

N00204.AR.004472
NAS PENSACOLA
5090.3a

FINAL HEALTH AND SAFETY PLAN FOR MUNITIONS RESPONSE PROGRAM AT SITE 3
NAS PENSACOLA FL
11/1/2008
TETRA TECH

Comprehensive Long-term Environmental Action N

0003

CONTRACT NUMBER N62467-04-D-0055



0116-01-01

Health and Safety Plan for Munitions Response Program of the Saufley Field Site 3 Pistol Range

Naval Air Station
Pensacola, Florida

Contract Task Order 0116

November 2008



NAS Jacksonville
Jacksonville, Florida 32212-0030

**HEALTH AND SAFETY PLAN
FOR
MUNITIONS RESPONSE PROGRAM OF THE SAUFLEY FIELD SITE 3
PISTOL RANGE
AT THE
NAVAL AIR STATION
PENSACOLA, FL**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY CONTRACT**

**Submitted to:
Southeast
Naval Facilities Engineering Command
Jacksonville, Florida**

**Submitted by:
Tetra Tech NUS, Inc.
Foster Plaza 7
661 Andersen Drive
Pittsburgh, Pennsylvania 15220**

**CONTRACT NO. N62467-04-D-0055
CONTRACT TASK ORDER 0116**

November 2008

PREPARED UNDER THE SUPERVISION OF:



**GERRY WALKER, P.E.
TASK ORDER MANAGER
TETRA TECH NUS, INC.
TALLAHASSEE, FLORIDA**

APPROVED FOR SUBMITTAL BY:



**MATTHEW M. SOLTIS, CIH, CSP
CLEAN HEALTH & SAFETY MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION.....	1-1
1.1 AUTHORITY	1-1
1.2 KEY PROJECT PERSONNEL AND ORGANIZATION.....	1-1
1.3 SITE INFORMATION AND PERSONNEL ASSIGNMENTS.....	1-3
2.0 EMERGENCY ACTION PLAN	2-1
2.1 INTRODUCTION.....	2-1
2.2 EMERGENCY PLANNING	2-1
2.3 EMERGENCY RECOGNITION AND PREVENTION	2-2
2.3.1 Recognition	2-2
2.3.2 Prevention	2-3
2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE.....	2-3
2.5 EMERGENCY CONTACTS	2-4
2.6 EMERGENCY ROUTE TO HOSPITAL	2-6
2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES.....	2-9
2.8 PPE AND EMERGENCY EQUIPMENT.....	2-9
2.9 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT.....	2-9
2.10 INJURY/ILLNESS REPORTING.....	2-10
3.0 SITE BACKGROUND.....	3-1
3.1 SITE 3 PISTOL RANGE.....	3-1
4.0 SCOPE OF WORK	4-1
5.0 IDENTIFYING AND COMMUNICATING TASK-SPECIFIC HAZARDS AND GENERAL SAFE WORK PRACTICES	5-1
5.1 GENERAL SAFE WORK PRACTICES.....	5-1
5.2 SOIL BORING/DRILLING SAFE WORK PRACTICES.....	5-2
5.3 X-RAY SAFE WORK PRACTICES.....	5-4
6.0 HAZARD ASSESSMENT AND CONTROLS	6-1
6.1 PHYSICAL HAZARDS	6-3
6.1.1 X-Rays from X-Ray Fluorescence Detector.....	6-3
6.1.2 Injury Due To DPT or Hollow Stem Auger Drill Operations	6-3
6.1.3 Slips, Trips, and Falls.....	6-4
6.1.4 Contact with Underground Utilities.....	6-4
6.1.5 Strain/Muscle Pulls from Heavy Lifting	6-4
6.1.6 High Noise Levels	6-4
6.1.7 Heat Stress	6-4
6.1.8 Pinch/Compression Points	6-5
6.1.9 Natural Hazards	6-5
6.1.10 Vehicular and Equipment Traffic.....	6-6
6.1.11 Inclement Weather.....	6-6
6.1.12 Small Arms Ammunition.....	6-8
7.0 AIR MONITORING.....	7-1
7.1 INSTRUMENTS AND USE	7-1
7.2 INSTRUMENT MAINTENANCE AND CALIBRATION	7-2
7.3 DOCUMENTING INSTRUMENT READINGS	7-2

TABLE OF CONTENTS (Continued)

<u>SECTION</u>	<u>PAGE</u>
8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS.....	8-1
8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING	8-1
8.2 SITE-SPECIFIC TRAINING	8-1
8.3 MEDICAL SURVEILLANCE.....	8-1
8.4 SITE VISITORS	8-2
9.0 SITE CONTROL	9-1
9.1 EXCLUSION ZONE	9-1
9.1.1 Exclusion Zone Clearance	9-1
9.2 CONTAMINATION REDUCTION ZONE	9-1
9.3 SUPPORT ZONE.....	9-2
9.4 SAFE WORK PERMITS.....	9-2
9.5 SITE VISITORS	9-2
9.6 SITE SECURITY	9-3
9.7 SITE MAP.....	9-3
9.8 BUDDY SYSTEM.....	9-4
9.9 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS	9-4
9.10 COMMUNICATION	9-4
10.0 SPILL CONTAINMENT PROGRAM	10-1
10.1 SCOPE AND APPLICATION	10-1
10.2 POTENTIAL SPILL AREAS	10-1
10.3 LEAK AND SPILL DETECTION.....	10-1
10.4 PERSONNEL TRAINING AND SPILL PREVENTION.....	10-1
10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT	10-2
10.6 SPILL CONTROL PLAN	10-2
11.0 CONFINED-SPACE ENTRY	11-1
12.0 MATERIALS AND DOCUMENTATION	12-1
12.1 MATERIALS TO BE POSTED AT THE SITE	12-1
13.0 ACRONYMS / ABBREVIATIONS	13-1
ATTACHMENT I	MEDICAL DATA SHEET
ATTACHMENT II	INCIDENT REPORT FORM
ATTACHMENT III	EQUIPMENT INSPECTION CHECKLIST
ATTACHMENT IV	SAFE WORK PERMITS
ATTACHMENT V	OSHA POSTER

TABLE OF CONTENTS (Continued)

LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
2-1	Emergency Contacts NAS Pensacola	2-5

LIST OF FIGURES

<u>FIGURE</u>		<u>PAGE</u>
2-1	Route to Naval Hospital Pensacola	2-7
2-1-1	Route to Baptist Hospital	2-8
2-2	Potential Exposure Protocol.....	2-11
7-1	Documentation of Field Calibration.....	7-4
8-1	Site-Specific Training Documentation.....	8-3
9-1	Example Safe Work Permit.....	9-5

1.0 INTRODUCTION

The objective of this Health and Safety Plan (HASP) is to provide the safety and health requirements, restrictions, practices and procedures for Tetra Tech NUS, Inc. (TtNUS) personnel participating in the Munitions Response Program of the Saufley Field Site 3 Pistol Range activities at the Naval Air Station Pensacola (NAS Pensacola), Pensacola Florida.

This HASP is to be used in conjunction with the Tetra Tech NUS Health and Safety Guidance Manual. The Guidance Manual provides detailed information pertaining to hazard recognition and control, and TtNUS 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 TtNUS Site Safety Officer (SSO) and the TtNUS Health and Safety Manager (HSM). Requests for modifications to the HASP will be directed to the SSO who will determine whether to make the changes. The SSO will notify the Task Order Manager (TOM), who will notify the affected personnel of changes.

1.1 AUTHORITY

This work is authorized under the Comprehensive Long - Term Environmental Action Navy (CLEAN) contract, administered through the U.S. Navy Southeast, Naval Facilities Engineering Command, as defined under Contract No. N62467-04-D-0055; Contract Task Order Number 0116.

1.2 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines responsibilities for site safety and health for TtNUS employees conducting the Munitions Response Program of the Saufley Field Site 3 Pistol Range field activities under this field effort. All personnel assigned to participate in the field work have the primary responsibility for performing all of their work tasks in a manner that is consistent with the TtNUS Health and Safety Policy, the health and safety training that they have received, the contents of this HASP, and in an overall manner that protects their personal safety and health and that of their co-workers. The following persons are the primary point

of contact and have the primary responsibility for observing and implementing this HASP and for overall on-site health and safety.

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

1.3 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: NAS Pensacola **Address:** Pensacola, Florida

Naval Engineer in Charge: Benjamin Kissam **Phone Number:** (843) 820-7324

Site Contact: Greg Campbell **Phone Number:** 850/452-3131ext 3007

Site Address: Pensacola, FL

Purpose of Site Visit: TtNUS will perform a site investigation at the small arms range at Saufley Field Site 3 Pistol Range.

Proposed Start-up Date: November 2008

Project Team:

TtNUS Personnel:

Gerry Walker, P.E.

TBD

Matthew M. Soltis, CIH, CSP

Clyde J. Snyder

TBD

Discipline/Tasks Assigned:

Task Order Manager (TOM)

Field Operations Leader

Health and Safety Manager (HSM)

Project Health and Safety Officer (PHSO)

Site Safety Officer

Prepared by: Clyde Snyder

2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section has been developed as part of a planning effort to direct and guide field personnel in the event of an emergency. In the event of an emergency, the field team will primarily evacuate and assemble to an area unaffected by the emergency and notify the appropriate local emergency response personnel/agencies. TtNUS personnel are not authorized to participate in any emergency response activities. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/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.

