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HEALTH AND SAFETY PLAN FOR SITE INSPECTION OF GUNNERY TRAINING COMPLEX,  
COMPLIANCE PLAN SAMPLING AND OPERATIONS AND MAINTENANCE AT SWMU 1, 3, 4,  
AND BUILDING 8 NAS CORPUS CHRISTI TX  
03/01/2009  
TETRA TECHNUS, INC.

# Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055



## Health and Safety Plan for Site Inspection of the Gunnery Training Complex, Compliance Plan Sampling, Operation & Maintenance SWMUs 1, 3, 4 and Building 8

Naval Air Station Corpus Christi  
Corpus Christi, Texas

Contract Task Order 0140

March 2009



NAS Jacksonville  
Jacksonville, Florida 32212-0030

**HEALTH AND SAFETY PLAN  
FOR  
SITE INSPECTION OF THE GUNNERY TRAINING COMPLEX  
COMPLIANCE PLAN SAMPLING, OPERATION & MAINTENANCE  
SWMUs 1, 3, 4 and BUILDING 8  
AT  
NAVAL AIR STATION CORPUS CHRISTI  
CORPUS CHRISTI, TEXAS**

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

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

**Submitted by:  
Tetra Tech NUS, Inc.  
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**CONTRACT NO. N62467-04-D-0055  
CONTRACT TASK ORDER 0140**

**March 2009**

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## **1.0 INTRODUCTION**

The objective of this Health and Safety Plan (HASP) is to provide the safety and health requirements, practices and procedures for Tetra Tech NUS, Inc. (TtNUS) personnel participating in the Site Inspection of the Gunnery Training Complex and in the Compliance Plan Sampling, Operation & Monitoring SWMUs 1, 3, 4 and Building 8 at the Naval Air Station (NAS) Corpus Christi, Texas.

This HASP is to be used in conjunction with the TtNUS Health and Safety Guidance Manual (HSGM). The HSGM provides detailed information pertaining to hazard recognition and control, and TtNUS standard operating procedures (SOPs). This HASP and the contents of the HSGM were developed to comply with the requirements stipulated in 29 CFR 1910.120 [OSHA's (Occupational Safety and Health Administration) 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 0140.

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

This section defines responsibilities for site safety and health for TtNUS employees conducting the vegetation clearing, hand augering, surface soil sampling, X-ray Fluorescence (XRF) analysis and other supporting field activities. Personnel assigned to participate in the field work have the primary responsibility for performing their work tasks in a manner that is consistent with the 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); and
  - Provide elements of site-specific training for on site personnel.
- The TtNUS SSO or his/her representative supports the FOL concerning the aspects of health and safety including, but not limited to:
  - Coordinating health and safety activities;
  - Selecting, applying, inspecting, and maintaining personal protective equipment;
  - 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; and
  - 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 Corpus Christi **Address:** Corpus Christi, Texas

**U.S. Navy Engineer in Charge:** Dalton Shaughnessy **Phone Number:** (904) 542-6961

**Site Contact:** Gary LeFlore **Phone Number:** (361) 961-3704

**Purpose of Site Visit:** This field investigation will entail multiple tasks and activities (see Section 4.0), including clearing of vegetation, collection of soil, sediment and water samples, waste management, systems operation and maintenance and surveying.

**Proposed Dates of Work:** March 2009 till completion

**Project Team:**

<b>Tetra Tech NUS Personnel:</b>	<b>Discipline/Tasks Assigned:</b>	<b>Phone/Fax/E-mail No.</b>
<u>Ken Grim</u>	<u>Task Order Manager</u>	<u>(832) 251-6023</u>
<u>Matthew M. Soltis, CIH, CSP</u>	<u>CLEAN Health and Safety Manager</u>	<u>(412) 921-8912</u>
<u>Clyde Snyder</u>	<u>Project Health and Safety Officer</u>	<u>(412) 921-8904</u>
<u>Larry Basillio</u>	<u>Field Operations Leader (FOL)</u>	<u>(832) 251-6018</u>
<u>TBD</u>	<u>Site Health and Safety Officer (SSO)</u>	<u></u>

<b>Non-Tetra Tech NUS Personnel</b>	<b>Affiliation/Discipline/Tasks Assigned</b>	<b>Phone No.</b>
<u>TBD</u>	<u>Analytical Laboratory</u>	<u></u>
<u>TBD</u>	<u>Surveyor</u>	<u></u>
<u>TBD</u>	<u>Drilling Subcontractor</u>	<u></u>
<u>FedEx</u>	<u>Sample/Parcel Delivery</u>	<u>(800) 463-3339</u>

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

Clyde Snyder

TBD – To be determined

## 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. The Navy site contact, Gary LeFlore, will be notified if outside response agencies are contacted.

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

- Initial fire-fighting support and prevention
- Initial spill control and containment measures and prevention
- Removal of personnel from emergency situations
- Provision of initial medical support for injury/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 the 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 HSGM 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 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 influence evacuation routes. Evacuation should always take place in an upwind direction from the site.

## **2.5 EMERGENCY CONTACTS**

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

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

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical services personnel. This information is listed on Medical Data Sheets filed onsite (See Attachment I). If an exposure to hazardous materials has occurred, provide hazard information from Table 6-1 to medical service personnel. Figure 2-1 depicts the route to the hospital.

