-type: none"> • Brake systems capable of stopping and holding fully loaded equipment • Parking Brake functions properly • Wheel Chocks available (where and as applicable) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Access <ul style="list-style-type: none"> • Non-slip steps • Grab Handles (3-Point Grab/Step Mounting Points) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audible Alarms <ul style="list-style-type: none"> • Audible alarms – All bidirectional machines, such as rollers, compactors, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn, distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. - Back up Alarms – All self propelled equipment with an obstructed view to the rear will be equipped with a reverse gear signal alarm distinguishable from the surrounding noise level. • Horn functioning properly 	

Equipment Inspection Checklist for Heavy Equipment

Page 2

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

Yes	No	NA	Requirements	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"/> <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>Highway Use</p> <ul style="list-style-type: none"> • Fenders for equipment that can exceed 15mph • Fire Extinguisher • Are exhaust emissions directed away from the Operator? • Cab <ul style="list-style-type: none"> - Clean, free from debris, tools or equipment that can interfere with foot Control. - Free from storage of flammable material/solvents • Mirrors, • Safety glass <ul style="list-style-type: none"> - Equipped with defrosters - Windshield wipers • Turn signals, lights, brake lights, etc. (front/rear) for equipment approved for highway use? • Gauges functioning properly • Tires (Tread) or tracks • Steering (standard and emergency) • Are tools and material secured to prevent movement during transport? 	
<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 	

Equipment Inspection Checklist for Heavy Equipment

Page 3

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

Yes	No	NA	Requirements	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"/>	Fueling <ul style="list-style-type: none"> • Fueling of vehicles and heavy equipment is done with the engine off. • No smoking is permitted at or near the fuel storage or refueling area. A sign is posted stating: NO SMOKING WITHIN 50 FEET. • No sources of ignition are present near the fuel storage or refueling area. • A dry chemical or carbon dioxide fire extinguisher (rated 6:BC or larger) is in a location accessible to the fueling area, no closer than 50-feet. • Safety cans available? 	
<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"/>	Safety Guards – <ul style="list-style-type: none"> • Around rotating apparatus (belts, pulleys, sprockets, spindles, drums, flywheels, chains) all points of operations protected from accidental contact? • Hot pipes and surfaces are protected from accidental contact? • High pressure pneumatic lines have safety cable to prevent thrashing should it become disconnected? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attachments <ul style="list-style-type: none"> • Have the attachments designed for use (as per manufacturer's recommendation) with this equipment been inspected and are considered suitable for use? 	
<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"/>	Operator Qualifications <ul style="list-style-type: none"> • Does the operator have proper licensing where applicable, (e.g., CDL)? • Does the operator, understand the equipment's operating instructions? • Is the operator experienced with this equipment? • Is the operator 21 years of age or more? 	

Equipment Inspection Checklist for Heavy Equipment

Page 4

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

Yes	No	NA	Requirements	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 <ul style="list-style-type: none"> • Hardhat • Safety glasses • Work gloves • Chemical resistant gloves _____ • Steel 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"/>	Key(s)? Operating Manual?	
<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.) - MSDSs available? 	

Approved for Use Yes No See Comments

 Site Health and Safety Officer

 Operator

ATTACHMENT IV

SAFE WORK PERMITS

**SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION
NS MAYPORT, FLORIDA**

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

SECTION I: General Job Scope

- I. **Work limited to the following (description, area, equipment used):** Mobilization and demobilization activities.
- II. **Primary Hazards:** lifting, cuts and lacerations, pinches and compressions; flying projectiles; slips, trips, and falls; insect and animal bites.
- 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

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

- V. **Protective equipment required** **Respiratory equipment required**
 Level D Level B Yes See Reverse
 Level C Level A No
 Modifications/Exceptions: None anticipated

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

Primary Route of Exposure/Hazard: None

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

- VII. **Additional Safety Equipment/Procedures**
- | | | | |
|----------------------------------|---|---------------------------------------|---|
| Hard-hat..... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs)..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Glasses | <input type="checkbox"/> Yes <input type="checkbox"/> No | Safety belt/harness | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type – Leather/Cotton)..... | <input 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 type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit | <input checked="" 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: For flying projectiles use Safety glasses and/or splash shield if you have to raise your voice to be hear someone within 2-feet of you, hearing protection is required. If overhead hazards or bump hazards or working near operating equipment wear hard hats. In high traffic areas wear High Visibility Vests. Use insect repellent and tape ankles to protect against insects and insect bites. Wear snake chaps in high brush 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..... | <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. Use proper lifting techniques. Caution should be exercised if working along the water.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
GROUNDWATER SAMPLING
NAVAL STATION MAYPORT, FLORIDA**

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

I. Work limited to the following (description, area, equipment used): Groundwater sampling

II. Primary Hazards: contact with site contaminants; transfer of contamination; heavy equipment hazards; elevated noise; energized systems/utilities; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; ambient temperature extremes; flying projectiles; 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: _____

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>VOCs</u>	<u>FID or PID with a 10.6eV</u>	<u>FID = 1.75ppm or</u> <u>PID = 2.75ppm for no more than</u> <u>4 exp of <5mins</u>	<u>Evac. until BG</u> <u>and wash</u> <u>contact point</u>