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

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

2.2 EMERGENCY PLANNING

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

- Coordinating with Emergency Response personnel to ensure that TtNUS emergency action activities are compatible with existing emergency response procedures.
- Establishing and maintaining information at the project staging area (support zone) for easy access in the event of an emergency. This information will include the following:
 - Chemical Inventory (of chemicals used onsite), with Material Safety Data Sheets.

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

The TtNUS FOL will be responsible for the following tasks:

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

2.3 EMERGENCY RECOGNITION AND PREVENTION

2.3.1 Recognition

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

The above actions will provide early recognition for potential emergency situations, and allow TtNUS to instigate necessary control measures. However, if the FOL and the SSO determine that control

measures are not sufficient to eliminate the hazard, TtNUS will withdraw from the site and notify the appropriate response agencies listed in Table 2-1.

2.3.2 Prevention

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

2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE

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

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

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

**TABLE 2-1
EMERGENCY CONTACTS
NAS PENSACOLA, FLORIDA**

CONTACT	PHONE NUMBER
NAS Pensacola – Emergency Dispatch	(850) 452-3333
EMERGENCY (Police, Fire, Ambulance Service)	911
Navy Engineer in Charge Benjamin Kissam	(843) 820-7324
Facility Contact Greg Campbell	(850) 452-3131 ex. 3007
Navy Hospital	(850) 505-6601
Baptist Hospital	(850) 469-2313
Task Order Manager Gerry Walker	(850) 385-9899
Chemtrec	(800) 424-9300
National Response Center	(800) 424-8802
Florida Poison Control Center	(800) 222-1222
Sunshine State One Call of Florida – Utility Clearance	8-1-1
TtNUS Field Operations Leader TBD	Office: Cell :
TtNUS Site Safety Officer TBD	Office: Cell :
TtNUS PHSO Clyde Snyder	(412) 921-8904
TtNUS, Health and Safety Manager Matthew M. Soltis, CIH, CSP	(412) 921-8912

2.6 EMERGENCY ROUTE TO HOSPITAL

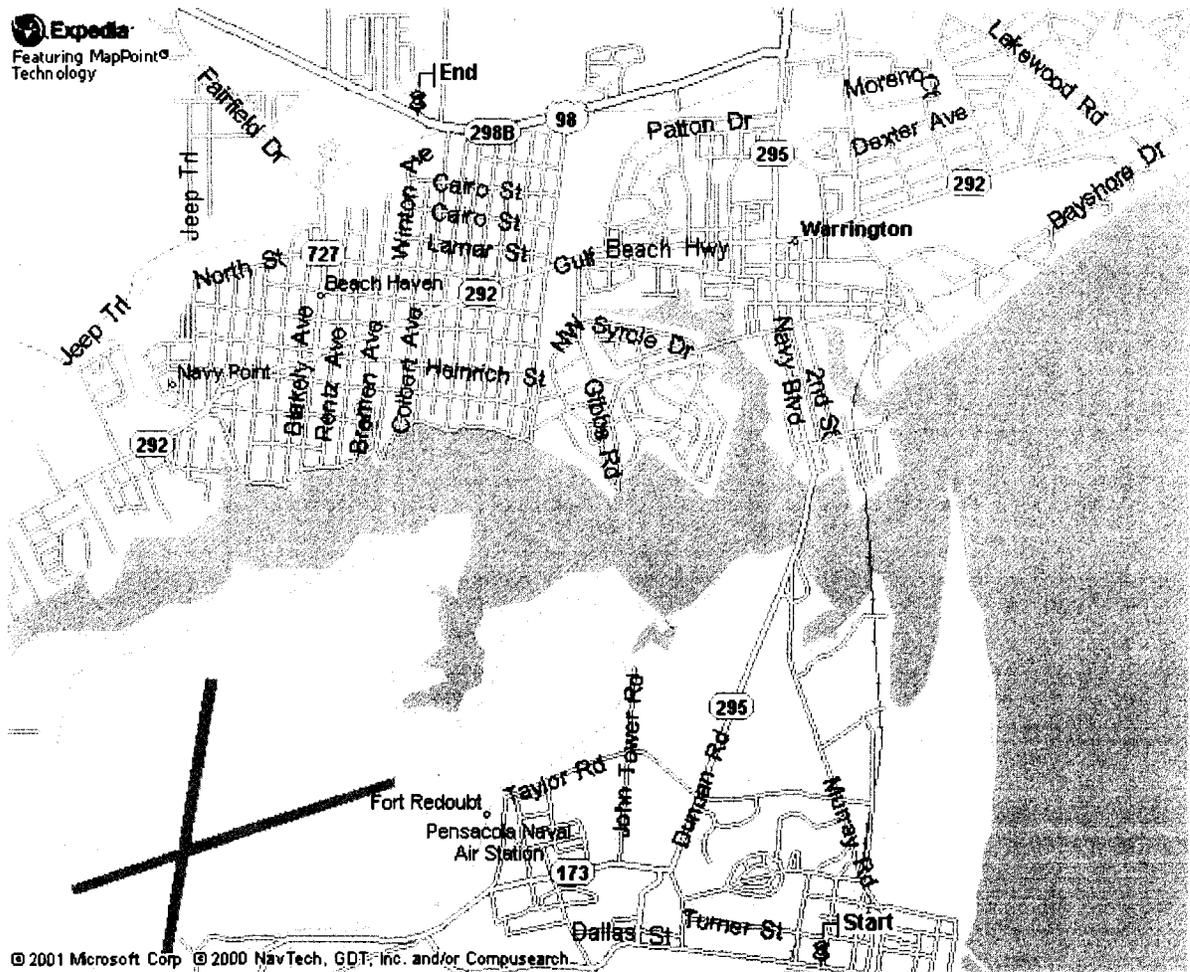
Two hospitals could potentially be used during this project depending on the circumstances. For emergency situations the Naval Hospital Pensacola (NHP) may be utilized. The hospital is closer to the site and is fully prepared to accept chemically contaminated patients. Baptist Hospital will be used for non-emergency care services. Routes and directions to these hospitals are provided in Figures 2-1 and 2-1-1.

Navy Hospital
6000 W. Highway 98
Pensacola, Florida 32512
(850) 505-6600

Directions to the Navy Hospital from the site are as follows:

Proceed out of Main Gate (Navy Blvd) heading north to US Highway 98. Turn left (heading west) on US 98 and proceed approximately 1 mile. Hospital will be on the right (Building 2268).

FIGURE 2-1
ROUTE TO NAVAL HOSPITAL PENSACOLA

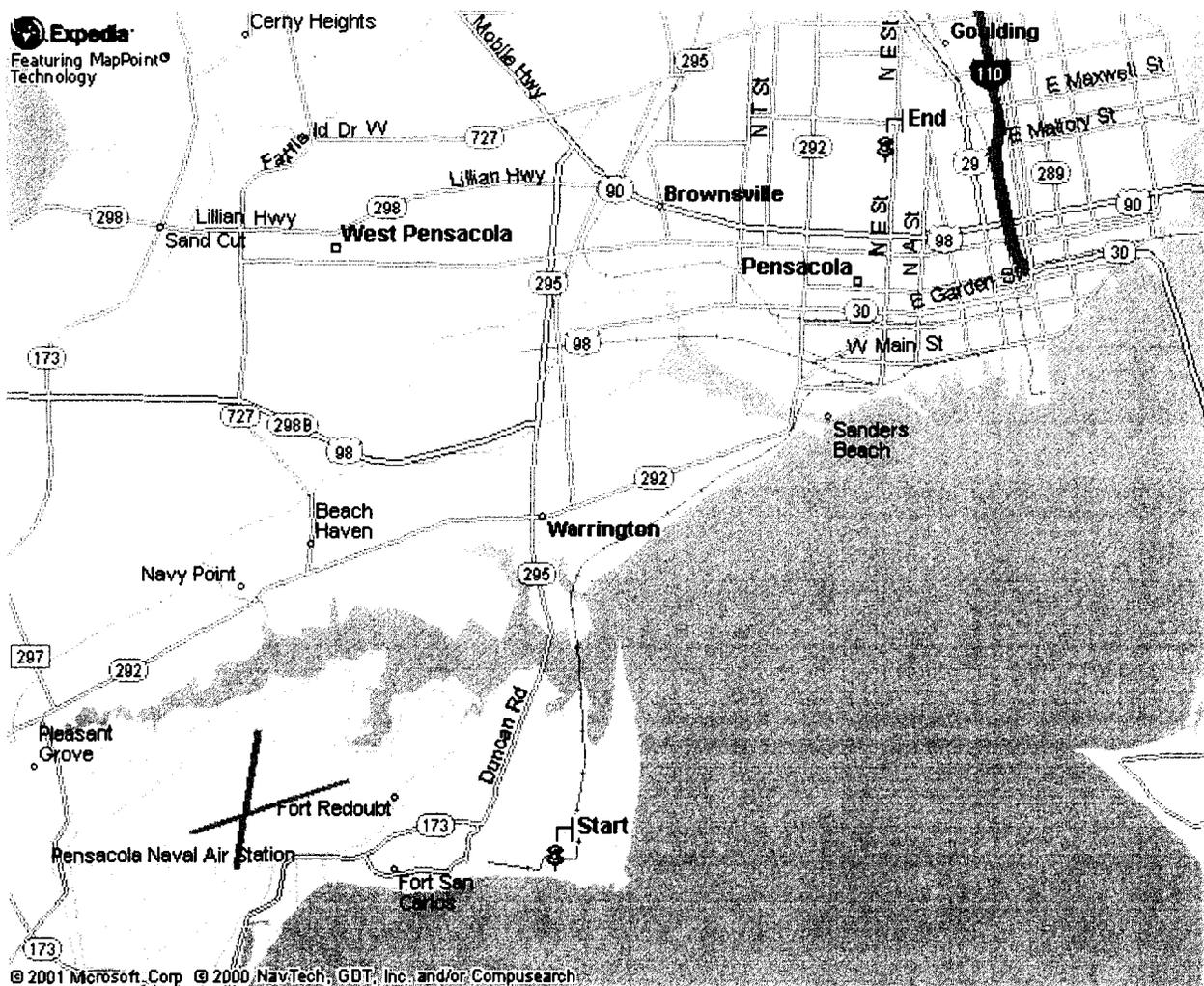


Baptist Hospital
1000 West Moreno Blvd.
Pensacola, FL 32508
(850-469-2313)