**TABLE 2-1  
EMERGENCY CONTACTS  
NAS CORPUS CHRISTI, TEXAS**

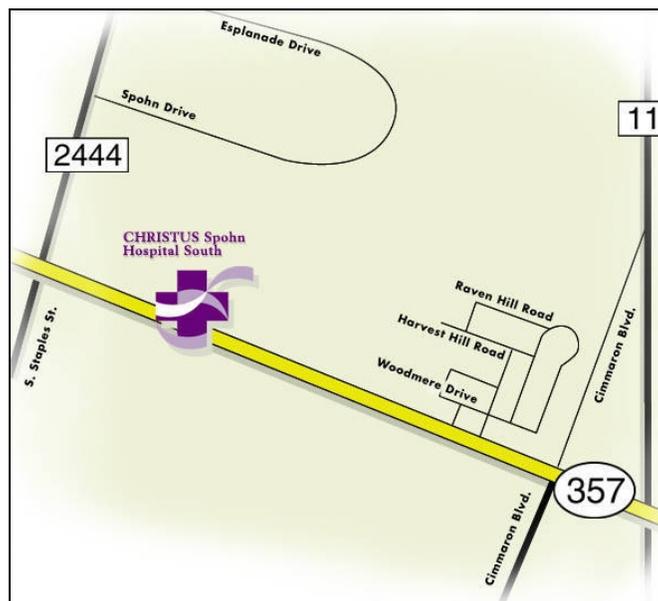
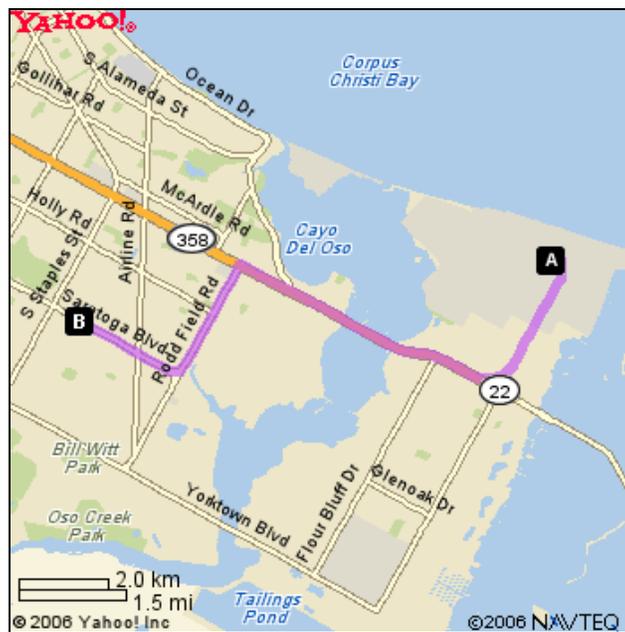
EMERGENCY AGENCY / CONTACT	TELEPHONE NUMBER
<b>EMERGENCY</b>	<b>911</b>
Base Security Dispatch	(361) 961-3941
Christus Spohn Hospital South	(361) 985-5000
Navy Onsite Representative, NAS Corpus Christi, Texas, Gary LeFlore	(361) 961-3704
Poison Control Center	(800) 222-1222
Chemtrec	(800) 424-9300
National Response Center	(800) 424-8802
Texas One Call	(800) 245-4545
Tetra Tech NUS, Inc., Houston Office	(832) 251-5160
Task Order Manager Ken Grim	(832) 251-6023
Health and Safety Manager Matthew M. Soltis, CIH, CSP	(412) 921-8912
Project Health and Safety Officer Clyde Snyder	(412) 921-8904
U.S. Navy Engineer in Charge Dalton Shaughnessy	(904) 542-6961

**FIGURE 2-1  
ROUTE TO HOSPITAL**

Christus Spohn Hospital South  
5950 Saratoga Blvd  
Corpus Christi, TX 78414

Directions to the hospital are as follows (map attached):

- From the main gate, go straight to TX 358.
- Turn right on to TX 358 and proceed approximately 3.7 miles to Rod Field Road.
- Turn left on to Rodd Field Road. Proceed approximately 1.6 miles.
- Turn right on to Saratoga Blvd. Proceed approximately 1.5 miles to hospital.



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

TtNUS personnel will be working in close proximity to each other at NAS Corpus Christi and other work sites associated with the project. 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 site personnel.
- Once non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

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

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

## **2.7 PERSONAL PROTECTIVE EQUIPMENT (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.

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

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

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.**

## **2.9 INJURY/ILLNESS REPORTING**

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

**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-Medicated: \_\_\_\_\_ Physician Treated: \_\_\_\_\_

### 3.0 SITE BACKGROUND

The mission of Naval Air Station Corpus Christi, Texas is to maintain and operate facilities to support operations of aviation units of the Naval Air Training Command and other tenant activities.

The largest tenant command at NAS Corpus Christi is the Corpus Christi Army Depot (CCAD). CCAD occupies nearly 140 acres leased from the station and is the largest industrial employer in South Texas. Established in 1961 as a maintenance facility for fixed-wing aircraft, CCAD has evolved into the Army's largest helicopter repair, overhaul and maintenance center.

Other major tenants at NAS Corpus Christi include Commander, Mine Warfare Command; the United States Coast Guard, which provides civilian search and rescue and maritime surveillance; the United States Marine Aviation Training Support Group; and the United States Customs Service. There are more than 50 tenant commands and activities located on station.

NAS Corpus Christi is located approximately 3 miles south of Corpus Christi, Texas. The facility occupies approximately 2,340 acres. NAS Corpus Christi is located on the Encinal Peninsula. The peninsula is bounded on the southeast by Laguna Madre, the northwest by Cayo del Oso and the north by Corpus Christi Bay. The topography is generally flat (low relief) with an approximate mean elevation of 15 feet.

#### 3.1 SITE DESCRIPTION

##### 3.1.1 Site 1 – Defense Property Disposal Office (DPDO) Landfill (NOR Unit No. 001)

The DPDO landfill reportedly operated between 1949 and the early 1960s. Site 1 encompasses approximately 13 acres and is located 400 feet west-northwest of the Corpus Christi Army Depot (CCAD) landfill. The landfill was reportedly used for disposal of bulk chemicals generated by overhaul operations (helicopter maintenance) conducted at the CCAD. Materials disposed in the landfill reportedly included organic solvents, sulfuric and hydrochloric acids, paint remover and thinner and plating waste. Estimated quantities of disposal range from 2,000 to 5,000 gallons per week. The site was also used to dispose of debris generated by the DPDO and the CCAD in open, shallow trenches. Exposed debris included wood, rubber, a small amount of asphalt material, brick fragments, tile, broken shingles, glass, and melted aluminum. General solid waste generated by CCAD, NAS Corpus Christi, and NAS Corpus Christi Housing was also disposed of in this area.

### **3.1.2 Site 3 – Corpus Christi Army Depot Landfill (NOR Unit No. 003)**

The CCAD landfill was reportedly active between 1960 and 1972. The landfill was the primary disposal area for bulk chemical waste generated at the CCAD. Aerial photographs taken in 1967 show several pits (approximately 50 feet in diameter) located in the areas which were reportedly used as seepage pits for chemicals collected in bowlers at CCAD. Estimated quantities ranged between 2,000 and 5,000 gallons per week. These materials included organic solvents, sulfuric and hydrochloric acids, paint remover and thinner, and plating waste. The area was also used to dispose of general solid waste such as shingles, cans, concrete pipe, reinforcement rods, sheet metal, and scrap lumber. The area is characterized by a series of parallel mounds and low areas which show a two to three-foot elevation change between mounds and low areas.

