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HEALTH AND SAFETY PLAN FOR OPERABLE UNIT 2 PRE-DESIGN INVESTIGATION NSY PORTSMOUTH ME

11/01/2010

TETRA TECH NUS

Health and Safety Plan

for

Operable Unit 2 Pre-Design Investigation
Naval Shipyard
Kittery, Maine

Naval Facilities Engineering Command
Mid-Atlantic

Contract Number N62470-08-D-1001
Contract Task Order WE43

November 2010

HEALTH AND SAFETY PLAN
FOR
OPERABLE UNIT 2 PRE-DESIGN INVESTIGATION

NAVAL SHIPYARD
KITTERY, MAINE

Prepared for:
Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Avenue
Norfolk, Virginia 23511-3095

Submitted by:
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CONTRACT NUMBER N62470-08-D-1001
CONTRACT TASK ORDER WE43

NOVEMBER 2010

PREPARED UNDER THE SUPERVISION OF:

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1.0 INTRODUCTION

This Health and Safety Plan (HASP) is specifically written for Operation Unit 2 Pre-Design Investigation activities that are to be conducted at the Naval Shipyard (PNS), located in the Town of Kittery, Maine. The objective of this investigation is to obtain information to complete the Remedial Design at OU 2.

This HASP is to be used in conjunction with the Tetra Tech, Inc. (Tetra Tech) Health and Safety Guidance Manual. The Guidance Manual provides detailed information pertaining to hazard recognition and control, and Tetra Tech standard operating procedures. This HASP and the contents of the Guidance Manual were developed to comply with the requirements stipulated in 29 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response Standard). Both documents must be present at the site to satisfy these requirements.

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

1.1 AUTHORITY

This work is authorized under the Comprehensive Long - Term Environmental Action Navy (CLEAN) contract, administered through the U.S. Navy Northwest, Naval Facilities Engineering Command, as defined under Contract No. N62470-08-D-1001, CTO WE43.

1.2 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines responsibility for site safety and health for Tetra Tech and subcontractor employees engaged in on-site activities. Personnel assigned to these positions will exercise the primary responsibility for on-site health and safety. These persons will be the primary points of contact for any questions regarding the safety and health procedures and the selected control measures that are to be implemented for on-site activities.

- The Tetra Tech Project Manager (PM) is responsible for the overall direction of health and safety for this project.

- The Project Health and Safety Officer (PHSO) is responsible for developing the HASP in accordance with applicable OSHA regulations. Specific responsibilities include:

  - Providing information on site contaminants and physical hazards associated with the site and tasks to be conducted.
  - Establishing air monitoring and decontamination procedures.
  - Assigning personal protective equipment (PPE) based on task and potential hazards.
  - Determining emergency response procedures and emergency contacts.
  - Stipulating training requirements and reviewing training and medical surveillance certificates.
  - Providing standard work practices to minimize potential injuries and exposures with hazardous waste work.
  - Modifying this HASP, as it becomes necessary.

- The Tetra Tech Field Operations Leader (FOL) is responsible for implementation of the HASP with the assistance of an appointed Site Safety Officer (SSO). The FOL:

  - Manages field activities
  - Executes the work plan
  - Enforces safety procedures as applicable to the work plan.

- The Site Safety Officer (SSO) supports site activities by advising the FOL on all aspects of health and safety on-site. These duties may include:

  - Coordinating all health and safety activities with the FOL.
  - Selecting, applying, inspecting, and maintaining personal protective equipment.
  - Establishing work zones and control points.
  - Implementation of the air monitoring program for on-site activities.
  - Verifying training and medical clearances of on-site personnel status in relation to site activities.
  - Implementing hazard communication, respiratory protection, and associated health and safety programs as they pertain to site activities.
  - Coordination with identified emergency services.
  - Providing site specific training for all on-site personnel.

- Compliance with the requirements stipulated in this HASP are monitored by the SSO and coordinated through the CLEAN Health and Safety Manager (HSM).

1.3 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 Project 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.

1.4 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: Portsmouth Naval Shipyard
Kittery, Maine

Navy RPM: Ms. Linda Cole
Phone Number: (757) 341-2011
Site Contact: Frederick Matthew "Matt" Thyng
Phone Number: (207) 438-6618

Proposed Activities: Soil Boring via DPT and soil sampling at Operable Unit 2 (OU 2).

Dates of scheduled activities: November 2010 until project completion.

Project Team:

Tetra Tech Personnel:	Discipline/Tasks Assigned:	Phone Number/E-mail
Daniel Witt, P.E.	Project Manager (PM)	(412) 921-8259
TBD	Field Operations Leader (FOL)	
TBD	Site Health and Safety Officer (SSO)	
Matthew M. Soltis, CIH, CSP	CLEAN Health and Safety Manager (HSM)	(412) 921-8912
Clyde Snyder	Project Health and Safety Officer (PHSO)	(412) 921-8904
TBD	Field Geologist	

Non-Tetra Tech Personnel	Affiliation/Discipline/Tasks Assigned	
TBD	Drilling Contractor	

Hazard Assessment (pursuant to 29 CFR 1910.120(b)(4)(ii)(A) for HASP preparation has been conducted by:

Clyde Snyder

TBD – To be determined.

2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section is to direct and guide field personnel in the event of an emergency. Site activities will be coordinated through the client contact Matt Thyng. In the event of an emergency that cannot be mitigated using onsite resources, personnel will evacuate to a safe place of refuge and the appropriate emergency response agencies will be notified. It has been determined that the majority of potential emergency situations would be better supported by outside emergency responders. Based on this determination, Tetra Tech and subcontractor personnel will not provide emergency response support beyond the capabilities of onsite response. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/ill person.

The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. These agencies are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time. The PNS contact Matt Thyng will be notified when emergency response agencies are contacted. This Emergency Action Plan conforms to the requirements of 29 Code of Federal Regulations (CFR) 1910.38(a), as allowed in 29 CFR 1910.120(l)(1)(ii).

Tetra Tech will, through necessary services, provide the following emergency action measures:

- Initial stage fire fighting support and prevention
- Initial spill control and containment measures and prevention
- Removal of personnel from emergency situations
- Initial medical support for injuries or illnesses requiring basic first-aid
- Site control and security measures as necessary

2.2 EMERGENCY PLANNING

Through the initial hazard/risk assessment effort, emergencies resulting from chemical, physical, or fire hazards are the types of emergencies that could be encountered during site activities.

To mitigate the potential for these emergency situations, emergency planning activities under the direction of the SSO and/or the FOL will include the following:

- Coordinating with local Emergency Response personnel to ensure that Tetra Tech emergency action activities are compatible with existing emergency response procedures. The PNS Fire Department and Emergency Services will be notified of scheduled events and activities. This is most imperative in situations where their services may be required.

- Establishing and maintaining information at the project staging area (Support Zone) for easy access in the event of an emergency. This information will include the following:

  - Chemical Inventory of chemicals used onsite, with Material Safety Data Sheets.
  - Onsite personnel medical records (Medical Data Sheets).
  - A log book identifying personnel onsite each day.
  - Hospital route maps with directions (these should also be placed in each site vehicle).
  - Emergency Notification - phone numbers.

The Tetra Tech FOL will be responsible for the following tasks:

- Identifying a chain of command for emergency action. The FOL and/or the SSO will exercise primary responsibility for directing the actions of Tetra Tech and subcontractor personnel during emergency actions.

- Educating site workers to the hazards and control measures associated with site activities, and providing early recognition and prevention, through site specific training and periodic safety briefings.

- Providing the necessary equipment to safely accomplish identified tasks.

In coordination with PNS Emergency Services this plan will be presented to the Chief and exercised as deemed necessary by the Chief of PNS Emergency Services.

2.3 EMERGENCY RECOGNITION AND PREVENTION

Site personnel should be constantly alert for indicators of potentially hazardous situations and for signs and symptoms of over exposure in themselves and others that warn of hazardous conditions. Early recognition of dangerous situations can prevent them from becoming emergency situations.

2.3.1 Recognition

Emergency situations that may be encountered during site activities will generally be recognized by visual observation. To adequately recognize chemical exposures, site personnel must have a clear knowledge

of signs and symptoms of exposure associated with site contaminants. Tasks to be performed at the site, potential hazards associated with those tasks and the recommended control methods are discussed in this HASP.