Directions to this Hospital from the Main Gate of NAS Pensacola are:

Proceed out of Main Gate (Navy Blvd) heading north to Hwy 292. Turn right (heading east) on Hwy 292 until it turns into Garden Street (approx. 3 miles). Take Garden Street to intersection with "E" Street. Turn left onto "E" Street and proceed approximately 1 mile to Hospital on left.

FIGURE 2-1-1
ROUTE TO BAPTIST HOSPITAL



2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

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

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

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

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

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

2.8 PPE AND EMERGENCY EQUIPMENT

A first-aid kit, eye wash units (or bottles of disposable eyewash solution) and fire extinguishers (strategically placed) will be maintained 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 not be performed if the incident warrants immediate evacuation. However, it is unlikely that an evacuation would occur which would require workers to evacuate the site without first performing the necessary decontamination procedures.

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

2.10 INJURY/ILLNESS REPORTING

If any TtNUS personnel are injured or develop an illness as a result of working on site, the TtNUS "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.

FIGURE 2-2
POTENTIAL EXPOSURE PROTOCOL

The purpose of this protocol is to provide guidance for the medical management of injury situations.

In the event of a personnel injury or accident:

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

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

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

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

FIGURE 2-2 (continued)
WORKCARE
POTENTIAL EXPOSURE REPORT

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

I. Exposing Agent

Name of Product or Chemicals (if known): _____

Characteristics (if the name is not known)

Solid Liquid Gas Fume Mist Vapor

II. Dose Determinants

What was individual doing? _____

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

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

Was their skin contact? _____

Was the exposing agent inhaled? _____

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

III. Signs and Symptoms (check off appropriate symptoms)

Immediately With Exposure:

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

Delayed Symptoms:

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

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

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

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

Improved: _____ Worsened: _____ Remained Unchanged: _____

V. Treatment of Symptoms (check off appropriate response)

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

3.0 SITE BACKGROUND

NAS Pensacola is located in Orange County, Florida four miles south of downtown Orlando. The facility lies on the west bank of Lake Gem Mary, and is surrounded on three sides by residential development. NAS Pensacola has been at its present location since 1946.

As of June 2000, the property was transferred to Orange Co. Public Schools (excluding the portion impacted by the plume and Lake Gem Mary).

3.1 SITE 3 PISTOL RANGE

The Site 3 Pistol Range is a 2.47-acre area that includes a clay berm about 100 feet in length, 30 feet wide, and 20 feet high. The range is located in the northwest corner of Saufley Field about 800 to 1,000 feet north and west of the two active runways. The site and surrounding area are undeveloped and currently not used. Large amounts of spent bullets are scattered about the pistol range and lodged in it. Many of the bullets are lead, some are lead with steel jackets, and others have copper jackets. The pistol range and all nearby soil is clay or clay and silt intermixed. The pistol range is at an elevation of about 40 feet above sea level. Thick vegetation on and around the berm makes access to the site difficult. The Preliminary Assessment (PA) found evidence of range usage during and after World War II. No information regarding the exact dates of operation or reason for closure could be obtained. Typical munitions used at a small arms range include .38- and .45-caliber pistol ammunition and .22- and .30-caliber rifle ammunition. No spent bullets were observed during the 23 January 2007 PA site visit. Because the site was used only for small arms training and there is no historical or current evidence of explosives used at the site, there is no evidence of MEC. No soil sampling has occurred at Site 3, therefore it is unknown if MC are present. Potential MC may include metals such as lead, antimony, copper, zinc, and arsenic from bullets, fragments, and bullet jackets. The PA recommended No Further Action for MEC. The PA recommended additional investigation for MC.

The site is not suspected to contain Chemical Warfare Material (CWM). However, if suspected CWM is encountered during any phase of site activities, the contractor shall immediately withdraw upwind from the work area, secure the site and contact the Navy Remedial Project Manager (RPM). The contractor shall maintain site security until written direction is provided by the Navy regarding the procedure to be followed for performing further SI work or response actions at the site. The RPM will coordinate with Naval Ordnance Safety and Security Activity (NOSSA).

For more information on the Site History of this intended work area, see the "Plan of Action Munitions Response Program of the Saufley Field Site 3 Pistol Range".

4.0 SCOPE OF WORK

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

- Mobilization/demobilization
- Utility clearance activities
- Clearing of vegetation
- Collection of soil samples
- X-Ray Fluorescence (XRF) analysis
- Decontamination of personnel, and associated sampling/drilling equipment
- IDW management
- Surveying

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

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

The purpose of this section is to identify the anticipated hazards and appropriate hazard prevention/hazard control measures that are to be observed for each planned task or operation. These topics have been summarized for each planned task through the use of task-specific Safe Work Permits (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 in the following portions of this section.

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

5.1 GENERAL SAFE WORK PRACTICES

In addition to the task-specific work practices and restrictions identified in the SWPs attached to this HASP, the following general safe work practices are to be followed when conducting work on-site.

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

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

The following safe work practices are to be followed when working in or around drill rig/DPT operations.

- Identify underground utilities and buried structures before drilling.
- Use the Utility Locating and Excavation Clearance SOP provided in Section 7.0 of the TtNUS Health and Safety Guidance Manual.
- Drill rigs will be inspected by a competent person (the SSO or designee), prior to beginning of work, once every shift (either 5 or 10 days) or following repairs (see Equipment Inspection Checklist in Attachment III).
- Repairs or deficiencies identified will be corrected prior to use.
- The driller's helper will establish an equipment staging and lay down plan. The purpose of this is to keep the work area clear of clutter and slips, trips, and fall hazards. Mechanisms to secure heavy objects such as drill flights will be provided to avoid the collapse stacked equipment.
- Secure frayed or loose clothing, hair, and jewelry when working with rotating equipment.
- Minimize contact to the extent possible with contaminated tooling and environmental media.

- Support functions (sampling and screening stations) will be maintained a minimum distance from the drill rig of the height of the mast plus 5 feet to remove these activities from within physical hazard boundaries.
- Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the drill rig.
- In order to minimize contact with potentially contaminated tooling and media and to minimize lifting hazards, multiple personnel should move auger flights and other heavy tooling.
- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone.
- Equipment that comes into direct contact with potentially contaminated media will undergo a complete decontamination prior to moving to the next location, exiting the site, or prior to down time for maintenance.
- Whenever possible, motorized equipment will be fueled prior to the commencement of the day's activities.
- During fueling operations on site, equipment will be shutdown and bonded to the fuel provider to prevent the potential accumulation of static charges.
- When not in use, drill rigs will be shutdown, emergency brakes set, and wheels chocked where hilly terrain is present.
- Areas subjected to subsurface investigative methods will be restored to equal or better condition than original to the extent practical to remove any contamination brought to the surface and to remove any physical hazards.
- In situations where these hazards cannot be removed, these areas will be barricaded to minimize the impact on field crews working in the area.

5.3 X-RAY SAFE WORK PRACTICES

The general safe work practices for XRF Sampling are as follows:

- The area where the device will be used will be identified using signs warning persons entering the area of the activities being conducted. The operator will ensure persons not critical to the operation are not in the area demarcated for this purpose.
- The operator will insure good general housekeeping is practiced in the analytical area to control potential contamination within a confined space.
- The operator will practice good work hygiene practices to minimize potential introduction of residual contamination into the body through hand to mouth contact.

The safe and proper operation of the Innov-X XRF instruments is the highest priority. These instruments produce ionizing radiation and should **ONLY** be operated by individuals, who have been trained and received a manufacturer's training certificate.

Radiation levels reported during testing are < 0.1 mR/hr on all surfaces of the analyzer except at or near the exit port for the radiation. This means that if an operator follows standard operating procedures, they will not obtain any detectable radiation dose above naturally occurring background radiation, on their hand while holding the analyzer, or on any area of their body.

- Plug the battery charger into a grounded electrical outlet that is easily accessible at all times. Do not pull on cords and cables. When unplugging the cord from the electrical outlet, grasp and pull the cord by the plug.
- Handle battery packs properly; do not: disassemble, crush, puncture, short external contacts, dispose of in fire or water, or expose a battery pack to temperatures higher than 60 °C (140 °F). Do not attempt to open or service a battery pack. Improper handling or charging may cause the battery to explode.
- Keep all safe guards and warning labels in place

Safe Work Procedures:

1. **Proper Usage.** Never point the instrument at another person. Never hold a sample in your hand and test that part of the sample.