### **3.1.3 Site 4 – Aircraft Fire Fighting Training Area (NOR Unit No. 004)**

The Aircraft Fire Fighting Training Area operated from the 1960s until 1991. This site is located adjacent to the southern portion of the CCAD landfill (Site 3) over a once active non-hazardous waste landfill. The site was used to conduct training for five to six months each year. The training activities used approximately 3,000 gallons per month of waste fuel. The waste fuel, a mixture of jet fuel (JP-4) and aviation gasoline (AVGAS), was discharged to the ground and ignited for practice in extinguishing the blaze. Prior to 1973, the area was unlined; however, in 1973 a clay liner and berm were reportedly added. Since the fuel mixture was ignited after being discharged to the ground, the site was not recommended for a confirmation investigation. However, due to the close proximity to Site 3, the site was investigated for possible remedial action. The major environmental threat at this site is from hazardous materials spilled or deposited before being burned.

### **3.1.4 Building 8**

Building 8 is leased by the CCAD which serves under the U.S. Army Material and Readiness Command. CCAD's operations include depot-level maintenance of Army aircraft and aeronautical equipment, training military personnel in depot-level maintenance, and preparing aircraft for overseas shipment. Various industrial activities are conducted within the Building 8 complex, including plating operations, parts cleaning and degreasing, bulk fuel storage, and painting.

### **3.1.5 Small Arms Range**

The Small Arms Range was an approximately 2.9-acre range located on the western side of the Gunnery Complex and was used for small caliber handgun training and qualification. The range was comprised of a Pistol House, and earthen target berm, target stands, wooden plank sidewalks, and firing lines

positioned 25 yards from the target stands. Ammunitions used at the site included .22, .38 and .45 caliber, and 9mm rounds. The range was constructed in 1941, closed in 1975 due to encroachment of local development, and demolished in 1982. The target berm was leveled across the range floor. The area is currently covered in vegetation and is not used for military purposes. Future use is not expected to change.

### **3.1.6 Fixed Target Range**

The Fixed Target Range was an approximately 1.8-acre range located on the south side of the Gunnery Complex and was used for machine gun training of Naval Aviators. The range was comprised of a covered shelter, eight tripod-mounted machine gun platforms, and a series of fixed targets placed in front of the earthen berm. Browning .30 caliber machine guns mounted on the platforms were oriented for firing towards the fixed targets in a southwesterly direction. The range and target berm were constructed in 1941 and demolished sometime after 1970. The area is currently covered in vegetation and is not used for military purposes. Future use is not expected to change.

### **3.1.7 Air Blast and Synchronized Gun (AB/SYN) Range**

The AB/SYN Range was constructed in 1941 and occupied approximately 2.5 acres on the northern side of the Gunnery Complex. The range included an Air Blast House, target areas, an earthen berm and possibly, mounted machine gun positions. The range appeared to be divided into an air blast range and a synchronized gun range, although exact types of training performed at the range are unknown. It is likely the Naval aviators were taught boresighting procedures at the synchronized gun portion of the range. If so, munitions used at the range may have included .30 caliber small arms. Munitions used the air blast portion of the range are unknown. Military operations at the range ceased at an unknown date, and the entire range was demolished by 1970. The installation of a TACHAN aviation tower directly north of the range may have led to the demolition of the AB/SYN Range. The area is currently covered in vegetation and is not used for military purposes. Future use is not expected to change.

### **3.1.8 North Trap Range**

The North Trap Range occupied approximately 8.5 acres on the northwest side of the Gunnery Complex and was utilized by Naval aviation cadets for moving target orientation training. The range was comprised of four wooden plank trap arcs facing to the northeast, with a trap house centered in front of each arc, and a clay target storage house behind the firing arcs. Munitions use was limited to small arms, primarily shotguns (12-, 16-, and 20- gage and .410 caliber ammunition). The range was constructed in 1941 and demolished by 1953. The area is currently covered in vegetation with no military use. Future use is not expected to change.

### **3.1.9 South Trap Range**

The South Trap Range occupied approximately 7 acres on the southwest side of the Gunnery Complex and was utilized by Naval aviation cadets for moving target orientation training. The range was comprised of four trap arcs facing to the southwest, with a trap house and skeet house centered in front of each arc. A platform with a swivel-mounted shotgun with scope was placed on the firing arc facing to the southwest. Munitions use was limited to small arms, primarily shotguns (12-, 16-, and 20-gauge and .410 caliber ammunition). The range was constructed in 1941 and demolished by 1953. The area is currently covered in vegetation with no military use. Future use is not expected to change.

### **3.1.10 Skeet Range**

The Skeet Range was constructed in 1941 and occupied approximately 17 acres on the eastern side of the Gunnery Complex. Naval aviation cadets utilized it for moving target orientation training. The range was composed of five skeet firing arcs facing to the northeast, situated end-to-end. Each firing arc contained a "high" skeet house on the left side of the arc, a "low" skeet house on the right side, and a trap house centered in front of each arc. Wooden fences, approximately 15 feet in height, separated each firing arc. The range also contained clay target storage houses and observation shelters. Munitions use was limited to small arms, primarily shotguns (12-, 16- and 20-gauge and .410 caliber ammunition). The range was expanded to the north in 1973 (two skeet arcs and a trap arc) and again to the east in 1982 (three skeet arcs), with the older range abandoned after each move. The current range remains operational; therefore, only the portions of the older ranges (approximately 5.7 acres) that do not overlap with the operational range are involved in this investigation. The area assessed is currently covered in vegetation and is not used for military purposes. Future use is not expected to change.

## 4.0 SCOPE OF WORK

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

- Mobilization/demobilization
- Utility clearance activities
- Clearing vegetation and brush at sampling sites
- Field screening of soil using XRF
- Operation & Maintenance of the remedial system
- Multi-Media Sampling including:
  - surface and ground water sampling
  - sediment sampling
  - soil samples from hand augering
- IDW management (using subcontractor)
- Decontamination of personnel, hand tools, and associated sampling equipment
- Surveying (using subcontractor)

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

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

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

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

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

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

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

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

## **5.2 OPERATION AND MAINTENANCE OF THE TREATMENT SYSTEM**

### **Weekly**

- Clean out basket strainer of any debris, rinse and replace
- Replace sock filter if necessary and place used filter in Investigative Derived Waste (IDW) drum
- Document conditions on each site visit

### **Monthly**

- Provide monthly Operation and Maintenance (O&M) summary report including weekly conditions
- Post data, including flow meter and pressure gauge graphs, on navfac.net website