Additionally, early recognition of hazards will be supported by daily site surveys to eliminate any situation predisposed to an emergency. The FOL and/or the SSO will be responsible for performing surveys of work areas prior to initiating site operations and periodically while operations are being conducted. Survey findings will be documented by the FOL and/or the SSO in the Site Health and Safety logbook, however, site personnel will be responsible for reporting hazardous situations. Where potential hazards exist, Tetra Tech will initiate control measures to prevent adverse effects to human health and the environment.

The above actions will provide early recognition for potential emergency situations, and allow Tetra Tech to instigate necessary control measures. However, if the FOL and the SSO determine that control measures are not sufficient to eliminate the hazard; Tetra Tech will withdraw from the site and notify the appropriate response agencies.

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 indicating contamination level of greater than action level
- 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 (Attachment I).

TABLE 2-1

EMERGENCY REFERENCES
NAVAL SHIPYARD

AGENCY	TELEPHONE NUMBER
Police (Shipyard)	(207) 438-2444*
Fire Department (Shipyard) Ambulance (Shipyard)	(207) 438-2333*
Regional Hospital: Hospital Emergency Department Main Switchboard	 (603) 433-4042 (603) 436-5110
Poison Control Center	800-222-1222
Chemtrec	800-424-9300
National Response Center	800-424-8202
Dig Safe (Maine and New Hampshire)	811
PNS Site Contact Frederick Matthew "Matt" Thyng	(207) 438-6618-office
Navy RPM Linda Cole	(757) 341-2011
Tetra Tech Project Manager Daniel Witt, P.E.	(412) 921-8259
Tetra Tech Project Health and Safety Officer Clyde Snyder	(412) 921-8904
CLEAN Health and Safety Manager Matthew M. Soltis, CIH, CSP	(412) 921-8912

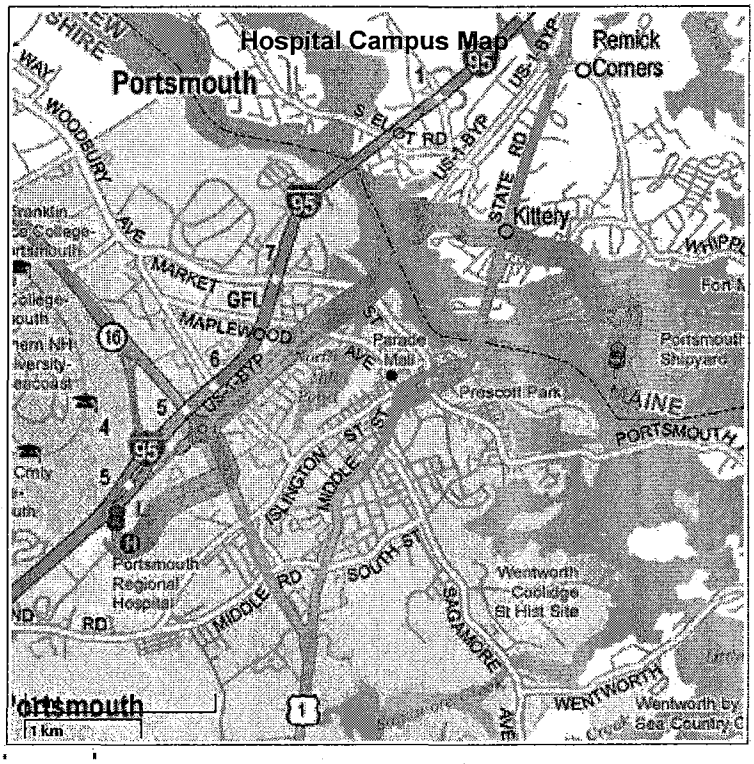
*Phone calls from Base phones use last 4 digits.

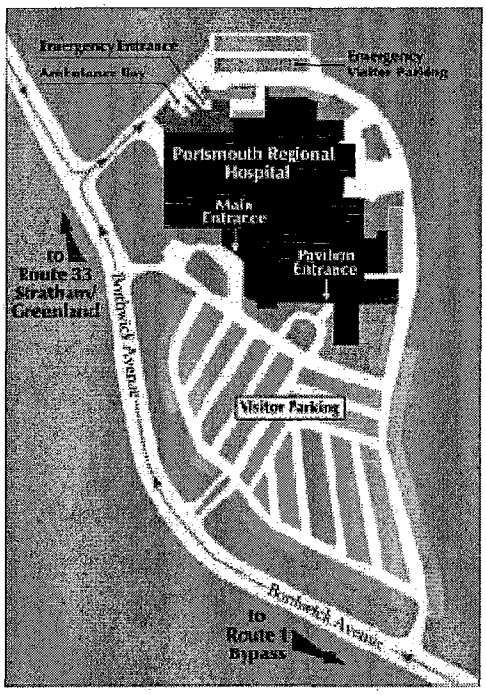
2.6 EMERGENCY ROUTE TO HOSPITAL

Portsmouth Regional Hospital
333 Borthwick Avenue
Portsmouth, NH 03801

FIGURE 2-1
ROUTE TO HOSPITAL

1) Proceed west on John Paul Jones Street
2) Right on Mac Donough Ave.
3) Left on Sicard Street
4) Right on Wyman Ave.
5) Exit the Shipyard through Gate No. 1, continue straight until road ends at Route 1 Bypass.
6) Enter underpass rotary on left side. Go under Route 1 Bypass and loop onto Route 1 Bypass South.
7) Cross bridge and continue straight to traffic circle. At traffic circle, go around to the right 270 degrees, 3/4 circle from entrance to traffic circle. Exit right.
8) At second set of traffic lights, turn right onto Borthwick Ave. Ext., precede 1/2 to 1 mile.
9) Regional Hospital will be on the right side.





2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Tetra Tech personnel will be working in close proximity to each other at PNS. 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 all personnel
- Once non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

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

- Call the 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. 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.

2.10 INJURY/ILLNESS REPORTING

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

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed onsite. 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. Site employees can 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.tetratech.com/

Once on the "My Tetratech" 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.tetratech.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

PNS has been a working Navy Shipyard since it was established in 1800. Located in Kittery, Maine on an island in the Piscataqua River (the boundary between southwestern Maine and northeastern New Hampshire), PNS began constructing surface ships in 1814. It continued to construct and repair surface ships as its primary mission through the early 1900s. During World War I, PNS built the first government submarine and, following WWI, its activity shifted to the design, construction, and repair of submarines. From 1917 to 1971, when PNS ceased submarine construction, 134 submarines had been built at the facility. Since 1971, overhaul and repair of submarines for the Navy has been PNS' primary mission.

3.1 OU 2

OU2 is located in the south-central portion of PNS and currently consists of Site 6 – The Defense Reutilization and Marketing Office (DRMO) Storage Yard, Site 29.

Based on background information, previous investigations, the conceptual site model (CSM), and problem statements, it was determined that additional soil data are needed to define the limit of soil contamination on the western side of OU2, in the vicinity of Building 348 and John Paul Jones Avenue, to support remedial decision-making. Based on site history, investigations, and the CSM, lead, copper, and polychlorinated biphenyls (PCBs) are the contaminants of concern (COCs) intended to be delineated by this study. Additional information required to complete the RD include a wetlands functional value and habitat assessment of the intertidal zone and topographic mapping of the site. The wetland functions and values assessment will document the current conditions and serve as a baseline to determine if there are changes in wetland functions and values in the future. The topographic survey will be used to revise the existing conditions base map for the RD drawings.

The OU2 sampling strategy consists of collecting soil samples at locations spaced approximately 25 feet apart across the study area, plus of two additional locations, to provide data to delineate remediation areas. Nineteen soil borings, with soil samples planned for collection at 2-foot intervals, will be competed to approximately 10 feet below ground surface (bgs), which generally corresponds to the top of the tidally saturated zone in this area. The 0- to 10-foot-bgs depth was used to span the zone for which human exposure was assumed in the Supplemental Remedial Investigation (RI) Report to evaluate human health risks.

The soil sample analyses will be conducted in phases based on the analytical results of the surface (0- to 2-foot-bgs) soil samples. If the results of the surface and shallow subsurface soil samples sent for analysis are greater than the project action levels, the next phase (i.e., depth interval) of samples will be

analyzed. Expedited laboratory turnaround times will be employed so that decisions can be made concerning whether to analyze the next depth interval of samples while still maintaining holding times.