2. Establish Controlled Areas. The location of storage and use should be of restricted access to limit potential exposure to possible ionizing radiation. In use, the target should not be hand held and the area at least three paces beyond the target should be unoccupied.
3. **Specific Controls.** The instrument should be stored, in a locked case, or locked cabinets when not in use. When in use, it must remain in the direct control of a factory trained, certified operator.
4. **Time - Distance - Shielding Policies.** Operators should minimize the time around the energized instrument, maximize the distance from the instrument window during shots, and shoot into high density materials whenever possible. Under no circumstances should the operator point the instrument at themselves or others whether energized or not.
5. **Prevent Exposure to Ionizing Radiation.** - All reasonable measures, including labeling, operator training and certification, and the concepts of time, distance, & shielding, should be implemented to limit radiation exposure to as low as reasonably achievable (ALARA).

6.0 HAZARD ASSESSMENT AND CONTROLS

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

This project is the initial site investigation no previous analytical data exists. General contaminants of concern expected to be associated with these sites include: Antimony, Copper Lead, Nickel, Zinc, and PAH's. Low levels of these contaminants are expected to be found. It is not anticipated that levels will be encountered that are of concern to field crews. It is recommended that exposure (via inhalation, ingestion, or skin contact) to these contaminants be minimized through the use of direct monitoring instruments, PPE, and good work hygiene practices. The signs and symptoms of exposure for these substances are summarized below:

Antimony: Antimony and many of its compounds are toxic. Clinically, antimony poisoning is very similar to arsenic poisoning. In small doses, antimony causes headache, dizziness, and depression. Larger doses cause violent and frequent vomiting, and will lead to death in a few days.

Copper: All copper compounds, unless otherwise known, should be treated as if they were toxic. Thirty grams of copper sulfate is potentially lethal in humans. The Tolerable Upper Intake Level for adults of dietary copper from all sources is 10 mg/day. Symptoms of copper poisoning are very similar to those produced by arsenic. Fatal cases are generally terminated by convulsions, palsy, and insensibility. Too much copper in water has also been found to damage marine life. The observed effect of these higher concentrations on fish and other creatures is damage to gills, liver, kidneys, and the nervous system. It also interferes with the sense of smell in fish, thus preventing them from choosing good mates or finding their way to mating areas. The metal, when powdered, is a fire hazard. At concentrations higher than 1 mg/L, copper can stain clothes and items washed in water.

Lead: Lead poisoning is most often a chronic disorder and may not cause acute symptoms. With or without acute symptoms, poisoning eventually has irreversible effects. The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

Nickel: Exposure to nickel metal and soluble compounds should not exceed 0.05 mg/cm³ in nickel equivalents per 40-hour work week. Nickel sulfide fume and dust is believed to be carcinogenic, and various other nickel compounds may be as well. Nickel carbonyl, [Ni(CO)₄], is an extremely toxic gas. The toxicity of metal carbonyls is a function of both the toxicity of a metal as well as the carbonyl's ability to give off highly toxic carbon monoxide gas, and this one is no exception. It is explosive in air. Sensitized individuals may show an allergy to nickel affecting their skin.

Zinc: This substance is corrosive to all points of contact. Systemic symptoms include irritability, wakefulness, muscle weakness and tremors, increased reflexes, gingivitis, anorexia, headache, tinnitus, hypermobility, GI disturbances (nausea, vomiting), diarrhea (sometimes bloody), liver changes, dermatitis, and fever. Symptoms experienced via inhalation include those above coughing, chest pain, dyspnea, bronchial pneumonitis, and excessive salivation.

Poly Aromatic Hydrocarbons (PAH's): Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot. Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides. PAHs known for their carcinogenic, mutagenic and teratogenic properties are benz[a]anthracene and chrysene, benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[ghi]perylene, coronene, dibenz[a,h]anthracene (C₂₀H₁₄), indeno[1,2,3-cd]pyrene (C₂₂H₁₂) and ovalene.

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

- No hand-to-mouth activities on site (eating, drinking, smoking, etc.)
- Washing hands upon leaving the work area and prior to performing any hand to mouth activities
- Wearing surgeon's-style gloves 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.

- Drilling/DPT hazards
- Slip, trip, and fall hazards
- Contact with utilities
- Muscle strain
- Noise
- Heat/cold stress
- Pinch/point compressions
- Natural hazards
- Vehicle traffic
- Inclement weather

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

6.1.1 X-Rays from X-Ray Fluorescence Detector

The XRF instrument does not contain a sealed radioisotope source. The XRF instrument produces x-rays only when the x-ray tube is energized in response to the user turning it on. X-rays produced by these instruments undergo either scattering or absorption by atoms contained within the sample (soil). It is the absorption of the x-rays (known as the photoelectric effect) that ultimately leads to the detection of metal compounds within the soil. The instruments used for XRF analysis do not present a significant ionizing radiation exposure concern provided they are operated in accordance with manufacturer's instructions. Site personnel using the XRF will refer to the operator's manual and will use appropriate engineering and administrative controls to prevent exposure to x-rays. Radiation dosimetry conducted during similar projects using XRF instruments did not indicate a radiation exposure concern.

6.1.2 Injury Due To DPT or Hollow Stem Auger Drill Operations

The primary hazards associated with drilling operations are physical in nature. Specific safety practices are detailed in Section 5.2 of this plan. The following hazards are associated with this type of drilling:

- Rotating/lifting equipment
- Heavy drill rods being lifted

- High noise levels
- Space limitations (large drill rig and support vehicle)
- Dust generation in dry formations.

6.1.3 Slips, Trips, and Falls

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

6.1.4 Contact with Underground Utilities

Underground utilities such as pressurized lines, water lines, telephone lines, buried utility lines, and high voltage power lines are known to be present throughout the facility. Clearance of underground will be coordinated with Florida One Call. The TtNUS Utility Locating and Excavation Clearance SOP can be found in Section 7.0 of the Health and Safety Guidance Manual.

6.1.5 Strain/Muscle Pulls from Heavy Lifting

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

6.1.6 High Noise Levels

High noise levels can be generated during the operation of the drill rig, the DPT (when operating in impact/hammer mode), and hydrolyser/pressure washers used for decontamination activities. Personnel in the vicinity of operating equipment shall use hearing protection in the form of ear plugs or ear muffs. An exclusion area boundary shall be established to delineate where hearing protection is required.

6.1.7 Heat Stress

Because of the length of planned project activities, the likely seasonal weather conditions that will exist during the planned schedule, and the physical exertion that can be anticipated with some of the planned tasks, it will be necessary for the field team to be aware of the signs and symptoms and the measures

appropriate to prevent heat stress. This is addressed in detail in section 4.0 of the TtNUS Health and Safety Guidance Manual, which the SSO is responsible for reviewing and implementing as appropriate on this project.

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

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

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

6.1.8 Pinch/Compression Points

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

6.1.9 Natural Hazards

Natural hazards such as poisonous plants, bites from poisonous or disease carrying animals or insects (e.g., snakes, ticks, mosquitoes) are often prevalent at sites that are being investigated as part of hazardous waste site operations. Given the geographic location and the environment (marshes and lakes), alligators are also assumed to be potentially present at the NAS Pensacola facility. To minimize the potential for site personnel to encounter these hazards, nesting areas in and about work areas will be avoided to the greatest extent possible. Work areas will be inspected to look for any evidence that

dangerous animals may be present. Based on the planned location for the work covered by this HASP, encountering alligators is not a likely probability.

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

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

6.1.10 Vehicular and Equipment Traffic

Hazards associated with vehicular and equipment traffic are likely to exist during various site activities and whenever site personnel performed work on or near roadways. To minimize the potential for injuries associated with these hazards, a traffic control plan has been prepared and submitted for approval by the Orange County Public Works. A subcontractor will be present to implement the traffic control plan through the use of warning signs, traffic cones, and flagmen. Additionally, site personnel will be instructed to maintain awareness of traffic and moving equipment when performing site activities. When working near roadways, site personnel will wear high visibility vests.

6.1.11 Inclement Weather

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

Hurricanes

When the National Weather Service has determined that a hurricane is probable in the Portsmouth, Virginia area all work should be suspended and arrangements made to leave the area. The National Hurricane Center classifies hurricanes according to their potential for producing extensive damage on a scale of 1 to 5. Much of the damage caused by a hurricane is a result of a "storm surge". A "Storm Surge" is a large dome of water pushed up in advance of a hurricane prior to making landfall. This dome of water can exceed 20 feet depending upon the strength of the hurricane and tide conditions. Storm surge flooding has caused more deaths than hurricane winds. A storm surge is not to be confused with a tidal wave or tsunami. It is a large amount of water on top of which there is heavy wave action. A storm surge can last for several hours. In a deep ocean, this huge dome of water sinks and flows away, but as the storm nears land, the rising sea floor blocks the water's escape. It comes ashore as a deadly flood. During high tide, the storm surge will be even deeper and more extensive. The following table is a breakdown of the average wind speed and storm surge values for each of the five hurricane categories:

TYPE	CATEGORY	WINDS (MPH)	SURGE
Depression		>35	
Tropical Storm		39 - 73	
Hurricane	1	74 - 95	4 - 5 Feet
Hurricane	2	96 - 110	6 - 8 Feet
Hurricane	3	111 - 130	9 - 12 Feet
Hurricane	4	131 - 155	13 - 18 Feet
Hurricane	5	>155	> 18 Feet

NOAA Weather Radio is the best means to receive warnings from the National Weather Service. The National Weather Service continuously broadcasts updated hurricane advisories that can be received by NOAA Weather Radios sold in many stores. The following terminology will help you assess what action should be taken.