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

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

VII. Additional Safety Equipment/Procedures

Hard-hat <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hearing Protection (Plugs/Muffs) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Safety Glasses <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Safety belt/harness <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Chemical/splash goggles <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radio/Cellular Phone <input type="checkbox"/> Yes <input type="checkbox"/> No
Splash shield <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Barricades <input type="checkbox"/> Yes <input type="checkbox"/> No
Splash suits/coveralls <input type="checkbox"/> Yes <input type="checkbox"/> No	Gloves (Type – nitrile/work) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Impermeable apron <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Work/rest regimen <input type="checkbox"/> Yes <input type="checkbox"/> No
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 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 checked="" type="checkbox"/> No	Other <input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: Coveralls if the potential for soiling work clothing exists or if free product is encountered.
 Other PPE is possible based on conditions (rain gear, rubber boots, etc.)

VIII. Site Preparation

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

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

X. Special instructions, precautions: Any sustained PID/FID readings in workers breathing zones will require that a colorimetric tube (0.5/c) be used to evaluate the presence of benzene. Any indication of benzene within worker breathing zones will require site activities to be suspended and the PHSO to be contacted. Use safe lifting/carrying techniques. Inspect equipment prior to use. Ensure emergency stop devices are functional and test daily.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
DPT ACTIVITIES INCLUDING SOIL BORING, SOIL SAMPLING,
AND MONITORING WELL INSTALLATION
NAVAL STATION MAYPORT, FLORIDA

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

I. Work limited to the following (description, area, equipment used): DPT activities including soil boring, soil sampling, and monitoring well installation

II. Primary Hazards: contact with site contaminants; transfer of contamination; heavy equipment hazards; elevated noise; energized systems/utilities; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; ambient temperature extremes; flying projectiles; 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

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse
 No

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>VOCs</u>	<u>FID or PID with a 10.6eV</u>	<u>FID = 1.75ppm or</u> <u>PID = 2.75ppm for no more than</u> <u>4 exp of <5mins</u>	<u>Evac. until BG</u> <u>and wash</u> <u>contact point</u>
_____	_____	_____	_____
_____	_____	_____	_____

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

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

VII. Additional Safety Equipment/Procedures

Hard-hat <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hearing Protection (Plugs/Muffs) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Safety Glasses <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Safety belt/harness <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Chemical/splash goggles <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radio/Cellular Phone <input type="checkbox"/> Yes <input type="checkbox"/> No
Splash shield <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Barricades <input type="checkbox"/> Yes <input type="checkbox"/> No
Splash suits/coveralls <input type="checkbox"/> Yes <input type="checkbox"/> No	Gloves (Type – nitrile/work) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Impermeable apron <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Work/rest regimen <input type="checkbox"/> Yes <input type="checkbox"/> No
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 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 checked="" type="checkbox"/> No	Other <input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: Coveralls if the potential for soiling work clothing exists or if free product is encountered.
 Other PPE is possible based on conditions (rain gear, rubber boots, etc.)

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

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

X. Special instructions, precautions: Any sustained PID/FID readings in workers breathing zones will require that a colorimetric tube (0.5/c) be used to evaluate the presence of benzene. Any indication of benzene within worker breathing zones will require site activities to be suspended and the PHSO to be contacted. Use safe lifting/carrying techniques. Inspect equipment prior to use. Ensure emergency stop devices are functional and test daily. Must complete Heavy Equipment Inspection Checklist prior to beginning work.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
EXCAVATION ACTIVITIES
NAVAL STATION MAYPORT, FLORIDA**

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

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

II. Primary Hazards: contact with site contaminants; transfer of contamination; heavy equipment hazards; elevated noise; energized systems/utilities; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; ambient temperature extremes; flying projectiles; 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

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse
No

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>VOCs</u>	<u>FID or PID with a 10.6eV</u>	<u>FID = 1.75ppm or</u> <u>PID = 2.75ppm for no more than</u> <u>4 exp of <5mins</u>	<u>Evac. until BG</u> <u>and wash</u> <u>contact point</u>

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

(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 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 – nitrile/work)..... 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: Coveralls if the potential for soiling work clothing exists or if free product is encountered.
Other PPE is possible based on conditions (rain gear, rubber boots, etc.)

VIII. Site Preparation

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

IX. Additional Permits required (Hot work, confined space entry, excavation etc.)..... Yes No

If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. Special instructions, precautions: Any sustained PID/FID readings in workers breathing zones will require that a colorimetric tube (0.5/c) be used to evaluate the presence of benzene. Any indication of benzene within worker breathing zones will require site activities to be suspended and the PHSO to be contacted. Use safe lifting/carrying techniques. Inspect equipment prior to use. Ensure emergency stop devices are functional and test daily. Must complete Heavy Equipment Inspection Checklist prior to beginning work. Must designate an Excavation Competent Person prior to beginning work. Refer to Tetra Tech HSGM for detailed Excavation and Utility Locating SOPs.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
IDW MANAGEMENT
NAVAL STATION MAYPORT, FLORIDA**