A report of the results will be prepared, and the OU2 RD will be completed at the conclusion of this investigation.

4.0 SCOPE OF WORK

This section describes the project tasks that will be performed at PNS OU 2. The planned activities involved in this effort are presented in detail in the Sampling and Analysis Plan (SAP) developed for the project. If new tasks are to be performed at the site this section will be modified accordingly.

Specific tasks to be conducted at PNS OU 2 include the following:

- Mobilization and demobilization
- Soil boring and sampling using direct push technology (DPT)
- Decontamination
- IDW management
- Topographical Survey
- Wetlands Functions and Value Assessment

For more detailed description of the associated tasks and locations, refer to the SAP. If additional tasks are determined to be necessary, this HASP will need to be amended and a hazard evaluation of the additional tasks performed.

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 all task participants prior to initiating any task. Additionally, potential hazard and hazard control matters that are relevant but are not necessarily task-specific are addressed it the following portions of this section.

5.1 GENERAL SITE 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 all injuries, illnesses, and unsafe conditions, practices, and equipment to the SSO.
- Observe co-workers for signs of toxic exposure and heat or cold stress.
- Inform co-workers of potential symptoms of illness, such as headaches, dizziness, nausea, or blurred vision.

5.2 DPT SAFE WORK PRACTICES

The following Safe Work Practices are to be followed when working in or around the DPT Operations (HSGM, Section 7.0).

- 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.
- Inspections will be conducted 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.

- 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.)

- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone.

- Equipment used in the exclusion zone will undergo decontamination.

- The FOL/SSO will 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.

- Investigation areas will be restored to equal or better condition than original to remove physical hazards and any contamination brought to the surface.

- In situations where these hazards cannot be immediately removed, the area will be barricaded to limit access.

6.0 HAZARD ASSESSMENT

The following section provides information regarding the chemical and physical hazards associated with Portsmouth Naval Shipyard OU 2 Site and the activities that are to be conducted as part of the scope of work in this HASP.

Based on an evaluation of previous historical information about the site, the primary contaminants of concern (COCs) at this site are suspected to be metals (lead, and copper) and Polychlorinated Byphenyls (PCB's) . Previous soil sampling data indicated lead, and PCB's are the primary contaminants of concern. Table 6-1 shows these COCs and their current occupational exposure limits (ACGIH TLV TWA_8, and/or the OSHA PEL TWA_8 and Ceiling).

TABLE 6-1

CONTAMINANTS OF CONCERN AND CURRENT OCCUPATIONAL EXPOSURE LIMITS

Contaminant of Concern	Highest Concentration Previously Detected in Soil	Amount of Dust in Air Generated Before PEL/TLV Would be Reached	Current OEL
PCB's	69 mg/kg	1811.59 mg/m3	U.S. Food and Drug Administration action level: 2.0 ppm
Copper	33,400 mg/kg	7.49 mg/m3	OSHA: 1 mg/m3, TWA_8 ACGIH: 1 mg/m3 ppm TWA_8 (dust)
Lead	74,600 mg/kg	0.17 mg/m3	OSHA: 0.05 mg/m3, TWA_8 ACGIH: 20.05 mg/m3 ppm TWA_8

Table Notes:

TWA_8: Average air concentration over an 8-hour work period that is not to be exceeded

Metals

There are 35 metals that could be of concern because of potential occupational or residential exposure; 23 of these are the heavy elements or "heavy metals": antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gallium, gold, iron, lead, manganese, mercury, nickel, platinum, silver, tellurium, thallium, tin, uranium, vanadium, and zinc. Of these, only antimony, arsenic, tin, copper, lead, and zinc are of potential concern at the site. Interestingly, small amounts of these elements are common in our environment and diet and are actually necessary for good health, but large amounts of any of them may cause acute or chronic toxicity (poisoning). Heavy metal toxicity can result in damaged or reduced mental and central nervous function, lower energy levels, and damage to blood composition, lungs, kidneys, liver, and other vital organs. Long-term exposure may result in slowly progressing physical, muscular, and neurological degenerative processes that mimic Alzheimer's disease, Parkinson's disease,

muscular dystrophy, and multiple sclerosis. Allergies are not uncommon and repeated long-term contact with some metals or their compounds may even cause cancer.

The association of symptoms indicative of acute toxicity is not difficult to recognize because the symptoms are usually severe, rapid in onset, and associated with a known exposure or ingestion: cramping, nausea, and vomiting; pain; sweating; headaches; difficulty breathing; impaired cognitive, motor, and language skills; mania; and convulsions. The symptoms of toxicity resulting from chronic exposure (impaired cognitive, motor, and language skills; learning difficulties; nervousness and emotional instability; and insomnia, nausea, lethargy, and feeling ill) are also easily recognized; however, they are much more difficult to associate with their cause.

Lead – is a poisonous metal that can damage nervous connections (especially in young children) and cause blood and brain disorders. Because of its low reactivity and solubility, lead poisoning usually only occurs in cases when the lead is dispersed, like when sanding lead based paint, or long term exposure in the case of pewter tableware. Workers should pay special attention to the generation and dispersion of dust, and ensure proper area wetting techniques are utilized if visible dust is observed. Worker exposure to airborne concentrations of the metals of concern (primarily lead), although unlikely, could represent a health concern. Therefore, a dust particulate monitor will be required for intrusive activities. In addition, area wetting techniques will be employed through all intrusive activities to suppress dust generation.

Long term exposure to lead or its salts (especially soluble salts or the strong oxidant PbO_2) can cause nephropathy, and colic-like abdominal pains. The concern about lead's role in cognitive deficits in children has brought about widespread reduction in its use (lead exposure has been linked to schizophrenia). Most cases of adult elevated blood lead levels are workplace-related.

Copper **-** is a chemical element, it is a ductile metal, with very high thermal and electrical conductivity. Pure copper is rather soft and malleable, and a freshly exposed surface has a pinkish or peachy color. It is used as a thermal conductor, an electrical conductor, a building material, and a constituent of various metal alloys. In sufficient amounts, copper salts can be poisonous to higher organisms as well. However, despite universal toxicity at high concentrations, the Cu^{2+} ion at lower concentrations is an essential trace nutrient to all higher plant and animal life. In animals, including humans, it is found widely in tissues, with concentration in liver, muscle, and bone. It functions as a co-factor in various enzymes and in copper-based pigments. Toxicity can occur from eating acidic food that has been cooked with copper cookware. Cirrhosis of the liver in children (Indian Childhood Cirrhosis) has been linked to boiling milk in copper cookware. The Merck Manual states that recent studies suggest that a genetic defect is associated with this cirrhosis. Since copper is actively excreted by the normal body, chronic copper toxicosis in humans without a genetic defect in copper handling has not been demonstrated. However, large amounts (gram

quantities) of copper salts taken in suicide attempts have produced acute copper toxicity in normal humans. Equivalent amounts of copper salts (30 mg/kg) are toxic in animals.

Polychlorinated Biphenyls (PCBs)-PCBs are mixtures of up to 209 individual chlorinated compounds (known as congeners). There are no known natural sources of PCBs. PCBs are either oily liquids or solids that are colorless to light yellow. Some PCBs can exist as a vapor in air. PCBs have no known smell or taste. Many commercial PCB mixtures are known in the U.S. by the trade name Aroclor. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they don't burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977 because of evidence they build up in the environment and can cause harmful health effects. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils.

Health effects that have been associated with exposure to PCBs include acne-like skin conditions in adults and neurobehavioral and immunological changes in children. PCBs are known to cause cancer in animals. PCBs have been found in at least 500 of the 1,598 National Priorities List sites identified by the Environmental Protection Agency (EPA).

The EPA has set a limit of 0.0005 milligrams of PCBs per liter of drinking water (0.0005 mg/L). Discharges, spills or accidental releases of 1 pound or more of PCBs into the environment must be reported to the EPA. The Food and Drug Administration (FDA) requires that infant foods, eggs, milk and other dairy products, fish and shellfish, poultry and red meat contain no more than 0.2-3 parts of PCBs per million parts (0.2-3 ppm) of food. Many states have established fish and wildlife consumption advisories for PCBs.