### **Quarterly**

- Sample influent, effluent, and mid-point of Granulated Activative Carbon (GAC) system
- Change out GAC if breakthrough
- Remove sediment from manholes as necessary
- Measure water levels in monitoring wells adjacent to trench
- Pressure wash system components within treatment system
- Prepare and label IDW for removal

## **Physical Hazards and Safe Work Practices Associated with Maintenance of Pump and Treat Systems**

Maintenance on Pump and Treat Systems can present a variety of physical hazards to personnel. These potential hazards can be minimized or controlled through a variety of methods. These control mechanisms are summarized below:

- Hearing protection (e.g., ear plugs or ear muffs with noise reduction rating values on the product packaging labels of at least 25 decibels) to protect personnel from exposure to excessive noise levels during system operations.
- Inspect system prior to performing maintenance procedures and filter changes on the equipment prior to replacing or cleaning filters. Repairs or deficiencies identified will be corrected prior to re-starting the system. Ensure that the machine guarding is in place and properly adjusted. After the initial inspection and release for use on site, additional inspections will be performed at least at the beginning of every maintenance and inspection procedure or following any repairs or significant maintenance activities.
- Minimize contact to the extent possible with contaminated tooling and environmental media. Potentially contaminated tooling will be placed on polyethylene sheeting for storage and wrapped for transport to drums at the centrally located equipment decontamination area.
- Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the system.
- During maintenance, use only manufacturer provided or approved equipment.
- In order to minimize contact with potentially contaminated tooling and media and to minimize lifting hazards, multiple personnel should be used to move auger flights and other heavy tooling.
- Only personnel absolutely essential to the work activity will be allowed in the exclusion zone.
- Equipment used within the exclusion zone will undergo a complete decontamination and evaluation by the FOL and/or the SSO to determine cleanliness prior to moving to the next location, exiting the site, or prior to down time for maintenance.
- Motorized equipment will be fueled prior to the commencement of the day's activities.

- Investigative areas will be restored to equal or better condition than original to remove any contamination brought to the surface and to remove any physical hazards. In situations where these hazards cannot be immediately removed, the area will be barricaded to limit access.

## 6.0 HAZARD ASSESSMENT AND CONTROLS

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

### 6.1 CHEMICAL HAZARDS

Part of this project is an initial site investigation no previous analytical data exists. For this investigation the 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 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: The 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/cm<sup>3</sup> 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.<sup>1</sup> Nickel carbonyl, [Ni(CO)<sub>4</sub>], 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.

Polycyclic 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 (C<sub>20</sub>H<sub>14</sub>), indeno[1,2,3-cd]pyrene (C<sub>22</sub>H<sub>12</sub>) and ovalene.

In addition to the above chemicals, the most recent previous site investigations have indicated the presence of volatile organic compounds (VOCs). Based on the previous site evaluations and historical information, the primary VOCs are benzene, chlorobenzene, 1,1-dichloroethene, 1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride. It is possible that concentrations of these VOCs could approach airborne concentrations reaching current occupational exposure limits (OEL). Table 6-1 below shows these VOCs and a comparison of potential worst case concentrations with current OELs.

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

Contaminant of Concern	Highest Concentration Previously Detected in Water	Worst-Case Air Concentration That Could Be Encountered	Current OSHA PEL And ACGIH TLV
benzene	160 ug/l	11.09 ppm	OSHA:1.0 ppm TWA <sub>8</sub> ACGIH:0.5 ppm TWA <sub>8</sub>
chlorobenzene	3260 ug/l	109.19 ppm	OSHA: 75 ppm TWA <sub>8</sub> ACGIH: 10 ppm TWA <sub>8</sub>
1,1-dichloroethene	104 ug/l	28 ppm	ACGIH: 5 ppm TWA <sub>8</sub>
1,2-dichloroethene	54,000 ug/l	2,275.75 ppm	OSHA: 200 ppm TWA <sub>8</sub> ACGIH: 200 ppm TWA <sub>8</sub>
tetrachloroethene	240 ug/l	25.62 ppm	OSHA:100 ppm TWA <sub>8</sub> ACGIH: 25 ppm TWA <sub>8</sub>
trichloroethene	5,200 ug/l	389.83 ppm	OSHA:100 ppm TWA <sub>8</sub> ACGIH: 25 ppm TWA <sub>8</sub>
vinyl chloride	18,100 ug/l	8,050.88 ppm	OSHA:1 ppm TWA <sub>8</sub> ACGIH:1 ppm TWA <sub>8</sub>

**Table Notes:**

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

Short-term exposure to VOCs can cause irritation of the nose and throat and central nervous system (CNS) depression, with symptoms such as drowsiness, dizziness, giddiness, headache, loss of coordination. High concentrations have caused numbness and facial pain, reduced eyesight, unconsciousness, irregular heartbeat and death. Very high concentrations have produced death due to CNS effects, and, in rare cases, irregular heart beat. Permanent nervous system damage and/or liver injury have resulted from severe overexposure.

**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.

## **6.2 PHYSICAL HAZARDS**

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

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

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

### **6.2.1 Hand Augering Injuries**

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

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

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

Additional safety measures used to prevent injury during this task include: assuring that only persons who are confident that they can physically perform this activity without injuring themselves participate in

operating a hand auger, performing simple stretches prior to beginning the task, ensuring that the hand auger tooling is maintained in effective working order, avoiding injury by stopping if strong resistance is encountered (such as if impassable rocky conditions are encountered), getting assistance if needed, and wearing appropriate PPE (work gloves, steel toe shoes, and safety impact eye protection).

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

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

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

Underground utilities such as pressurized lines, water lines, telephone lines, buried utility lines, and high voltage power lines are known to be present throughout the facility. Clearance of underground utilities for each hand auger location will be coordinated through Texas One Call **TOLL FREE: 1-800-245-4545**. The TtNUS Utility Locating and Excavation Clearance SOP is attached to this HASP.

#### **6.2.4 Strain/Muscle Pulls from Heavy Lifting**

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

#### **6.2.5 Heat Stress**

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

Early signs of heat-related disorders include heat rash, cramps, heavy sweating which may be followed by the complete shutdown of a person's ability to sweat, pale/clammy skin, headaches, dizziness,

incoordination, and other maladies. To prevent heat stress disorders, the following preventive measures are to be implemented by the SSO:

- Schedule the most physically-demanding tasks during cooler periods of the day, such as early morning or late afternoon.
- Field staff will be educated in heat stress signs and symptoms so that they can monitor themselves and their co-workers.
- Frequent breaks will be scheduled during the hottest parts of the day (such as a few minutes each hour). Breaks should be in shaded areas, and in locations where workers can remove PPE, wash their hands, and drink fluids.
- Drinking fluids should be cool and caffeine free. Sports-drinks with electrolytes are acceptable provided that they do not contain alcohol. Water is preferred.