TROPICAL STORM WATCH: Tropical Storm conditions are possible in the specified area of the Watch, usually within 36 hours.

TROPICAL STORM WARNING: Tropical Storm conditions are expected in the specified area of the Warning, usually within 24 hours.

HURRICANE WATCH: Hurricane conditions are possible in the specified area of the Watch, usually within 36 hours. During a Hurricane Watch, prepare to take immediate action to stop work and prepare to leave the area in case a Hurricane Warning is issued.

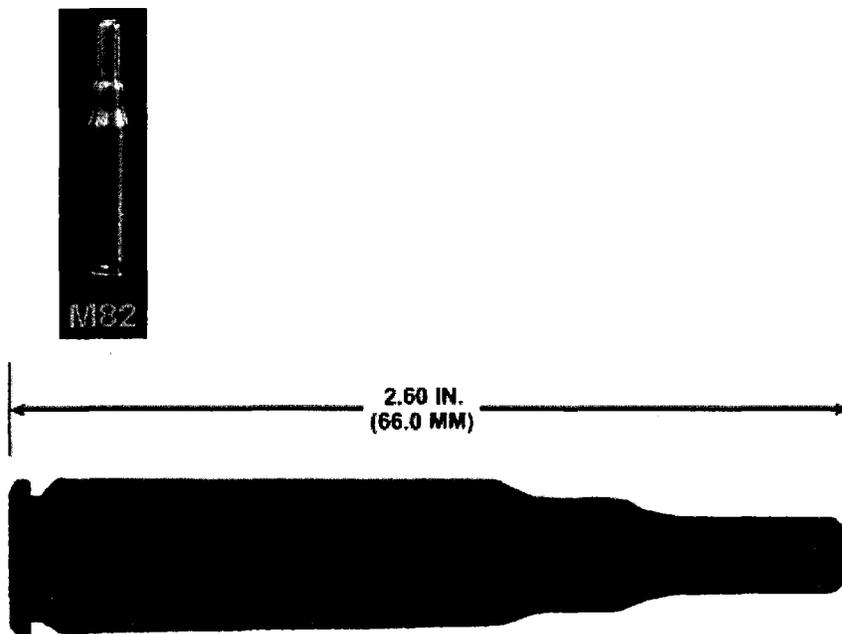
HURRICANE WARNING: Hurricane conditions are expected in the specified area of the Warning, usually within 24 hours. Complete all storm preparations and evacuate if directed by local officials.

SHORT TERM WATCHES AND WARNINGS: These provide detailed information on specific hurricane threats, such as tornadoes, floods, and high winds.

6.1.12 Small Arms Ammunition

The following list represents examples of the types of munitions suspected to have been used at the Site 3 Pistol Range. This information is a reference source for site personnel and these exact types may not be found.

Nomenclature: Cartridge 7.62 Blank M82 Linked



Used by M60, M219 and M240 machine guns, and the M14 rifle. For use during training when simulated live fire is desired. A blank firing attachment (BFA) should be used to fire this ammunition.

This cartridge consists of a primer and propellant contained in a brass case shaped to conform to the configuration of the service round. The propellant is held in by a wad. The mouth of the cartridge is sealed and crimped.

Nomenclature: Cartridge 5.56 Blank M200 BLANK

The 5.56mm M200 provides simulated firing for training exercises where the M16A1, M16A2, M4 rifles, M249 machine gun and M231 weapon are used.

Characteristics	
Height	1.905 in
Weight	122.7 grains
Ballistics	
Ballistic Coefficient	NA
Ballistic Pressure (psi)	NA
Accuracy	NA
Arms Time	NA

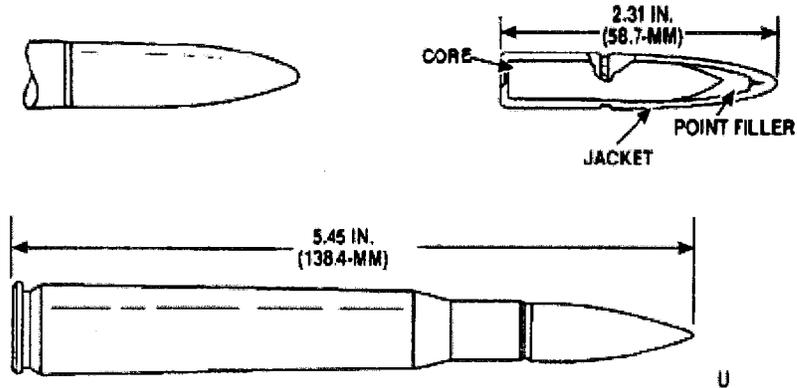


The 5.56-mm blank M200 (M2 link, A075) blank cartridge has no projectile. The case mouth is closed with a seven-petal rosette crimp and has a violet tip. The original M200 blank cartridge had a white tip. Field use of this cartridge resulted in residue buildup, which caused malfunctions. Only the violet-tipped M200 cartridge should be used. The blank round is used during training when simulated live fire is desired. An M15A2 blank-firing attachment must be used to fire this ammunition.

Nomenclature: .50 Caliber Small Arms Ammunition

.50 Caliber Small Arms

CARTRIDGE, CALIBER .50, BALL, M2



Ordnance Family: Small Arms

DODIC: A552

Filler: Single or Double Base Powder

Filler weight: ± Various

Item weight: 1813 gr

Diameter: .50 Caliber

Length: 5.45 in. (138.4 mm)

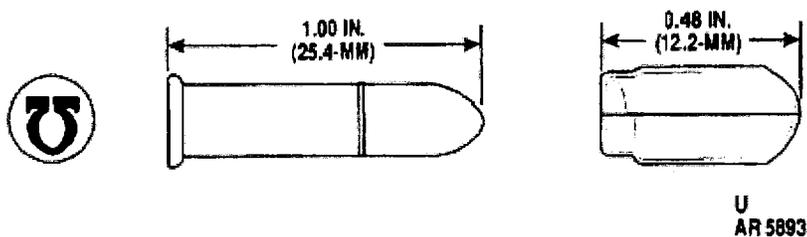
Usage: Machine Guns, Caliber .50, M2 and M85. The cartridge is intended for use against personnel or unarmored targets.

Description: BALL Cartridge. The cartridge is identified by a plain bullet tip.

Reference: TM 43-0001-27

Nomenclature: .22 Caliber Small Arms Ammunition

.22 Caliber Small Arms



Ordnance Family: Small Arms

DODIC: A086

Filler: Single or Double Base Powder

Filler weight: 2.5 gr

Item weight: 416 gr

Projectile Weight: 40.5 gr

Diameter: .22 Caliber

Length: 1 in. (25.4 mm)

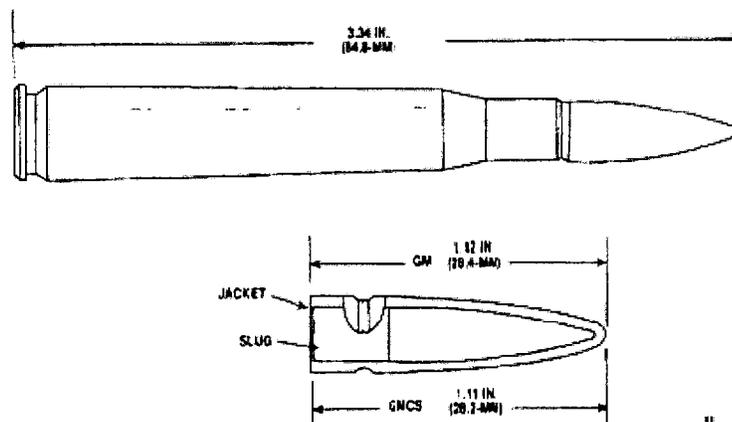
Usage: Subcaliber Rifle M2A1; Caliber .22 Rifle; Remington Models 40X and M513T; Steven's Model 416-2; Winchester Models 52 and 75; Machine Gun Trainers M3 and M4; pistols for gallery practice and training purposes. The cartridge is intended for use against small game for survival purposes.

Description: BALL Cartridge. The cartridge is identified by a plain bullet tip.

Reference: TM 43-0001-27

Nomenclature: .30 Caliber Small Arms Ammunition

.30 Caliber Small Arms



Ordnance Family: Small Arms

DODIC: A212

Filler: Single or Double Base Powder

Filler weight: ± Various

Item weight: 416 gr

Diameter: .30 Caliber

Length: 3.34 in. (84.8mm)

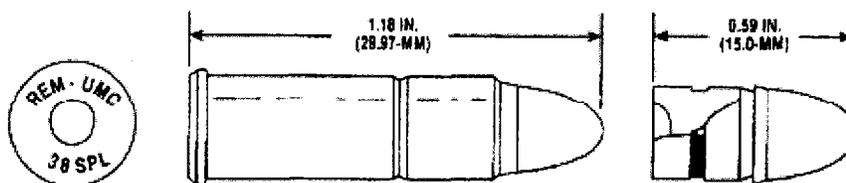
Usage: Machine Guns, Caliber .30, M37, M1919A4 and M1919A6; and Rifle, Caliber .30, M1. The cartridge is intended for use against personnel or unarmored targets.