Ingestion and Skin Contact: Potential exposure concerns to these constituents may also occur through ingesting or coming into direct skin contact with contaminated soils. However the likelihood of worker exposure through these two routes is also considered very unlikely, provided that workers follow good personal hygiene and standard good sample collection/sample handling practices, and wear appropriate PPE as specified in this HASP. Exposure through skin contact and ingestion can be minimized, if not eliminated, through the use of PPE and good hygiene practices. 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 surgeon's-style gloves whenever handling potentially-contaminated media, including soils, hand tools, and sample containers.

6.1 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.

- Slips, trips and falls
- Cuts (or other injuries associated with hand tool use)
- Ambient temperature extremes (cold and heat stress)
- Vehicular and foot traffic
- Heavy equipment hazards
- Noise
- Natural hazards

6.1.1 Slips, Trips, and Falls

Conditions such as steep terrain and/or heavy vegetation may create an increased potential for slip, trip, and fall hazards:

- The safest approach to sample points will be identified and cleared to permit field crew access to sample locations.

- Establish anchor points and rope handrails for traversing/ascending/descending angles and slopes greater than 45% grade.

- Footwear with an adequate traction.

- Prepare work areas by removing tripping hazards (ruts, roots, debris).

6.1.2 Cuts or Other Injuries Associated with Hand Tool Use

The improper use of hand tools has been the cause of several past accidents. In particular:

- The use of knives when cutting acetate liners has resulted in lacerations to workers' hands, legs, and fingers.
- Use manufacturer-approved cutting tools (geoprobe acetate liner holder and cutter).
- Never rest an object on your knee or other part of your body when cutting.
- Keep cutting tools sharp.

6.1.3 Vehicular and Equipment Traffic

Hazards associated with vehicular and equipment traffic may exist during site activities. To minimize the potential for injuries associated with potential vehicular hazards, site personnel will be instructed to maintain awareness of traffic and moving equipment when performing site activities. When working near roadways, wear high visibility vests.

6.1.4 Heavy Equipment Hazards

The following precautions will be used when working at or near the heavy equipment:

- Good communication is essential.
- A standardized set of hand signals should be used by the operator and signal person.
- Operators should always know exactly where all ground based workers are located, and the wearing of high visibility vests will help the operator to locate them quickly.
- The equipment should have a back up warning alarm that can be heard by all nearby workers. Two-way radios are also valuable communication tools.
- Wear hearing protection when required.
- If it has been determined that noise levels around the equipment could potentially cause hearing loss, always use protective plugs or muffs when working on or around the equipment.
- Never jump onto or off the equipment.

6.15 Inclement Weather

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

6.1.6 Heat/Cold Stress

It is always necessary for the field team to be aware of the signs and symptoms and the measures appropriate to prevent cold stress. This is addressed in detail in Section 4.0 of the Tetra Tech HSGM, which the SSO is responsible for reviewing and implementing as appropriate for this project.

6.1.7 Noise

Hearing protection will be used during all intrusive activities. The FOL will require hearing protection to ensure that drilling operations and any contributional noise levels within close proximity of the operation do not surpass 80 decibels (db). If workers need to raise their voices to communicate with fellow employees who are 2 feet away, hearing protection is required. The protection chosen must have a Noise Reduction Rating (NRR) greater than 25db. Additionally, noise dosimetry may be performed to quantify worst-case scenarios of noise levels if determined is necessary by the FOL/SSO.

6.1.8 Contact with Overhead and Underground Utilities

The potential exists for contact with overhead power lines and underground utilities such as pressurized lines, water lines, telephone lines, buried utility lines, and high voltage power lines. Soil boring activities will proceed in accordance with the Utility Locating and Excavation Clearance SOP in Health and Safety Guidance Manual Section 7.0. Utility clearances will be obtained in writing and locations identified and marked prior to activities.

6.2 NATURAL HAZARDS

Insect/animal bites and stings, poisonous plants, and inclement weather are natural hazards that may be present given the location of activities to be conducted. As previously discussed, some portions of the site include vegetated areas which increases the potential for field crews to encounter ticks, bees, mosquitoes/insects, snakes, and poisonous vegetation. Fortunately, Maine has no venomous snakes or spiders.

6.2.1 Insect Bites and Stings

Insect/animal bites and stings are difficult to control given the climate and environmental setting of OU 2 and Portsmouth. However, in an effort to minimize this hazard the following control measures will be implemented where possible.

Commercially available bug sprays and repellents will be used whenever possible. Insect repellants should contain at least 10% DEET for protection against biting insects. Stronger repellants (such as

those containing Permethrin) may be designed to be applied only to clothing, and not directly onto the skin. *Follow the manufacturer's label instructions* for the proper application processes and re-application frequencies for all products.

Where possible, loose-fitting and light-colored clothing with long sleeves should be worn. This will also aid in insect control by providing a barrier between the field person and the insects and to provide easy recognition of crawling insects against the lighter background. Pant legs should be secured to the work-boots using duct tape to prevent access by ticks. Mosquito nets can also be used in certain circumstances.

Clothing/limited body checks for ticks and other crawling insects should be conducted upon exiting heavily vegetated areas. Workers should perform a more detailed check of themselves when showering in the evening. Ticks prefer moist areas of the body (arm-pits, genitals, etc.) and will migrate to those locations.

Any allergies (insect bites, bee stings, etc.) must be reported on the Medical Data Sheet.

6.2.1.1 Tick and Mosquito Transmitted Illnesses and Diseases

Ticks and mosquitoes have been identified in the transmission of diseases including Lyme's disease. Warm months (Spring through early Fall) are the most predominant time for this hazard. Information concerning Lyme's Disease including recognition, evaluation, tick removal, and control is provided in 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.

Precautions include:

- Limit outdoor activities during peak mosquito times – at dusk and dawn.

- Avoid standing water

- Wear long-sleeved shirts and long pants whenever you are outdoors.

- Apply insect repellent according to manufacturers instruction to exposed skin. An effective repellent will contain 20% to 30% DEET (N,N-diethyl-meta-toluamide). Avoid products containing more than 30% DEET.

- Spray clothing with repellents containing permethrin or DEET, mosquitoes may bite through thin clothing.

6.2.2 Other Wild Animals

Indigenous animals including non-venomous snakes (Maine is the only state free of poisonous snakes), raccoons, and other animals native to the region may be present at the site. These animals may be encountered if work locations encroach on nesting or territories claimed by these animals. To avoid the obvious hazards conveyed as part of a direct encounter, the following actions will be taken to minimize impact on the field crews and/or operations. The SSO will preview access routes and work locations for nesting areas or signs of animal activities (tracks, foraging areas, etc.). All identified suspect areas will be communicated to the field crews.

6.2.3 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:

- 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.

All of these plants present an airborne sensitization hazard when burned. This is not to occur as part of this scope of work and therefore will not be addressed.

7.0 AIR MONITORING

Based on available data and site history the primary contaminants of concern are Copper, Lead and Polychlorinated Biphenyl's (PCB's). Site operations are unlikely to generate airborne dusts. In the event that airborne dusts are observed, site workers will work from upwind locations away from visible dust clouds. If necessary, area wetting methods will be used to further suppress dusts. Based on planned site activities, the greatest potential for exposure to PCB's is anticipated to be through skin contact with contaminated soil or through incidental ingestion as a result of hand to mouth activities. The PID will be used for onsite drilling activities to screen source areas (sample and drilling locations.) and worker breathing zones for detectable site contaminants. The COCs (PCB, metals) are not volatile and are unable to be detected with traditional field instrumentation (photoionization detectors). As a precautionary measure a direct reading instrument will be used to monitor worker exposures to chemical hazards present at the site. For this project a dust particulate monitor will be used to monitor the air.

For the identified contaminants the use of personal protective equipment and the observance of the other control requirements have been selected to minimize potential for personnel exposures to hazardous concentrations (known or unknown) of site contaminants. Site metals are within the visible spectram, and for visible dust use area wetting methods to suppress dust.

7.1 INSTRUMENTS AND USE

The contaminants, primarily lead, are expected to be present in significant concentrations to present an inhalation hazard during planned site activities, as a precautionary measure to assure that such exposures are avoided and documented, a dust particulate monitor will be used to monitor worker dust particulate exposures present at the site. Real-time monitoring instrumentation, action levels, and identified PPE will be used to control exposures to potentially contaminated media. According to the standard for Particulates Not Otherwise Regulated (PNOR) in OSHA 29 CFR 1910.1000, the PEL for total dust is 15 mg/m^3.