For more information on heat stress recognition and prevention, consult Section 4.0 of the TtNUS HSGM.

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

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

### **6.3 NATURAL HAZARDS**

Many of the planned site activities will occur outside in areas that are not improved or maintained. As a result, the potential for encountering natural hazards exists. The following information is provided as a precaution to help recognize and avoid these types of hazards.

Insect/animal bites and stings, poisonous plants, and inclement weather are natural hazards that may be present given the location of activities to be conducted. In general, avoidance of areas of known infestation or growth will be the preferred exposure control for insects/animals and poisonous plants. Specific discussion on principle hazards of concern follows.

### **6.3.1 Insect Bites and Stings**

Insect/animal bites and stings may be difficult to control. However, in an effort to minimize this hazard the following control measures will be implemented where possible.

- Commercially available bug sprays and repellents will be used whenever possible – Pesticides analytical screening includes chlordane, endrin, lindane, methoxychlor, toxaphene and heptachlor. Products such as DEET should not be applied directly to the skin due to potential irritation. This product, when permitted for use, should be applied over clothing articles.
- Where possible, loose-fitting and light-colored clothing with long sleeves should be worn. This will also aid in insect control by providing a barrier between the field person and the insects and will aid in visual recognition of crawling insects against the lighter background. Pant legs should be secured to the work-boots using duct tape to prevent access by ticks. Mosquito nets are also recommended for use when commercially available repellents are not permitted.
- Clothing/limited body checks for ticks and other crawling insects should be conducted upon exiting heavily vegetated areas. Workers should perform a more detailed check of themselves when showering in the evening. Ticks prefer moist areas of the body and will migrate to those locations.
- The FOL/SSO will preview access routes and work areas in an effort to identify physical hazards including nesting areas in and around the work sites. These areas will be flagged and communicated to site personnel.
- The FOL/SSO should attempt to determine if site personnel are allergic to bee and other insect stings and bites (using completed Medical Data Sheets). Field crew members who are allergic to bites should have access to an emergency kit containing antihistamine or whatever method of response is recommended by their Health Care Provider.

Any allergies (insect bites, bee stings, etc.) must be reported on the Medical Data Sheet (Attachment I) and to the SSO.

### **Tick and Mosquito Transmitted Illnesses and Diseases**

Ticks and mosquitoes have been identified in the transmission of diseases including Lyme's disease and malaria. Warm months (Spring through early Fall) are the most predominant time for this hazard. Information concerning Lyme's Disease including recognition, evaluation, tick removal, and control is provided in Section 4.0 of the HSGM.

Malaria may occur when a mosquito or other infected insect sucks blood from an infected person, and the insect becomes the carrier to infect other hosts. The parasite reproduces within the mosquito, and is then passed on to another person through the biting action. Acute symptoms include chills accompanied by fever and general flu like symptoms. This generally terminates in a sweating stage. These symptoms may recur every 48 to 72 hours.

### **Fire Ants**

Fire ants present a unique situation when working outdoors in many southern states. Their aggressive behavior and their ability to sting repeatedly can pose a unique health threat. The bite injects venom that causes an extreme burning sensation. Pustules from which can become infected, if scratched. Allergic reactions of people sensitive to the venom include dizziness, swelling, shock and in extreme cases unconsciousness and death. People exhibiting such symptoms should see a physician.

### **6.3.2 Snakes and Other Wild Animals**

Indigenous animals including snakes (poisonous and non-poisonous varieties), scorpions, raccoons, and other animals native to the region may be present at the site. These animals may be encountered if work locations encroach on nesting or territories claimed by these animals.

To avoid the obvious hazards conveyed as part of a direct encounter, the following actions will be taken to minimize impact on the field crews and/or operations.

- The FOL/SSO will preview access routes and work locations for nesting areas or signs of animal activities (tracks, foraging areas, etc.).
- Identified suspect areas will be communicated to the field crews. Snake chaps will be required as a precaution in areas potentially inhabited by snakes.

This is not anticipated to be a significant hazard as most of the work is taking place within light industrial areas. Although this is not considered a predominant hazard, various species will exit from dens along waterways to sun themselves along rocks and concrete structures. It is during these periods when encounters may occur.

## **Snakebites**

Initial efforts will be directed to avoid, where possible, nesting and territorial areas. However, should field personnel come in contact with these animals and receive a bite, the following actions are necessary.

- Obtain a detailed description of the snake. This and the bite mark will enable medical personnel administering medical aid to provide prompt and correct antidotes, as necessary.
- Immobilize the bite victim to the extent possible. Physical exertion will mobilize the toxins (if poisonous varieties) from the bite point systemically through the body.
- Apply a pressure wrap (for extremities), just above and over the bite area. With a couple wraps of the pressure wrap in place over the bite area, apply a splint, and continue the application of the pressure wrap. The purpose for the splint is to restrict the movement of the extremity, this along with the pressure wrap will aid in restricting the toxins from leaving the site of the bite.
- Seek medical attention immediately.

### **6.3.3 Inclement Weather**

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

## 7.0 AIR MONITORING

It is possible that some of the site contaminants of concern could be present in significant concentrations to present an inhalation hazard during planned site activities. Therefore, a direct reading instrument will be used to detect exposure to chemical hazards at the site. For this project, a Photoionization Detector (PID) with a 10.2 of higher lamp strength may be used to monitor the air.