Description: BALL Cartridge. The cartridge is identified by a plain bullet tip.

Reference: TM 43-0001-27

Nomenclature: .38 Caliber Small Arms Ammunition

.38 Caliber Small Arms



Ordinance Family: Small Arms

DODIC: A408

Filler: Single or Double Base Powder

Filler weight: 4.8 gr

Item weight: 196 gr

Projectile Weight: 60.5 gr

Diameter: .38 Caliber

Length: 1.18 in. (29.97mm)

Usage: Caliber .38 weapons. The cartridge is for CONUS-guard or security use in caliber .38 weapons.

Description: BALL Cartridge. The cartridge is identified by a plain bullet tip.

Reference: TM 43-0001-27

7.0 AIR MONITORING

None of the contaminants are expected to be present in significant concentrations to present an inhalation hazard during planned site activities. As a precautionary measure to assure that such exposures are avoided and documented, a direct reading instrument, either a Photoionization Detector (PID) or a Flame Ionization Detector (FID), will be used as a precaution for organic vapors, to monitor worker exposures to chemical hazards that may be found at the site. In addition, for this project, area wetting methods will be employed to suppress dust that may contain metals.

7.1 INSTRUMENTS AND USE

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

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

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

- PID Action Level: 50 ppm above BG in BZ areas.
- FID Action Level: 50 ppm above BG in BZ areas.

XRF Detector

An Innov-X XRF detector (or equivalent) will be used to screen soil samples to determine concentrations of lead. The XRF provides real-time readings presented in ppm concentrations. Site activities are unlikely to present airborne dust that would be necessary to present an inhalation exposure threat.

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

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

- Date, time, and duration of the reading
- Site location where the reading was obtained

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

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

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

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

8.2 SITE-SPECIFIC TRAINING

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

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

8.3 MEDICAL SURVEILLANCE

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

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

8.4 SITE VISITORS

All site visitors to the site must be 100% escorted at all times and restricted from approaching any work areas where they could be exposed to hazards from TtNUS operations. If a visitor has authorization from the client and from the TtNUS 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.

9.0 SITE CONTROL

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

9.1 EXCLUSION ZONE

The exclusion zone will be considered the areas of the site of known or suspected contamination. It is anticipated that the areas around the exhaust vents will have the potential for contaminants brought to the surface. These areas will be marked and personnel will maintain safe distances. Once intrusive activities have been completed and surface contamination has been removed, the potential for exposure is again diminished and the area can then be reclassified as part of the contamination reduction zone. Therefore, the exclusion zones for this project will be limited to those areas of the site where active work (hand augering and sample collection) is being performed plus a designated area of at least 15 feet surrounding the work area. Exclusion zones will be delineated as deemed appropriate by the FOL, through means such as erecting visibility fencing, barrier tape, cones, and/or postings to inform and direct personnel.

9.1.1 Exclusion Zone Clearance

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

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

9.2 CONTAMINATION REDUCTION ZONE

The contamination reduction zone (CRZ) will be a buffer area between the exclusion zone and any area of the site where contamination is not suspected. This area will also serve as a focal point in supporting exclusion zone activities. This area will be delineated using barrier tape, cones, and postings to inform

and direct facility personnel. Decontamination will be conducted at a central location. Equipment potentially contaminated will be bagged and taken to that location for decontamination.

9.3 SUPPORT ZONE

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

9.4 SAFE WORK PERMITS

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

9.5 SITE VISITORS

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

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

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

Once access to the base is obtained, personnel who require site access into areas of ongoing operations will be required to obtain permission from the TOM. Upon gaining access to the site, site visitors wishing to observe operations in progress will be escorted by a TtNUS representative and shall be required to meet the minimum requirements discussed below:

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

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

9.6 SITE SECURITY

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

9.7 SITE MAP

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

9.8 BUDDY SYSTEM

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

9.9 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS

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

9.10 COMMUNICATION

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

External communication will be accomplished by using the telephones and cell phones at predetermined and approved locations. External communication will primarily be used for the purpose of resource and emergency resource communications. Prior to the commencement of activities at the NAS Pensacola, the FOL will determine and arrange for telephone communications.

**FIGURE 9-1
SAFE WORK PERMIT**

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

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

II. Primary Hazards: Potential hazards associated with this task: _____

III. Field Crew: _____

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

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

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

Primary Route(s) of Exposure/Hazard: _____

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

VII. Additional Safety Equipment/Procedures

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

Modifications/Exceptions: _____

VIII. Site Preparation

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

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

X. Special instructions, precautions: _____

Permit Issued by: _____ Permit Accepted by: _____

10.0 SPILL CONTAINMENT PROGRAM

10.1 SCOPE AND APPLICATION

It is not anticipated that bulk hazardous materials (over 55-gallons) will be generated or handled at any given time as part of this scope of work. It is also not anticipated that such spillage would constitute a danger to human health or the environment. However, as the job progresses, some potential may exist for accumulating Investigative Derived Wastes (IDW) such as decontamination fluids, soil cuttings, disposable sampling equipment and PPE.

10.2 POTENTIAL SPILL AREAS

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

- Resource deployment
- Waste transfer
- Central staging

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

10.3 LEAK AND SPILL DETECTION

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

10.4 PERSONNEL TRAINING AND SPILL PREVENTION

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

10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

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

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

10.6 SPILL CONTROL PLAN

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

1. Notify the SSO or FOL immediately upon detection of a leak or spill. Activate emergency alerting procedures for that area to remove non-essential personnel.
2. Employ the 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.
3. Transfer the material to a new vessel; collect and containerize the absorbent material. Label the new container appropriately. Await analyses for treatment and disposal options.
4. Re-containerize spills, including 2-inch of top cover impacted by the spill. Await test results for treatment or disposal options.

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

11.0 CONFINED-SPACE ENTRY

It is not anticipated, under the proposed scope of work, that confined space and permit-required confined space activities will be conducted. **Therefore, personnel under the provisions of this HASP are not allowed, under any circumstances, to enter confined spaces.** A confined space is defined as an area which has one or more of the following characteristics:

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

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

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

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

12.0 MATERIALS AND DOCUMENTATION

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

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

12.1 MATERIALS TO BE POSTED AT THE SITE

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

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

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

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

13.0 ACRONYMS / ABBREVIATIONS

CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSP	Certified Safety Professional
DRI	Direct Reading Instrument
FDEP	Florida Department of Environmental Protection
FOL	Field Operations Leader
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSM	Health and Safety Manager
IDW	Investigation Derived Waste
NRL	NAS Pensacola
N/A	Not Available
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PCE	Tetrachloroethene
PHSO	Project Health and Safety Officer
PPE	Personal Protective Equipment
SSO	Site Safety Officer
TBD	To be determined
TOM	Task Order Manager
TtNUS	Tetra Tech NUS, Inc.
VOCs	Volatile Organic Compounds

ATTACHMENT I
MEDICAL DATA SHEET

MEDICAL DATA SHEET

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

Project _____

Name _____ Home Telephone _____

Address _____

Age _____ Height _____ Weight _____

Person to notify in the event of an emergency: 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 TtNUS to ensure the confidentiality of PHI. This Act can affect the ability of the Medical Data Sheet to contain and convey information you would want a Doctor to know if you were incapacitated. So before you complete the Medical Data Sheet understand that this form will not be maintained in a secure location. It will be maintained in a file box or binder accessible to other members of the field crew so that the 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.

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.

Table with 2 columns: TYPE OF INCIDENT (Check all that apply) and Additional Form(s) Required for this type of incident. Rows include Near Miss, Injury or Illness, Property or Equipment Damage, Fire, Spill or Release, and 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)



TETRA TECH, INC.

Safety Excellence

TETRA TECH, INC. INCIDENT REPORT

CORRECTIVE ACTIONS

Corrective action(s) immediately taken by unit reporting the incident:

Blank lines for corrective actions taken immediately.

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

Blank lines for corrective actions still to be taken.

ROOT CAUSE ANALYSIS LEVEL REQUIRED

Root Cause Analysis Level Required: Level - 1 [] Level - 2 [] None []

Root Cause Analysis Level Definitions

Table with 2 columns: Level (Level - 1, Level - 2) and Definition. Includes bulleted lists of events that trigger each level of RCA.

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

Table with 5 columns: Title, Printed Name, Signature, Telephone Number, Date. Rows include Project Manager or Supervisor, Site Safety Coordinator or Office H&S Representative, Operating Unit H&S Representative, and Other.

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

INSTRUCTIONS:

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

Incident Report Number: (From the IR Form)

EMPLOYEE INFORMATION

Company Affiliation

Tetra Tech Employee? TetraTech subcontractor employee (directly supervised by Tt personnel)?

Full Name

Company (if not Tt employee)

Street Address, City, State and Zip Code

Address Type

Home address (for Tt employees)

Business address (for subcontractors)

Telephone Numbers

Work: _____

Home: _____

Cell: _____

Occupation (regular job title)

Department

Was the individual performing regular job duties?