Generation of dusts should be minimized. If airborne dusts are observed, use area wetting methods. Site contaminants may adhere to or be part of airborne dusts or particulates. Although unlikely to be present, the generation of dusts should be minimized to avoid inhalation of contaminated dusts or particulates. For this project, evaluation of dust concentrations will be performed by using a MiniRAM (or equivalent) dust particulate meter and by observing work conditions for visible dust. The Health and Safety Guidance Manual, Section 1.0, also contains detailed information regarding direct reading instrumentation, as well as general calibration procedures of various instruments.

The MiniRAM is a portable, Nephelometric, airborne particle monitor/dust monitor. This instrument measures the concentration of airborne particles (both solid and liquid). The ranges are 0.01 to 10 mg/m^3 and 0.1 to 100 mg/m^3. Powered by a 10-hour internal rechargeable battery, the MiniRAM can be used to measure all forms of aerosols including dust, fumes, smokes, and fogs.

Instruments will be used primarily to monitor source points and worker breathing zone (BZ) areas, while observing instrument action levels. The SSO shall obtain and document the daily background reading at an upwind, unaffected area and observe for readings above that background 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 background level. If elevated readings are observed above the PEL of 15 mg/m^3, the SSO shall monitor the workers' BZ areas with the dust monitor. If elevated readings are observed, 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 begin wetting procedures to control dust and then re-approach the work area while continuously monitoring the BZ areas.

Only when levels are below the PEL standard in BZ areas will work be permitted to resume.
If background levels are not regained, the SSO will contact the HSM for additional direction.

OSHA General Dust Standard

Particulate Not Otherwise Regulated (PNOR), total dust: 15 mg/m^3.

OSHA Lead Standard:

No worker can be exposed to lead at concentrations greater than 50 micrograms per cubic meter of air averaged over an 8-hour period.

In addition, area wetting techniques will be employed, when necessary, to suppress dust prior to beginning work and or when visible dust occurs to prevent exposure to metals-containing dust. If a change in site conditions should occur (i.e., are wetting techniques are insufficient to control dust generated during heavy activities) field personnel will withdraw from the site, immediately notify the SSO, and wait for further instructions. The SSO will then make the determination if any upgrade in protective equipment (including the use of respirators) is necessary.

7.2 INSTRUMENT MAINTENANCE AND CALIBRATION

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

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

7.3 DOCUMENTING INSTRUMENT READINGS

The SSO 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 SSO 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 SSO 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., dust particulate monitor)
- Personnel present at the area where the reading was noted
- Other conditions that are considered relevant to the SSO (such as weather conditions, possible instrument interferences, etc.)

FIGURE 7-1

DOCUMENTATION OF FIELD CALIBRATION

SITE NAME: _____ PROJECT NO.:_____

Date of Calibration	Instrument Name and Model	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot Number)	Remarks/ Comments
				Pre-Calibration	Post-Calibration	Pre-Calibration	Post-Calibration		

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

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

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

8.2 SITE-SPECIFIC TRAINING

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

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

8.3 MEDICAL SURVEILLANCE

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

FIGURE 8-1

SITE-SPECIFIC TRAINING DOCUMENTATION

My signature below indicates that I am aware of the potential hazardous nature of performing investigation activities at PNS Portsmouth and that I have received site-specific training that included the elements presented below:

- Names of personnel and alternates responsible for site safety and health
- Safety, health and other hazards present on site
- Use of personal protective equipment
- Work practices to minimize risks from hazards
- Safe use of engineering controls and equipment
- Medical surveillance requirements
- Signs and symptoms of overexposure
- Emergency response procedures (evacuation and assembly points)
- Review contents of relevant Material Safety Data Sheets
- Review of Safe Work Permits
- Review of Stop Work policies/procedures

I have been given the opportunity to ask questions and all of my questions have been answered to my satisfaction. The dates of my training (introductory, refresher, and supervisory, as applicable), and my medical surveillance requirements are accurate and correct to the best of my knowledge.

Name (Printed and Signature)	Site-Specific Training Date	40-Hour Training (Date)	8-Hour Refresher Training (Date)	8-Hour Supervisory Training (Date)	Medical Exam

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 three zone approach will utilize an exclusion zone, a contamination reduction zone, and a support zone. It is also anticipated that this control measure will be used to control access to site work areas. Use of such controls will restrict the general public, minimize the potential for the spread of contaminants, and protect 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 soil borings 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, the potential for exposure is again diminished and the area can then be reclassified as part of the contamination reduction zone. The exclusion zones for this project are those areas of the site where the intrusive activities are being performed plus a designated area of at least 25 feet surrounding the work area.

Access to work areas will be controlled by Tetra Tech personnel. Only authorized personnel will be allowed to enter site exclusion zones

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 instead will serve as a focal point in supporting exclusion zone activities. When applicable, this area will be delineated using barrier tape, cones and/or drive poles, and postings to inform and direct facility personnel.

9.3 SUPPORT ZONE

The support zone for this project will be the area where site vehicles will be parked, equipment will be unloaded, and where food and drink containers will be maintained. In all cases, the support zones will be established at areas of the site where exposure to site contaminants would not be expected during normal working conditions or foreseeable emergencies.

9.4 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 Project 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 (EPA, OSHA, etc.)
- PNS Portsmouth or DOD Personnel
- Other authorized visitors

Personnel working on this project are required to gain initial access to the PNS by coordinating with the Tetra Tech FOL or designee and following established PNS access procedures.

Once access to PNSK is obtained all personnel who require site access into areas of ongoing operations will be required to obtain permission from the FOL and SSO. The prerequisites for all site visitors wishing to observe operations in progress in the exclusion zone are discussed below:

- All site visitors will be routed to the FOL, 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.

- All site visitors 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.

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. Any unauthorized site visitation will cause the termination of the on-site activities until the unauthorized visitor is removed from the area. Removal of unauthorized visitors will be accomplished with support from the Base Contact and Base Security. The site visitors granted access to the exclusion zones during ongoing operations will be escorted by a Tetra Tech representative (arranged for by the FOL).

9.5 SITE SECURITY

Tetra Tech will retain control over active operational areas. The FOL will serve as a focal point for site personnel, and will serve and the final line of security for the work areas. Site work will cease in the event of unauthorized personnel entering the exclusion zone. Work will remain temporarily suspended until the unauthorized visitor can be removed. The Base Contact will serve as the primary enforcement contact for removing unauthorized visitors.

9.6 SITE MAP

Once the areas of contamination, access routes, utilities, topography, and dispersion routes are determined, a site map will be generated and adjusted as site conditions change. These maps will show utility locations, potential points of contact with the public, roadways, and other significant characteristics that may impact site operations and safety. Site maps will be posted to illustrate up-to-date collection of contaminants and adjustment of zones and access points.

9.7 BUDDY SYSTEM

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

9.8 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS

Tetra Tech personnel will provide MSDSs for the 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 these substances on site. A chemical inventory of the chemicals used on site will be developed. (See Section 5.0 of the Health and Safety Guidance Manual) A copy of the Chemical Inventory List will be provided to the Fire Department, as they would serve as primary responders to the work/storage building should the need arise. The MSDSs will then be maintained in a central location and will be available for anyone to review upon request.

9.9 COMMUNICATION

As personnel may not always be working in proximity to one another during field activities, a supported means of communication between field crews will be used as necessary.

External communication will be accomplished by using cell phones at the site but only in approved areas. External communication will primarily be used for the purpose of resource and emergency resource

communications. It is strongly recommended that cell phones be programmed with pertinent numbers prior to proposed site activities.

9.10 SAFE WORK PERMITS

The 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 illustrated in Figure 9-1. Attachment IV contains partially completed SWP for tasks that are to be performed as part of the investigation. Information such as field crew performing the task, date, time, procedure reviews, and equipment preparation information need to be completed by the FOL or SSO prior to the initiation of site activities. SWPs will be further supported by the daily safety meetings. This effort will ensure the site specific considerations and changing conditions are incorporated into the planning effort. Permits will require the signature of the FOL and/or SSO.