### 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 **a reading of >7 parts per million (ppm) above the daily-established BG level**. If elevated readings are observed, the SSO shall monitor the workers breathing zone (BZ) areas with the PID. If levels above background are encountered the following process will be followed:

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

### 7.2 INSTRUMENT MAINTENANCE AND CALIBRATION

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

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

### 7.3 DOCUMENTING INSTRUMENT READINGS

The SSO is responsible for ensuring that air monitoring instruments are used in accordance with the specifications of this HASP and with manufacturer's specifications/recommendations. In addition, the SSO is also responsible for ensuring that the instrument use is documented. This requirement can be satisfied either by recording instrument readings on pre-printed sampling log sheets or in a field log book. **This includes the requirement for documenting instrument readings that indicate no elevated readings above noted daily background levels (i.e., no-exposure readings).** At a minimum, the SSO must document the following information for each use of an air monitoring device:

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



## **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 Corpus Christi. 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**

Site visitors must be escorted and restricted from approaching work areas where they could be exposed to hazards from site operations. If a visitor has authorization from the client and from the TtNUS TOM to approach work areas, the FOL must assure that the visitor first provides documentation indicating that they have successfully completed the necessary OSHA training, receive site-specific training from the SSO, and have medical clearance 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

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. These permits were completed to the extent possible as part of the development of this HASP. It is the SSO's responsibility to finalize and complete the blank portions of the SWPs based on current, existing conditions the day the task is to be performed, and then review that completed permit with the task participants as part of a pre-task tail gate briefing session. This will ensure that site-specific considerations and changing conditions are appropriately incorporated into the SWP, provide the SSO with a structured format for conducting the tail gate sessions, as well will also give personnel an opportunity to ask questions and make suggestions. The SWPs require the signature of the FOL or SSO.

### **9.5 SITE VISITORS**

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

- Personnel invited to observe or participate in operations by 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**

TtNUS 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 HSGM. The MSDSs will then be maintained in a central location (i.e., temporary office) and will be available for anyone to review upon request.

## **9.10 COMMUNICATION**

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

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

**FIGURE 9-1  
EXAMPLE SAFE WORK PERMIT**

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

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

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

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

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

**V. Protective equipment required**

Level D  Level B   
 Level C  Level A

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

**Respiratory equipment required**

Yes  Specify on the reverse  
 No

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

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

**(Note to FOL and/or 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**

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

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

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

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

## **10.0 SPILL CONTAINMENT PROGRAM**

### **10.1 SCOPE AND APPLICATION**

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

### **10.2 POTENTIAL SPILL AREAS**

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

- Resource deployment
- Waste transfer
- Central staging

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

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

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

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

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

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

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

- Sand, clean fill, vermiculite, or other non combustible absorbent (Oil-dry)
- Drums (55-gallon U.S. DOT 17-E or 17-H)
- Shovels, rakes, and brooms
- Container labels

## **10.6 SPILL CONTROL PLAN**

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

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

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

## 11.0 CONFINED-SPACE ENTRY

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

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

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

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

For further information on confined space, consult the HSGM 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 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
- Directions to the Hospital

### 12.1 MATERIALS TO BE POSTED AT THE SITE

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

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

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

AB/SYN	Air blast and synchronized gun
BG	Background
BZ	Breathing zone
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action Navy
CRZ	Contamination reduction zone
COC	Contaminants of concern
CCAD	Corpus Christi Army Depot
DOT	Department of Transportation
DRI	Direct Reading Instrument
FOL	Field Operations Leader
FID	Flame ionization detector
HSGM	Health and Safety Guidance Manual
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSM	Health and Safety Manager
IDW	Investigation Derived Waste
MSDS	Material Safety Data Sheet
NALF	Naval Air Landing Field
NAS	Naval Air Station
NRL	Naval Research Laboratory
N/A	Not Available
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
ppm	Parts per million
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photoionization detector
PHSO	Project Health and Safety Officer
PPE	Personal Protective Equipment
SWP	Safe Work Permit
SSO	Site Safety Officer
SOP	Standard Operating Procedures
TBD	To be determined

TOM	Task Order Manager
TtNUS	Tetra Tech NUS, Inc.
XRF	X-ray Fluorescence

# **ATTACHMENT I**

## **MEDICAL DATA SHEET**

## MEDICAL DATA SHEET

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

Project \_\_\_\_\_

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

Address \_\_\_\_\_

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

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

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

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

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

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

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

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

\_\_\_\_\_

\_\_\_\_\_

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

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

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\_\_\_\_\_

Name (Print clearly)

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

# **ATTACHMENT II**

## **INCIDENT REPORT FORM**

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

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

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

**INSTRUCTIONS:**

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

<b>Incident Report Number: (From the IR Form)</b>		
<b>EMPLOYEE INFORMATION</b>		
<b>Company Affiliation</b>		
Tetra Tech Employee? <input type="checkbox"/> TetraTech subcontractor employee (directly supervised by Tt personnel)? <input type="checkbox"/>		
<b>Full Name</b>	<b>Company (if not Tt employee)</b>	
<b>Street Address, City, State and Zip Code</b>	<b>Address Type</b>	
_____	Home address (for Tt employees) <input type="checkbox"/>	
_____	Business address (for subcontractors) <input type="checkbox"/>	
<b>Telephone Numbers</b>		
Work: _____	Home: _____	Cell: _____
<b>Occupation (regular job title)</b>	<b>Department</b>	
<b>Was the individual performing regular job duties?</b>	<b>Time individual began work</b>	
Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ AM <input type="checkbox"/> PM <input type="checkbox"/> OR Cannot be determined <input type="checkbox"/>	
<b>Safety equipment</b>		
Provided? Yes <input type="checkbox"/> No <input type="checkbox"/>	Type(s) provided: <input type="checkbox"/> Hard hat <input type="checkbox"/> Protective clothing	
Used? Yes <input type="checkbox"/> No <input type="checkbox"/> If no, explain why	<input type="checkbox"/> Gloves <input type="checkbox"/> High visibility vest	
_____	<input type="checkbox"/> Eye protection <input type="checkbox"/> Fall protection	
_____	<input type="checkbox"/> Safety shoes <input type="checkbox"/> Machine guarding	
_____	<input type="checkbox"/> Respirator <input type="checkbox"/> Other (list)	
<b>NOTIFICATIONS</b>		
<b>Name of Tt employee to whom the injury or illness was first reported</b>	<b>Was H&amp;S notified within one hour of injury or illness?</b>	
	Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Date of report</b>	<b>H&amp;S Personnel Notified</b>	
<b>Time of report</b>	<b>Time of Report</b>	
<b>If subcontractor injury, did subcontractor's firm perform their own incident investigation?</b>		
Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, request a copy of their completed investigation form/report and attach it to this report.		