Yes No

Time individual began work

_____ AM PM OR Cannot be determined

Safety equipment

Provided? Yes No

Type(s) provided: Hard hat Protective clothing

Used? Yes No If no, explain why

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

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

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

Telephone Number

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

SIGNATURES

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

Affected Individual (print)

Affected Individual (signature)

Telephone Number

Date

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

INSTRUCTIONS:

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

Incident Report Number: (From the IR Form)

TYPE OF INCIDENT (Check all that apply)

Property Damage

Equipment Damage

Fire or Explosion

Spill or Release

INCIDENT DETAILS

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

Response Actions Taken:

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

Agency(s) Contact Name(s)

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

Item:	Extent of damage:	Estimated repair cost

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

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

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

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

NOTIFICATIONS

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

Who is responsible for reporting incident to outside agency(s)? To Client Other Name: _____

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

INSTRUCTIONS:

Complete all sections below for incidents involving motor vehicle accidents. Do NOT leave any blanks.

Attach this form to the IR FORM completed for this incident.

Incident Report Number: (From the IR Form)	
--	--

INCIDENT DETAILS

Name of road, street, highway or location where accident occurred		Name of intersecting road, street or highway if applicable	
County	City	State	
Did police respond to the accident?		Did ambulance respond to the accident?	
Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Name and location of responding police department		Ambulance company name and location	
Officer's name/badge #			
Did police complete an incident report? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, police report number: _____ Request a copy of completed investigation report and attach to this form.			

VEHICLE INFORMATION

How many vehicles were involved in the accident? _____ (Attach additional sheets as applicable for accidents involving more than 2 vehicles.)			
Vehicle Number 1 – Tetra Tech Vehicle		Vehicle Number 2 – Other Vehicle	
Vehicle Owner / Contact Information		Vehicle Owner / Contact Information	
Color		Color	
Make		Make	
Model		Model	
Year		Year	
License Plate #		License Plate #	
Identification #		Identification #	
Describe damage to vehicle number 1		Describe damage to vehicle number 2	
Insurance Company Name and Address		Insurance Company Name and Address	
Agent Name		Agent Name	
Agent Phone No.		Agent Phone No.	
Policy Number		Policy Number	

DRIVER INFORMATION

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

PASSENGERS IN VEHICLES (NON-INJURED)

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

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

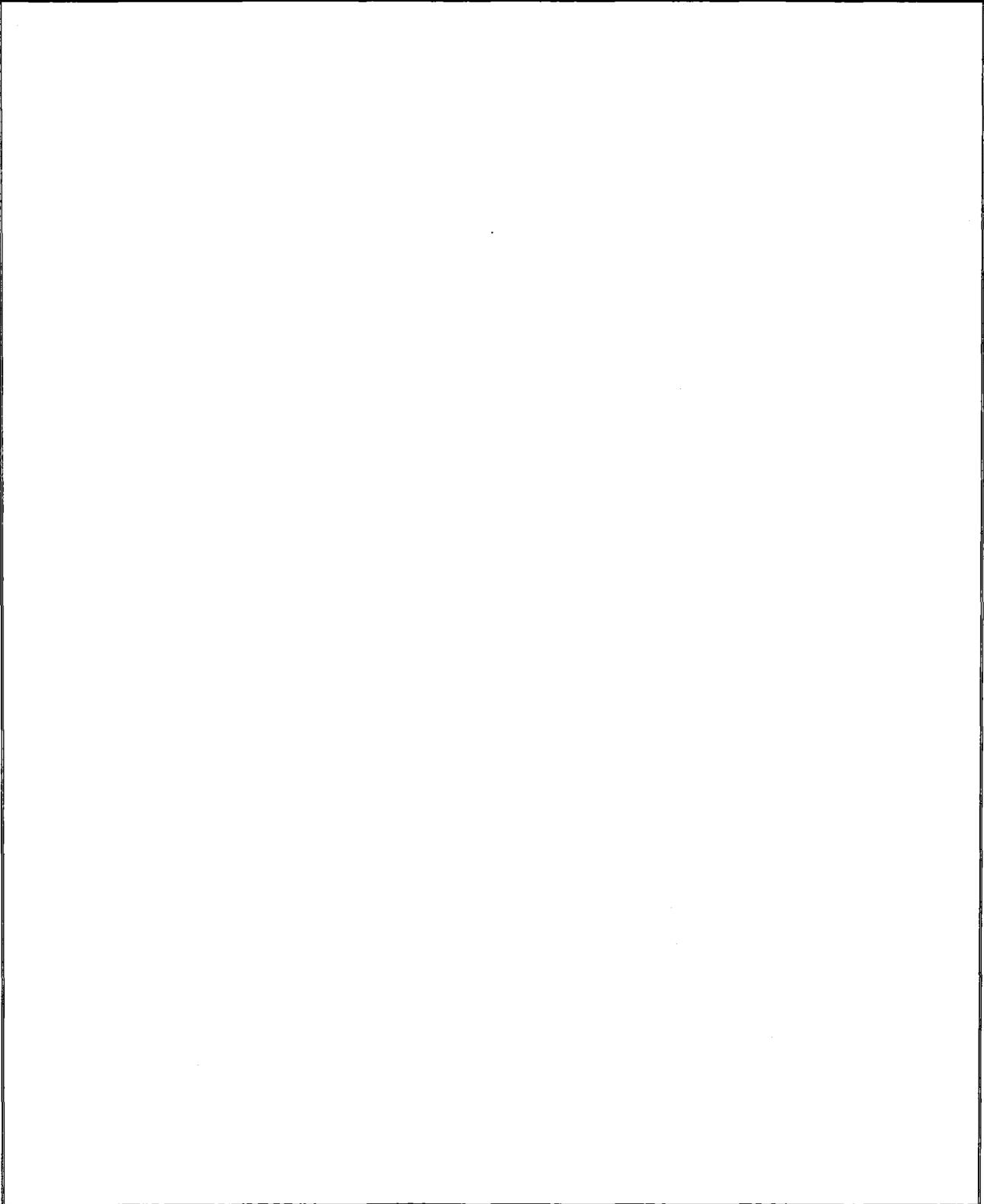
INJURIES TO NON-TETRATECH EMPLOYEES

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

OTHER PROPERTY DAMAGE

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

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED



ATTACHMENT III

EQUIPMENT INSPECTION CHECKLIST

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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Emergency Stop Devices	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Emergency Stop Devices (At points of operation) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Have all emergency shut offs identified been communicated to the field crew? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Has a person been designated as the Emergency Stop Device Operator? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Highway Use	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Cab, mirrors, safety glass? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Turn signals, lights, brake lights, etc. (front/rear) for equipment approved for highway use? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Seat Belts? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Is the equipment equipped with audible back-up alarms and back-up lights? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Horn and gauges 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Brake condition (dynamic, park, etc.) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Tires (Tread) or tracks 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Windshield wipers 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Exhaust system 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Steering (standard and emergency) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Wheel Chocks? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Are tools and material secured to prevent movement during transport? Especially those within the cab? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Are there flammables or solvents or other prohibited substances stored within the cab? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> • Are tools or debris in the cab that may adversely influence operation of the vehicle (in and around brakes, clutch, gas pedals) 	

Equipment Inspection Checklist for Drill Rigs
Page 2

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

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

Equipment Inspection Checklist for Drill Rigs

Page 3

Unit/Serial No#: _____

Inspection Date: ____/____/____

Yes	No	NA	Requirement	Comments
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power cable and/or hoist cable <ul style="list-style-type: none"> 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) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Number of broken wires (6 randomly broken wires in one rope lay) (3 broken wires in one strand) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Number of wire rope wraps left on the Running Drum at nominal use (≥3 required) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Lead (primary) sheave is centered on the running drum 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Lubrication of wire rope (adequate?) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Kinks, bends - Flattened to > 50% diameter 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hemp/Fiber rope (Cathead/Split Spoon Hammer) <ul style="list-style-type: none"> Minimum 3/4; maximum 1 inch rope diameter (Inspect for physical damage) 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Rope to hammer is securely fastened 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety Guards - <ul style="list-style-type: none"> Around rotating apparatus (belts, pulleys, sprockets, spindles, drums, flywheels, chains) all points of operations protected from accidental contact? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Hot pipes and surfaces exposed to accidental contact? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> High pressure lines 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Nip/pinch points 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Operator Qualifications <ul style="list-style-type: none"> Does the operator have proper licensing where applicable, (e.g., CDL)? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Does the operator, understand the equipment's operating instructions? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Is the operator experienced with this equipment? 	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> Is the operator 21 years of age or more? 	

Equipment Inspection Checklist for Drill Rigs

Page 4

Unit/Serial No#: _____

Inspection Date: ____ / ____ / ____

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

Approved for Use Yes No See Comments

Site Health and Safety Officer

Operator

ATTACHMENT IV
SAFE WORK PERMITS

**SAFE WORK PERMIT FOR
MOBILIZATION AND DEMOBILIZATION
NAS PENSACOLA**

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

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

II. Primary Hazards lifting; pinches and compression; slip, trip, and fall hazards, heavy equipment; vehicle and foot traffic; ambient temperature extremes; insect animal bites and stings and poisonous plants, and inclement weather.

III. Field Crew: _____

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

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

Respiratory equipment required Yes Specify on the reverse
 No

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

Primary Route(s) of Exposure/Hazard: Contaminants are not anticipated to be encountered during these tasks. Refer to manufacturer MSDS to determine necessary protective measures for any chemical brought on site in support of site activities.