The permits review the protective measures and hazards associated with each operation. The HASP is the primary reference for selecting levels of protection and control measures. The SWP will take precedence over the HASP when more conservative measures are required based on specific site conditions.

Upon completion of work specified on the SWP, the person accepting the permit will return it to the SSO.

Any situations encountered regarding control measures taken will be noted on the permit or a separate sheet of paper and returned to the SSO for review and evaluation.

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**
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

Primary Route(s) of Exposure/Hazard: _____

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

Modifications/Exceptions: _____

VIII. **Site Preparation**

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

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

X. **Special instructions, precautions:** _____

Permit Issued by: _____ Permit Accepted by: _____

10.0 SPILL CONTAINMENT PROGRAM

10.1 SCOPE AND APPLICATION

It is not anticipated that bulk hazardous materials (over 55-gallons) will be handled at any given time as part of this scope of work. It is also not anticipated that such spillage of Investigative Derived Wastes (IDW) would constitute a danger to human health or the environment. However, as the job progresses, the potential may exist for accumulating (IDW) such as decontamination fluids, and purge and well development waters, in a central staging area. Once these fluids and other materials have been characterized, they can be removed from this area and properly disposed.

10.2 POTENTIAL SPILL AREAS

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

- Resource deployment
- Waste transfer
- Central staging

IDW may be generated as a result of this scope of work. If this occurs, it will be containerized, labeled, and staged to await further analyses. The results of these analyses will determine the method of disposal.

10.3 LEAK AND SPILL DETECTION

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

10.4 PERSONNEL TRAINING AND SPILL PREVENTION

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

10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

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

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

10.6 SPILL CONTROL PLAN

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

- Notify the SSO or FOL immediately upon detection of a leak or spill.
- Activate emergency alerting procedures for that area to remove non-essential personnel.
- Employ the personal protective equipment stored at the staging area.
- Take immediate actions to stop the leak or spill by plugging or patching the container or raising the leak to the highest point in the vessel.
- Spread the absorbent material in the area of the spill, covering it completely.
- Transfer the material to a new vessel.
- Collect and containerize absorbent material.
- Label the new container appropriately.

- Await analyses for treatment and disposal options.

- Re-containerize spills, including 2-inch of top cover impacted by the spill. Await test results for treatment or disposal options.

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

11.0 CONFINED SPACE ENTRY

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

A confined space is a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (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 a confined space that has one or more of the following characteristics:
- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material that has the potential to engulf an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.
- Contains any other recognized, serious, safety or health hazard.

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

12.0 MATERIALS AND DOCUMENTS

The Tetra Tech 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
- A full-size OSHA Job Safety and Health Poster (Attachment V)
- 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.

- **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 SSO 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 (Refer to Attachment V).

- **Emergency Phone Numbers and Directions to the Hospital(s) (posted)** - This list of numbers and directions will be maintained at all phone communications points and in each site vehicle.

- **Medical Data Sheets/Cards (maintained)** - Medical Data Sheets will be filled out by on-site personnel and filed in a central location. The Medical Data Sheet will accompany any injury or illness requiring medical attention to the medical facility. A copy of this sheet or a wallet card will be given to all personnel to be carried on their person.

The purpose of maintaining or posting this information, as stated above, is to allow site personnel quick access.

13.0 ACRONYMS / ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSP	Certified Safety Professional
CTO	Contract Task Order
DEP	Department of Environmental Management
FOL	Field Operations Leader
HSGM	Health and Safety Guidance Manual
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSM	Health and Safety Manager
IDLH	Immediately Dangerous to Life and Health
N/A	Not Available
NIOSH	National Institute Occupational Safety and Health
PNS	Portsmouth Naval Shipyard
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
OU 2	Operable Unit 2
PEL	Permissible Exposure Limit
PHSO	Project Health and Safety Manager
PM	Project Manager
PPE	Personal Protective Equipment
PPM	Parts Per Million
SSO	Site Safety Officer
STEL	Short Term Exposure Limit
PM	Project Manager
TWA	Time Weighted Average
WP	Work Plan

ATTACHMENT I

MEDICAL DATA SHEET

MEDICAL DATA SHEET

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

Project _____

Name _____ Home Telephone _____

Address _____

Age _____ Height _____ Weight _____

Person to notify in the event of an emergency: Name: _____

Phone: _____

Drug or other Allergies: _____

Particular Sensitivities: _____

Do You Wear Contacts? _____

What medications are you presently using? _____

_____

Name, Address, and Phone Number of personal physician: _____

_____

_____

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

TETRA TECH, INC.
Safety Excellence

Tetra Tech, Inc.
INCIDENT REPORT

Report Date	Report Prepared By	Incident Report Number

INSTRUCTIONS:

All incidents (including those involving subcontractors under direct supervision of Tetra Tech personnel) must be documented on the IR Form.

Complete any additional parts to this form as indicated below for the type of incident selected.

TYPE OF INCIDENT (Check all that apply)	Additional Form(s) Required for this type of incident	
Near Miss (No losses, but could have resulted in injury, illness, or damage)	☐	Complete IR Form Only
Injury or Illness	☐	Complete Form IR-A; Injury or Illness
Property or Equipment Damage, Fire, Spill or Release	☐	Complete Form IR-B; Damage, Fire, Spill or Release
Motor Vehicle	☐	Complete Form IR-C; Motor Vehicle

INFORMATION ABOUT THE INCIDENT

Description of Incident

_____

_____

_____

_____

Date of Incident	Time of Incident
	_____ AM ☐ PM ☐ *OR* Cannot be determined ☐
Weather conditions at the time of the incident	**Was there adequate lighting?**
	_____ Yes ☐ No ☐

Location of Incident

_____ Was location of incident within the employer's work environment? Yes ☐ No ☐

Street Address	City, State, Zip Code and Country
Project Name	**Client:**
Tt Supervisor or Project Manager	**Was supervisor on the scene?**
	Yes ☐ No ☐

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:

_____

_____

_____

_____

Corrective action(s) still to be taken (by whom and when):

_____

_____

_____

_____

ROOT CAUSE ANALYSIS LEVEL REQUIRED

Root Cause Analysis Level Required: Level - 1 ☐ Level - 2 ☐ None ☐

Root Cause Analysis Level Definitions

Level - 1	**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. The following events may trigger a Level 1 RCA: ▪ 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	**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. The following events will require a Level 2 RCA: ▪ 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? ☐ Tetra Tech 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?	Time individual began work
Yes ☐ No ☐	_____ 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

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 ☐ No ☐ NA ☐

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 ☐ No ☐			
Agency: _____ Yes ☐ No ☐			
Other: _____ Yes ☐ No ☐			

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 ☐ No ☐	Yes ☐ No ☐
Name and location of responding police department	**Ambulance company name and location**
Officer's n ame/badge #	

Did police complete an incident report? Yes ☐ No ☐ 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 O wner / 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 ☐ Female ☐	Gender	Male ☐ Female ☐
Was traffic citation issued to Tetra Tech driver? Yes ☐ No ☐		Was traffic citation issued to driver of other vehicle? Yes ☐ No ☐	
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 ☐ Female ☐			Yes ☐ No ☐	Yes ☐ No ☐	Injured ☐ Died ☐

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 ☐ Female ☐			Yes ☐ No ☐	Yes ☐ No ☐	Injured ☐ Died ☐

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

ATTACHMENT III

EQUIPMENT INSPECTION CHECKLIST FOR DRILL RIGS

Equipment Inspection Checklist for Drill Rigs

Company:_____ **Unit/Serial No#:**_____

Inspection Date: ____/____/____ **Time:**____:____ **Equipment Type:**_____
(e.g, Drill Rigs Hollow Stem, Mud Rotary, Direct Push, HDD)