## INJURY / ILLNESS DETAILS

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

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

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

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## MEDICAL CARE PROVIDED

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

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

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

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

## SIGNATURES

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

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

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

**INSTRUCTIONS:**

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

Incident Report Number: (From the IR Form)

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

Property Damage       Equipment Damage       Fire or Explosion       Spill or Release

**INCIDENT DETAILS**

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

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Response Actions Taken:

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

Agency(s) Contact Name(s)

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

Item:	Extent of damage:	Estimated repair cost

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

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

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

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

**NOTIFICATIONS**

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

Who is responsible for reporting incident to outside agency(s)?    Tt  Client  Other  Name: \_\_\_\_\_

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

**INSTRUCTIONS:**

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

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

**DRIVER INFORMATION**

<b>Vehicle Number 1 – Tetra Tech Vehicle</b>		<b>Vehicle Number 2 – Other Vehicle</b>	
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

<b>Vehicle Number 1 – Tetra Tech Vehicle</b>		<b>Vehicle Number 2 – Other Vehicle</b>	
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**

<b>Name of injured person 1</b>				<b>Address of injured person 1</b>		
<b>Age</b>	<b>Gender</b>	<b>Car No.</b>	<b>Location in Car</b>	<b>Seat Belt Used?</b>	<b>Ejected from car?</b>	<b>Injury or Fatality?</b>
	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"/>
<b>Name of injured person 2</b>				<b>Address of injured person 2</b>		
<b>Age</b>	<b>Gender</b>	<b>Car No.</b>	<b>Location in Car</b>	<b>Seat Belt Used?</b>	<b>Ejected from car?</b>	<b>Injury or Fatality?</b>
	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**

<b>Describe damage to property other than motor vehicles</b>	
<b>Property Owner's Name</b>	<b>Property Owner's Address</b>

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED

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

# **ATTACHMENT III**

## **SAFE WORK PERMITS**

**SAFE WORK PERMIT**  
**MOBILIZATION AND DEMOBILIZATION ACTIVITIES**  
**NAS CORPUS CHRISTI**  
**CTO 0140**

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

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

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

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

**IV. On-site Inspection conducted**  Yes  No Initials of Inspector \_\_\_\_\_ 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, or coveralls, safety glasses and safety footwear. Hard hats and hearing protection will be worn when working near operating equipment.

**VI. Chemicals of Concern**

Action Level(s)

Response Measures

None anticipated

NA

NA

**Primary Route(s) of Exposure/Hazard:** NA

**(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, 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 – Work).....  Yes  No  
 Work/rest regimen .....  Yes  No  
 Chemical Resistant Boot Covers .....  Yes  No  
 Tape up/use insect repellent .....  Yes  No  
 Fire Extinguisher.....  Yes  No  
 Other .....  Yes  No

Modifications/Exceptions: Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET. Follow manufacturer's recommendations for proper application and reapplication. If working in areas where snakes are a threat, wear snake chaps to protect against bites.

**VIII. Site Preparation**

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

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

**X. Special instructions, precautions:** Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Review PPE needs based on activities being performed and the associated hazards. Use safe lifting procedures and obtain assistance when handling heavy or awkward objects. Suspend site activities in the event of inclement weather. Observe site workers for signs and symptoms of heat stress. Use sun block (SPF > 15) to prevent sunburn. If UXO is encountered, stop work, mark site with pin flag and notify Site Contact Gary LeFlore. Resume work when the area has been cleared and certified clear of UXO.

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

**SAFE WORK PERMIT  
CLEARING AND GRUBBING  
NAS CORPUS CHRISTI  
CTO 0140**

Permit No. \_\_\_\_\_ Date: \_\_\_\_\_

Time: From \_\_\_\_\_ to \_\_\_\_\_

**I. Work limited to the following (description, area, equipment used):** Vegetative clearing and grubbing

**II. Primary Hazards:** heavy equipment hazards; energized systems; noise; vehicular and equipment traffic; strain from heavy lifting; slips, trips and falls; cuts, abrasions and lacerations; loading trucks; and inclement weather, UXO hazards

**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**

Site contaminants include \_\_\_\_\_  
PAH's and VOC's  
 \_\_\_\_\_

**Action Level(s)**

Any sustained readings \_\_\_\_\_  
above 7 PPM for 1 minute  
in worker breathing zone

**Response Measures**

Suspend site activities \_\_\_\_\_  
report to an unaffected area.  
 \_\_\_\_\_

Dust (metals)  
 \_\_\_\_\_

Visible dust  
 \_\_\_\_\_

Use area wetting techniques if necessary  
 \_\_\_\_\_

**Primary Route(s) of Exposure/Hazard:** Contact with contaminated media, incidental ingestion of dust. Airborne concentrations of site contaminants are unlikely to be present.

**(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  
 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 – cotton/leather) .....  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: Tyvek coverall and boot covers if there is a potential for soiling work clothes or contacting potentially contaminated media (soils, shed debris, etc.). PVC or PE coated Tyvek if saturation of work clothes may occur

**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:** Employ dust suppression (area wetting) methods. This will reduce dust emissions when handling dry materials which have a tendency to become airborne much more easily than wet or moist materials. Suspend site activities in the event of inclement weather. Employ proper lifting techniques. If UXO is encountered, stop work, mark site with pin flag and notify Site Contact Gary LeFlore. Resume work when the area has been cleared and certified clear of UXO.

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

**SAFE WORK PERMIT  
OPERATION AND MAINTENANCE OF  
PUMP AND TREAT SYSTEM  
NAS CORPUS CHRISTI  
CTO 0140**

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

**I. Work limited to the following (description, area, equipment used):** Operation and maintenance of the pump and treat system. This tasks includes sock filter change, monitoring well water level measurement, and system maintenance.

**II. Primary Hazards:** Chemical; transfer of contamination; lifting; pinches and compressions; slips, trips and falls; ambient temperature extremes; cuts or lacerations inclement weather; insect/animal bites or stings; poisonous plants, UXO hazards.

**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**

Site contaminants include  
PAH's and VOC's  
 \_\_\_\_\_

**Action Level(s)**

Any sustained readings  
above 7 PPM for 1 minute  
in worker breathing zone  
 \_\_\_\_\_

**Response Measures**

Suspend site activities  
report to an unaffected area.  
 \_\_\_\_\_

Dust (metals)  
 \_\_\_\_\_

Visible dust  
 \_\_\_\_\_

Use area wetting techniques if  
necessary  
 \_\_\_\_\_

**Primary Route(s) of Exposure/Hazard:** Contact with contaminated media, incidental ingestion of dust. Airborne concentrations of site contaminants are unlikely to be present.

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

**VII. Additional Safety Equipment/Procedures**

Hard-hat.....  Yes  No  
 Safety glasses .....  Yes  No  
 Chemical/splash goggles.....  Yes  No  
 Splash shield .....  Yes  No  
 Splash suits/coveralls .....  Yes  No  
 Impermeable apron.....  Yes  No  
 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: If splashing occurs wear a splash suit or apron to prevent contact with contaminated water and filter material.