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

SECTION I: General Job Scope

- I. **Work limited to the following (description, area, equipment used):** IDW management activities
- II. **Primary Hazards:** chemical exposure; transferring contamination; lifting; pinch and compressions; heavy equipment hazards; noise; slip, trip and fall, temperature extremes, and inclement weather.
- IV. **Field Crew:** _____
- IV. **On-site Inspection conducted** Yes No Initials of Inspector _____ Tetra Tech
- Equipment Inspection required** Yes No Initials of Inspector _____ Tetra Tech

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

- V. **Protective equipment required** **Respiratory equipment required**
- Level D Level B Yes See Reverse
- Level C Level A No
- Modifications/Exceptions: None anticipated

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
NA	NA	NA	NA

Primary Route of Exposure/Hazard: NA

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

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 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 type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type – <u>Leather/Cotton</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 or boots | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| High Visibility vest | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit..... | <input checked="" 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 checked="" type="checkbox"/> No | Other | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Modifications/Exceptions: If you are using pneumatic/electric power to open drums – Safety glasses are required; If power equipment is employed to move drums or you are working near operating equipment hard hats will be employed.

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 | <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:** Inspect drums used to store IDW / free product prior to use. Cover IDW containers to prevent unauthorized entry and infiltration of precipitation. 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: _____

**SAFE WORK PERMIT
FREE PRODUCT RECOVERY AND RELATED TASKS
NAVAL STATION MAYPORT, FLORIDA**

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

SECTION I: General Job Scope

- I. **Work limited to the following (description, area, equipment used):** Free product recovery and related tasks
- II. **Primary Hazards:** Potential hazards associated with this task: contact with free product; transfer of contamination; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; hand/power tool hazards, ambient temperature extremes; insect/animal bites and stings, poisonous plants, inclement weather.
- V. **Field Crew:** _____
- IV. **On-site Inspection conducted** Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

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

- V. **Protective equipment required** **Respiratory equipment required**
- Level D Level B Yes See Reverse
 Level C Level A No
- Modifications/Exceptions: None anticipated

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>VOCs</u>	<u>FID or PID with a 10.6eV</u>	<u>FID = 1.75ppm or</u> <u>PID = 2.75ppm for no more than</u> <u>4 exp of <5mins</u>	<u>Evac. until BG</u> <u>and wash</u> <u>contact point</u>

Primary Route of Exposure/Hazard: Inhalation, Incidental ingestion and direct contact

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

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 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 type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield | <input type="checkbox"/> Yes <input type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls..... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type – leather/cotton) | <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 |
| 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 checked="" type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit..... | <input checked="" 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 checked="" type="checkbox"/> No | Other | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Modifications/Exceptions: _____

VIII. Site Preparation

- | | Yes | No | NA |
|--|--------------------------|--------------------------|-------------------------------------|
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input 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 | <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:** Any sustained PID/FID readings in workers breathing zones will require that a colorimetric tube be used to evaluate the presence of benzene. Any indication of benzene within worker breathing zones will require site activities to be suspended and the PHSO to be contacted. Use safe lifting/carrying techniques. Assume media is contaminated and avoid contact through the use of safe work practices, PPE and decontamination

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
DECONTAMINATION
NAVAL STATION MAYPORT, FLORIDA**

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

SECTION I: General Job Scope

- I. Work limited to the following (description, area, equipment used):** Decontamination of sampling equipment
- II. Primary Hazards:** Contact with site contaminants; transfer of contamination; decontamination fluids; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; ambient; flying projectiles; inclement weather
- VI. Field Crew:** _____
- IV. On-site Inspection conducted** Yes No Initials of Inspector _____ Tetra Tech
Equipment Inspection required Yes No Initials of Inspector _____ Tetra Tech

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

- V. Protective equipment required** Level D Level B
 Level C Level A
 Modifications/Exceptions: None anticipated
- Respiratory equipment required** Yes See Reverse
 No

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>Contaminants (VOCs, BTEX, PAHs, diesel fuels)</u>	<u>FID or PID with a 10.6eV</u>	<u>Any readings</u>	<u>Re-wash until clean</u>

Primary Route of Exposure/Hazard: Inhalation, Incidental ingestion and direct contact

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

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 type="checkbox"/> No | Radio/Cellular Phone..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield..... | <input type="checkbox"/> Yes <input type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type – 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 |
| 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 checked="" type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit | <input checked="" 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 checked="" type="checkbox"/> No | Other..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Modifications/Exceptions: _____

VIII. Site Preparation

- | | Yes | No | NA |
|--|--------------------------|--------------------------|-------------------------------------|
| Utility Locating and Excavation Clearance completed..... | <input type="checkbox"/> | <input type="checkbox"/> | <input 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..... | <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:** Review and follow the instructions on the MSDS for the decontamination fluids. Assume media is contaminated and avoid contact through the use of safe work practices, PPE and decontamination

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT V

OSHA POSTER

Job Safety and Health

It's the law!

OSHA

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

EMPLOYEES:

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

EMPLOYERS:

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

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



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

1-800-321-OSHA
www.osha.gov

OSHA 3185-12-06R