Project Name:_____ **Project No#:**_____

Yes	No	NA	Requirement	Comments
			Emergency Stop Devices	
☐	☐	☐	• Emergency Stop Devices (At points of operation)	
☐	☐	☐	• Have all emergency shut offs identified been communicated to the field crew?	
☐	☐	☐	• Has a person been designated as the Emergency Stop Device Operator?	
			Highway Use	
☐	☐	☐	• Cab, mirrors, safety glass?	
☐	☐	☐	• Turn signals, lights, brake lights, etc. (front/rear) for equipment approved for highway use?	
☐	☐	☐	• Seat Belts?	
☐	☐	☐	• Is the equipment equipped with audible back-up alarms and back-up lights?	
☐	☐	☐	• Horn and gauges	
☐	☐	☐	• Brake condition (dynamic, park, etc.)	
☐	☐	☐	• Tires (Tread) or tracks	
☐	☐	☐	• Windshield wipers	
☐	☐	☐	• Exhaust system	
☐	☐	☐	• Steering (standard and emergency)	
☐	☐	☐	• Wheel Chocks?	
☐	☐	☐	• Are tools and material secured to prevent movement during transport? Especially those within the cab?	
☐	☐	☐	• Are there flammables or solvents or other prohibited substances stored within the cab?	
☐	☐	☐	• Are tools or debris in the cab that may adversely influence operation of the vehicle (in and around brakes, clutch, gas pedals)	

Unit/Serial No#:_____ **Inspection Date:** ____/____/____

Yes	No	NA	Requirement	Comments
☐	☐	☐	Fluid Levels: • Engine oil	
☐	☐	☐	• Transmission fluid	
☐	☐	☐	• Brake fluid	
☐	☐	☐	• Cooling system fluid	
☐	☐	☐	• Hoses and belts	
☐	☐	☐	• Hydraulic oil	
☐	☐	☐	High Pressure Hydraulic Lines • Obvious damage	
☐	☐	☐	• Operator protected from accidental release	
☐	☐	☐	• Coupling devices, connectors, retention cables/pins are in good condition and in place	
☐	☐	☐	Mast Condition • Structural components/tubing	
☐	☐	☐	• Connection points	
☐	☐	☐	• Pins	
☐	☐	☐	• Welds	
☐	☐	☐	• Outriggers	
☐	☐	☐	• Operational	
☐	☐	☐	• Plumb (when raised)	
☐	☐	☐	Hooks • Are the hooks equipped with Safety Latches?	
☐	☐	☐	• Does it appear that the hook is showing signs of wear in excess of 10% original dimension?	
☐	☐	☐	• Is there a bend or twist exceeding 10% from the plane of an unbent hook?	
☐	☐	☐	• Increase in throat opening exceeding 15% from new condition	
☐	☐	☐	• Excessive nicks and/or gouges	
☐	☐	☐	• Clips	
☐	☐	☐	• Number of U-Type (Crosby) Clips (cable size 5/16 – 5/8 = 3 clips minimum) (cable size 3/4 – 1 inch = 4 clips minimum) (cable size 1 1/8 – 1 3/8 inch = 5 clips minimum)	

Unit/Serial No#:_____ **Inspection Date:** ____/____/____

Yes	No	NA	Requirement	Comments
☐	☐	☐	Power cable and/or hoist cable • Reduction in Rope diameter π (5/16 wire rope>1/64 reduction nominal size -replace) (3/8 to 1/2 wire rope>1/32 reduction nominal size-replace) (9/16 to 3/4 wire rope>3/64 reduction nominal size-replace)	
☐	☐	☐	• Number of broken wires (6 randomly broken wires in one rope lay) (3 broken wires in one strand)	
☐	☐	☐	• Number of wire rope wraps left on the Running Drum at nominal use (≥3 required)	
☐	☐	☐	- Lead (primary) sheave is centered on the running drum	
☐	☐	☐	• Lubrication of wire rope (adequate?)	
☐	☐	☐	• Kinks, bends – Flattened to > 50% diameter	
☐	☐	☐	Hemp/Fiber rope (Cathead/Split Spoon Hammer) • Minimum ¾; maximum 1 inch rope diameter (Inspect for physical damage)	
☐	☐	☐	• Rope to hammer is securely fastened	
☐	☐	☐	Safety Guards – • Around rotating apparatus (belts, pulleys, sprockets, spindles, drums, flywheels, chains) all points of operations protected from accidental contact?	
☐	☐	☐	• Hot pipes and surfaces exposed to accidental contact?	
☐	☐	☐	• High pressure lines	
☐	☐	☐	• Nip/pinch points	
☐	☐	☐	Operator Qualifications • 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?	

Unit/Serial No#:_____ **Inspection Date:** ____/____/____

Yes	No	NA	Requirement	Comments
☐	☐	☐	PPE Required for Drill Rig Exclusion Zone • Hardhat	
☐	☐	☐	• Safety glasses	
☐	☐	☐	• Work gloves	
☐	☐	☐	• Chemical resistant gloves_____	
☐	☐	☐	• Steel toed Work Boots	
☐	☐	☐	• Chemical resistant Boot Covers	
☐	☐	☐	• Apron	
☐	☐	☐	• Coveralls Tyvek, Saranex, cotton)_____	
☐	☐	☐	Other Hazards • Excessive Noise Levels? _____dBA	
☐	☐	☐	• Chemical hazards (Drilling supplies - Sand, bentonite, grout, fuel, etc.)	
☐	☐	☐	- MSDSs available?	
☐	☐	☐	• Will On-site fueling occur	
☐	☐	☐	- Safety cans available?	
☐	☐	☐	- Fire extinguisher (Type/Rating -_____ _____)	

Approved for Use ☐ Yes ☐ No ☐ See Comments

_____ _____

Site Health and Safety Officer Operator

ATTACHMENT IV

SAFE WORK PERMIT

SAFE WORK PERMIT
MOBILIZATION/DEMOBILIZATION ACTIVITIES
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

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

I. Work limited to the following (description, area, equipment used): Mobilization and demobilization activities such as unpacking/packing, staging equipment and supplies.

II. Primary Hazards: Lifting; pinches and compressions; vehicular and foot traffic; slips/trips/falls, and ambient temperature extremes; insect/animal bites and stings; poisonous plants; and inclement weather

III. Field Crew: _____

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

Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ Tetra Tech

V. Protective equipment required

Level D ☒ Level B ☐

Level C ☐ Level A ☐

Respiratory equipment required

Yes ☐ Specify on the reverse

No ☒

Modifications/Exceptions: _____

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

Primary Route(s) of Exposure/Hazard: NA

(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	Hearing Protection (Plugs/Muffs)	☐ Yes ☒ No
Safety Glasses	☐ Yes ☒ No	Safety belt/harness	☐ Yes ☒ No
Chemical/splash goggles	☐ Yes ☒ No	Radio/Cellular Phone	☐ Yes ☐ No
Splash Shield	☐ Yes ☒ No	Barricades	☐ Yes ☒ No
Splash suits/coveralls	☐ Yes ☒ No	Gloves (Type – leather/cotton)	☐ Yes ☐ No
Impermeable apron	☐ Yes ☒ No	Work/rest regimen	☐ Yes ☐ No
Steel toe work shoes/boots	☒ Yes ☐ No	Chemical Resistant Boot Covers	☐ Yes ☒ No
High Visibility vest	☐ Yes ☒ No	Tape up/use insect repellent	☐ Yes ☐ No
First Aid Kit	☒ Yes ☐ No	Fire Extinguisher	☐ Yes ☐ No
Safety Shower/Eyewash	☒ Yes ☐ No	Other	☐ Yes ☐ No

Modifications/Exceptions: PPE selection is at the discretion of the SSO and is dependent upon tasks being performed. In general, site activities require the use of basic safety equipment (field clothing and steel-toe footwear). Work gloves (cotton or leather) will be used when necessary to protect against cut or abrasions.

VIII. Site Preparation

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

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 i nstructions, p recautions: Site contaminants are unlikely to be encountered during this site activity. Material Safety Data Sheets (MSDS) will be provided for the chemicals used on site (sample preservatives, decon solutions, fuels, etc.). Refer to MSDS for additional guidance including use of PPE and safe handling procedures. Obtain assistance when handling heavy equipment (sample coolers, instrument cases, sampling equipment, etc.). Follow manufacturer's recommendations for insect repellant application/re-application. Review operating instructions for the particulate monitor prior to beginning work at the site.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
SOIL BORING AND SOIL SAMPLING VIA DPT
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

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

I. **Work limited to the following (description, area, equipment used):** Direct Push Technology (DPT) to collect soil samples

II. **Primary Hazards:** Contact with contaminants; transfer of contamination; slip/trips/falls; ambient temperature extremes; vehicular and foot traffic; insect/animal bites and stings, poisonous plants, inclement weather

III. **Field Crew:** _____

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

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐
Modifications/Exceptions: _____

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

VI.

Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
PCB's, Copper, Lead	MiniRAM (Dust Particulate Monitor)	>15 mg/m3 at any one time	Suspend site activities and retreat to unaffected areas Use area wetting methods

Primary Route(s) of Exposure/Hazard: direct contact, ingestion, inhalation

(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	Hearing Protection (Plugs/Muffs)	☐ Yes ☒ No
Safety glasses	☒ Yes ☐ No	Safety belt/harness	☐ Yes ☐ No
Chemical/splash goggles	☐ Yes ☒ No	Radio/Cellular Phone	☐ Yes ☐ No
Splash Shield	☐ Yes ☐ No	Barricades	☐ Yes ☒ No
Splash suits/coveralls	☒ Yes ☐ No	Gloves (Type – nitrile)	☒ Yes ☐ No
Impermeable apron	☐ Yes ☒ No	Work/rest regimen	☐ Yes ☒ No
Steel toe work shoes/boots	☒Yes ☐ No	Chemical resistant boot covers	☐ Yes ☒ No
High Visibility vest	☐Yes ☒ No	Tape up/use insect repellent	☐ Yes ☐ No
First Aid Kit	☒Yes ☐ No	Fire Extinguisher	☐ Yes ☐ No
Safety Shower/Eyewash	☐Yes ☐ No	Other	☐ Yes ☐ No

Modifications/Exceptions: Other PPE at SSO's discretion based on observed hazards (high visibility reflective vests, etc.).

VIII. **Site Preparation**

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

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:** Significant airborne concentrations of potential site contaminants are unlikely to be encountered during this site activity. Use of safe working practices and PPE will prevent potential contact/exposure to site contaminants. Obtain assistance when handling heavy equipment (sample coolers, instrument cases, sampling equipment, etc.). Complete Equipment Checklist prior to beginning work. – Attachment III.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PRACTICES
DECONTAMINATION
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

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

I. **Work limited to the following (description, area, equipment used):** Decontamination of sampling equipment and DPT rig used during sampling tasks

II. **Primary Hazards:** decontamination fluids; ambient temperature extremes, slips, trips and falls; inclement weather, pressure washer, pinch and compression point hazards

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
Metals, PCB's	MiniRAM (Dust Particulate Monitor)	>above background	Repeat Decontamination

Primary Route(s) of Exposure/Hazard: direct contact, ingestion, inhalation

*Precautionary use due to nature of previous investigations at PNS

(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	Hearing Protection (Plugs/Muffs)	☐ Yes	☒ No
Safety Glasses	☒ Yes	☐ No	Safety belt/harness	☐ Yes	☒ No
Chemical/splash goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash Shield	☐ Yes	☐ No	Barricades	☐ Yes	☐ No
Splash suits/coveralls	☐ Yes	☐ No	Gloves (Type – Nitrile)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☐ No	Work/rest regimen	☐ Yes	☒ No
Steel toe work shoes/boots	☒ Yes	☐ No	Chemical Resistant Boot Covers	☐ Yes	☐ No
High Visibility vest	☐ Yes	☒ No	Tape up/use insect repellent	☐ Yes	☐ No
First Aid Kit	☒ Yes	☐ No	Fire Extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☒ Yes	☐ No	Other	☐ Yes	☐ No

Modifications/Exceptions: Splash shield, coveralls, aprons, boot covers at SSO's discretion, gloves, apron or splash suite when decontaminating DPT rigs.

VIII. **Site Preparation**

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

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:** Significant concentrations of potential site contaminants are unlikely to be encountered during this site activity. Use of safe working practices and PPE will prevent potential contact/exposure to site contaminants. If any decon solvents are used (e.g., isopropanol), obtain and follow directions/precautions on MSDS.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
IDW MANAGEMENT
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

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

SECTION I: General Job Scope

I. **Work limited to the following (description, area, equipment used):** IDW management activities includes containerization, staging, monitoring for leaks of IDW accumulated wastes. Wastes types include soil cutting, purge and decontamination wash waters.

II. **Primary Hazards:** Lifting, pinches and compressions; flying projectiles; slips, trips, and falls

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**
Level D ☒ Level B ☐
Level C ☐ Level A ☐

Respiratory equipment required
Yes ☐ See Reverse
No ☒

Modifications/Exceptions: None anticipated

VI. **Chemicals of Concern** NA

Hazard Monitoring / Action Level(s) NA

Response Measures NA

Primary Route(s) 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	☐ Yes ☐ No	Hearing Protection (Plugs/Muffs)	☐ Yes ☒ No
Safety Glasses	☐ Yes ☐ No	Safety belt/harness	☐ Yes ☒ No
Chemical/splash goggles	☐ Yes ☒ No	Radio/Cellular Phone	☐ Yes ☐ No
Splash Shield	☐ Yes ☒ No	Barricades	☐ Yes ☐ No
Splash suits/coveralls	☐ Yes ☒ No	Gloves (Type – Leather/Cotton)	☒ Yes ☐ No
Impermeable apron	☐ Yes ☒ No	Work/rest regimen	☐ Yes ☒ No
Safety toe work shoes/boots	☒ Yes ☐ No	Chemical Resistant Boot Covers	☐ Yes ☒ No
High visibility vest	☐ Yes ☐ No	Tape up/use insect repellent	☐ Yes ☐ No
First Aid Kit	☒ Yes ☐ No	Fire Extinguisher	☐ Yes ☐ No
Safety Shower/Eyewash	☐ Yes ☒ No	Other	☐ Yes ☐ No

Modifications/Exceptions: If using pneumatic/electric power to open drums – Safety glasses are required; If power equipment is used to move drums or you are working near operating equipment hard hats will be worn. Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET if necessary. Follow manufacturer's recommendations for proper application and reapplication. If working in areas where snakes are a threat, wear snake chaps to protect against bites.

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☒
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

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 i nstructions, p recautions:** Suspend site activities in the event of inclement weather. Use proper lifting techniques. When/where possible use heavy equipment to move and place containers. When placing drums – Place the label and retention ring nut on the outside where it is readily visible. Place 4-drums to a pallet. Maintain a minimum distance of 4-feet between pallet rows.

Permit Issued by: _____ Permit Accepted by: _____

SAFE WORK PERMIT
TOPOGRAPHICAL AND WETLAND FUNCTIONS SURVEY
PORTSMOUTH NAVAL SHIPYARD
KITTERY, MAINE

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

I. Work limited to the following (description, area, equipment used): Topographical and Wetland Survey. This task includes a values assessment of the wetlands

II. Primary Hazards: Slip, trip, and fall; vehicular and foot traffic; temperature extremes; animal and insect bites and 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
None expected during this Task	None	none	None

Primary Route(s) of Exposure/Hazard: Absorption

(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	Hearing Protection (Plugs/Muffs)	☐ Yes ☒ No
Safety Glasses	☐ Yes ☐ No	Safety Belt/Harness	☐ Yes ☒ No
Chemical/Splash Goggles	☐ Yes ☒ No	Radio/Cellular Phone	☐ Yes ☐ No
Splash Shield	☐ Yes ☒ No	Barricades	☐ Yes ☒ No
Splash Suit/Coveralls	☐ Yes ☒ No	Gloves (Type – Nitrile)	☒ Yes ☐ No
Impermeable Apron	☐ Yes ☒ No	Work/rest Regimen	☐ Yes ☐ No
Safety toe Work Shoes or Boots	☒ Yes ☐ No	Chemical Resistant Boot Covers	☐ Yes ☒ No
High Visibility Vest	☐ Yes ☐ No	Tape/Insect Repellent	☐ Yes ☐ No
First Aid Kit	☐ Yes ☐ No	Fire Extinguisher	☐ Yes ☒ No
Safety Shower/Eyewash	☐ Yes ☐ No	Other	☐ Yes ☐ No

Modifications/Exceptions: Various tasks require additional PPE. Tasks and site conditions will determine the additional PPE.

VIII. Site Preparation:

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

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: Use safe lifting and carrying techniques. Use additional PPE based on the task hazards. Use work gloves when cutting boxes or handling sharp tools and cutting devices. Safety glasses will be Worn when hazards are present. Identify and remove or isolate physical hazards and mark areas where they cannot be removed. Keep work area clutter free. During the Wetlands Survey entry into the river or any intrusive work will not be permitted.

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT V

OSHA POSTER