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

VII. Additional Safety Equipment/Procedures

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

Modifications/Exceptions: Safety glasses will be required if eye hazard are present. Reflective vests for high traffic areas. Tyvek coverall if there is a potential for soiling work clothes. Hard hats at SSO discretion if overhead hazards exist. Hearing protection at SSO discretion.

VIII. Site Preparation

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

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

X. Special instructions, precautions: Obtain MSDS for chemicals brought on site, add them to Chemical Inventory, and review them for any additional PPE requirements. Use safe lifting practices. Preview work locations for slip, trip, fall and other hazards that need to be communicated to field personnel.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
SOIL BORING
NAS PENSACOLA, FLORIDA**

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

- I. Work limited to the following (description, area, equipment used):** Soil boring using HSA. This task includes utility clearance and vegetation clearance.
- II. Primary Hazards:** Contact with site contaminants; transfer of contamination; pinch/compression; noise; energized systems; heavy lifting; slip, trip and fall; vehicular and foot traffic; ambient temperature extremes; insect/animal bites and stings, poisonous plants, inclement weather
- III. Field Crew:** _____
- IV. On-site inspection conducted** Yes No Initials of Inspector _____ TtNUS
Equipment inspection required Yes No Initials of Inspector _____ TtNUS

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

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>Metals, constituents of small arms ammo, and potentially VOCs</u>	<u>PID with 10.6 eV lamp or FID</u>	<u>Any sustained readings in the worker BZ >50ppm</u>	<u>Evacuate area until no visible dust exists</u>
	<u>visible dust</u>	<u>visible dust</u>	<u>wetting techniques</u>

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

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

VII. Additional Safety Equipment/Procedures

- | | | | |
|----------------------------------|---|--|---|
| Hard-hat | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Glasses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Safety belt/harness | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash shield | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type – nitrile/work) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable apron | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe work shoes/boots | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical resistant boot covers | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| High visibility vest | <input type="checkbox"/> Yes <input type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit | <input type="checkbox"/> Yes <input type="checkbox"/> No | Fire extinguisher | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Other | <input type="checkbox"/> Yes <input type="checkbox"/> No |

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

VIII. Site Preparation

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

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

- X. Special instructions, precautions:** Use safe lifting/carrying techniques. Inspect equipment prior to use. Ensure emergency stop devices are functional and test daily. Incidental ingestion and contact with contaminants will be prevented through the use of PPE and safe work practices. Airborne dusts are unlikely to be generated during this activity, if present control through area wetting methods

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
SOIL SAMPLING
NAS PENSACOLA, FLORIDA**

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

- I. **Work limited to the following (description, area, equipment used):** Soil sampling
- II. **Primary Hazards:** Chemical contamination; transfer contamination; pinches and compressions; noise; lifting; slips, trips and falls; vehicular and foot traffic ambient temperature extremes; insect/animal bites, stings, poisonous plants and inclement weather.
- III. **Field Crew:** _____
- IV. **On-site inspection conducted** Yes No Initials of Inspector _____ TtNUS
Equipment inspection required Yes No Initials of Inspector _____ TtNUS

- V. **Protective equipment required** Level D Level B
 Level C Level A
- Respiratory equipment required** Yes Specify on the reverse
 No
- Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety shoes, and surgical style gloves. Coveralls and snake chaps will be worn near insect/snake areas.

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>Metals, constituents of small arms ammo, and potentially VOCs</u>	<u>PID with 10.6 eV lamp or FID</u>	<u>Any sustained readings in the worker BZ >50ppm</u>	<u>Evacuate area until no visible dust exists</u>
	<u>visible dust</u>	<u>visible dust</u>	<u>wetting techniques</u>

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

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

- VII. **Additional Safety Equipment/Procedures**
- | | | | |
|-------------------------------|---|--|---|
| Hard-hat | <input type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Glasses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Safety belt/harness | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles | <input type="checkbox"/> Yes <input type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash Shield | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type - <u>Nitrile Surgeons</u>) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable apron | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe Work shoes or boots | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| High Visibility vest | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Tape up/use insect repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Fire Extinguisher | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash | <input type="checkbox"/> Yes <input type="checkbox"/> No | Other | <input type="checkbox"/> Yes <input type="checkbox"/> No |
- Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety shoes, and surgical style gloves. Coveralls and snake chaps will be worn near insect/snake areas.

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

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

- X. **Special instructions, precautions:** Potential exposures via skin contact and hand to mouth activities will be prevented through the use of PPE and appropriate decontamination and personal hygiene practices. Avoid areas of known or suspected insect/animal nesting or habitat, tape up, and use repellants.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
GEOGRAPHIC SURVEYING
NAS PENSACOLA, FLORIDA**

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

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

II. **Primary Hazards:** Slips, trips and falls, ambient temperature extremes, inclement weather, insect/animal bites or stings, poisonous plants.

III. **Field Crew:** _____

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

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

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
None expected during this task.	_____	_____	_____

Primary Route(s) of Exposure/Hazard: _____

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

VII. **Additional Safety Equipment/Procedures**

Hard-hat	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hearing protection (Plugs/Muffs)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Safety glasses	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Safety belt/harness	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Chemical/splash goggles	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radio/cellular phone	<input type="checkbox"/> Yes <input type="checkbox"/> No
Splash shield	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Barricades	<input type="checkbox"/> Yes <input type="checkbox"/> No
Splash suits/coveralls	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gloves (Type - _____)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Impermeable apron	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Work/rest regimen	<input type="checkbox"/> Yes <input type="checkbox"/> No
Steel toe work shoes or boots	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Chemical resistant boot covers	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
High visibility vest	<input type="checkbox"/> Yes <input type="checkbox"/> No	Tape up/use insect repellent	<input type="checkbox"/> Yes <input type="checkbox"/> No
First aid kit	<input type="checkbox"/> Yes <input type="checkbox"/> No	Fire extinguisher	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety shower/eyewash	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other	<input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: _____

VIII. **Site Preparation**

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

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

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

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
VEGETATION REMOVAL
NAS PENSACOLA**

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

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

II. Primary Hazards: Chemical contamination; decontamination fluids; noise; lifting; flying projectiles; slip, trip, and fall; vehicle and foot traffic; ambient temperature extremes and inclement weather.

III. Field Crew: _____

IV. On-site inspection conducted Yes No Initials of Inspector _____ TtNUS
Equipment inspection required Yes No Initials of Inspector _____ TtNUS

V. Protective equipment required

Level D Level B
 Level C Level A

Respiratory equipment required

Yes Specify on the reverse
 No

Modifications/Exceptions: _____

VI. Chemicals of Concern

Metals, constituents
of small arms ammo,
and potentially VOCs

Hazard Monitoring

PID with 10.6 eV lamp
or FID
visible dust

Action Level(s)

Any sustained readings in the
worker BZ >50ppm
visible dust

Response Measures

Evacuate area until
no visible dust exists
wetting techniques

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

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

VII. Additional Safety Equipment/Procedures

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

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

Modifications/Exceptions: PPE selection is largely dependent upon conditions and tasks being performed.

VIII. Site Preparation

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

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

X. Special instructions, precautions: Potential exposures via skin contact and hand to mouth activities will be prevent through the use of PPE and appropriate decontamination and personal hygiene practices.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
IDW MANAGEMENT
NRL PENNSACOLA**

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 purge and decontamination wash waters.
- II. **Primary Hazards:** Lifting, pinches and compressions; flying projectiles; slips, trips, and falls and chemical contamination.
- III. **Field Crew:** _____
- IV. **On-site Inspection conducted** Yes No Initials of Inspector _____ TtNUS
Equipment Inspection required Yes No Initials of Inspector _____ TtNUS

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

- V. **Protective equipment required** **Respiratory equipment required**
 Level D Level B Yes See Reverse
 Level C Level A No

Modifications/Exceptions: None anticipated

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

Primary Route of Exposure/Hazard: NA

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

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

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

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

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

X. Special instructions, precautions: Suspend site activities in the event of inclement weather. Employ proper lifting techniques. When/where possible use heavy equipment to move and place containers. 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. An IDW inventory shall be generated to provide the number of drums, contents, and volumes. This inventory should be provided to the facility contact. Inspect equipment prior to use.

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT V

OSHA POSTER

Job Safety and Health

It's the law!

EMPLOYEES:

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

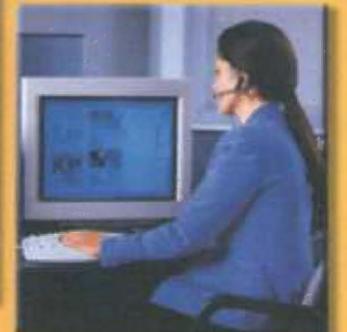
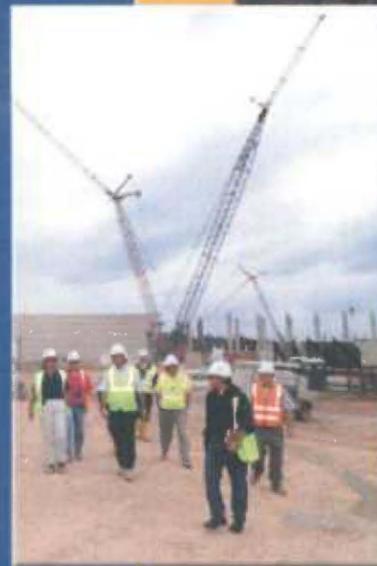
EMPLOYERS:

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

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

OSHA

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



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

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

OSHA 3165-12-06R