**VIII. Site Preparation**

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

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

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

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

**SAFE WORK PERMIT  
MULTI MEDIA SAMPLING  
NAS CORPUS CHRISTI  
CTO 0140**

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

- I. Work limited to the following (description, area, equipment used):** Multi-media sampling including surface, and sediment soils; and groundwater/surface water. This tasks includes site analysis of soil and sediment with a battery operated energy dispersive x-ray fluorescence (XRF) analyzer
- II. Primary Hazards:** Chemical; transfer of contamination; lifting; pinches and compressions; slips, trips and falls; ambient temperature extremes; cuts or lacerations inclement weather; insect/animal bites or stings; poisonous plants, UXO hazards
- 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	Action Level(s)	Response Measures
<u>Site contaminants include</u> <u>PAH's and VOC's</u>	<u>Any sustained readings</u> <u>above 7 PPM for 1 minute</u> <u>in worker breathing zone</u>	<u>Suspend site activities</u> <u>report to an unaffected area.</u>
<u>Dust (metals)</u>	<u>Visible dust</u>	<u>Use area wetting techniques if</u> <u>necessary</u>

**Primary Route(s) of Exposure/Hazard:** Contact with contaminated media, incidental ingestion of dust. Airborne concentrations of site contaminants are unlikely to be present.

**(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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Safety glasses .....            | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Safety belt/harness.....               | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/splash goggles.....    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/cellular phone.....              | <input type="checkbox"/> Yes <input 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 -nitrile) .....           | <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 checked="" type="checkbox"/> No |
| High visibility vest .....      | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Tape up/use insect repellent .....     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| First aid kit .....             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | Fire extinguisher.....                 | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| Safety shower/eyewash.....      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Other .....                            | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
- Modifications/Exceptions: If working in high brush or marshy areas wear snake chaps.

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

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

- X. Special instructions, precautions** Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Review PPE needs based on activities being performed and the associated hazards. Use safe lifting procedures and obtain assistance when handling heavy or awkward objects. Suspend site activities in the event of inclement weather. Observe site workers for signs and symptoms of heat/cold stress. Use sun block (SPF > 15) to prevent sunburn if necessary. If UXO is encountered, stop work, mark site with pin flag and notify Site Contact Gary LeFlore. Resume work when the area has been cleared and certified clear of UXO.

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

**SAFE WORK PERMIT FOR  
DECONTAMINATION ACTIVITIES  
NAS CORPUS CHRISTI CTO 0140**

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

**I. Work limited to the following (description, area, equipment used):** Decontamination of sampling equipment (hand auger and associated sampling equipment) and filter housings. Brushes and spray bottles will be used to decon small sampling equipment. Discard disposable items appropriately per Project Manager and Base Contact direction.

**II. Primary Hazards:** Chemical exposure, transfer of contamination, strain/muscle pulls, 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 glasses, safety footwear, and nitrile gloves.

**VI. Chemicals of Concern**

Site contaminants include \_\_\_\_\_  
PAH's and VOC's

Action Level(s)  
Any sustained readings  
above 7 PPM for 1 minute  
in worker breathing zone

Response Measures  
Suspend site activities  
report to an unaffected area.

Dust (metals)

Visible dust

Use area wetting techniques if necessary

**Primary Route(s) of Exposure/Hazard:** Contact with contaminated media, incidental ingestion of dust. Airborne concentrations of site contaminants are unlikely to be present.

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

**VII. Additional Safety Equipment/Procedures**

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

Modifications/Exceptions: Chemical resistant boot covers if excessive liquids are generated or to protect footwear.

**VIII. Site Preparation**

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

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

**X. Special instructions, precautions:** To minimize the potential for exposure, site personnel will use PPE and prevent contact with potentially contaminated equipment. Refer to the manufacturer's MSDS regarding PPE, handling, storage, and first-aid measures related to decontamination fluids. Suspend site activities in the event of inclement weather. Employ proper lifting techniques. When/where possible use heavy equipment to move and place containers.

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

**SAFE WORK PERMIT FOR  
IDW MANAGEMENT  
NAS CORPUS CHRISTI  
CTO 0140**

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

**I. Work limited to the following (description, area, equipment used):** Includes moving and handling IDW drums to storage areas

**II. Primary Hazards:** Chemical contamination; transfer of contamination; lifting; pinches and compressions; slips, trips and falls; and insect/animal bites and 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**

Level D  Level B   
 Level C  Level A

**Respiratory equipment required**

Yes  Specify on the reverse  
 No

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

**VI. Chemicals of Concern**

Site contaminants include \_\_\_\_\_  
PAH's and VOC's

**Action Level(s)**

Any sustained readings above 7 PPM for 1 minute in worker breathing zone

**Response Measures**

Suspend site activities report to an unaffected area.

Dust (metals)

Visible dust

Use area wetting techniques if necessary

**Primary Route(s) of Exposure/Hazard:** Contact with contaminated media, incidental ingestion of dust. Airborne concentrations of site contaminants are unlikely to be present.

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

**VII. Additional Safety Equipment/Procedures**

Hard-hat .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Hearing protection (plugs/muffs) .....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety glasses .....	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Safety belt/harness .....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Chemical/splash goggles .....	<input type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> No
Splash suits/coveralls .....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gloves (Type – cotton/leather 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 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 checked="" 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: When sampling drums wear nitrile gloves to protect from potential skin contact.

**VIII. Site Preparation**

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

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

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

**X. Special instructions, precautions:**

When handling 55 gallon drums wear work gloves and use proper hand tools when opening and closing lids. 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: \_\_\_\_\_

**SAFE WORK PERMIT  
FOR GEOGRAPHIC SURVEYING  
NAS CORPUS CHRISTI  
CTO 0140**

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

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

**II. Primary Hazards:** Lifting; slips, trips and falls; cuts or lacerations 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**

Level D  Level B   
 Level C  Level A

**Respiratory equipment required**

Yes  Specify on the reverse  
 No

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

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>None expected during this task.</u>	<u>Not required</u>	<u>NA</u>	<u>NA</u>
_____	_____	_____	_____

**Primary Route(s) of Exposure/Hazard:** None expected

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

**VII. Additional Safety Equipment/Procedures**

Hard-hat.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Hearing protection (plugs/muffs) .....	<input type="checkbox"/> Yes <input 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 – work) .....	<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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
First aid kit .....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Fire extinguisher.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety shower/eyewash.....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other .....	<input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: If working in high brush or marshy areas wear snake chaps. In areas near water watch for alligators.

**VIII. Site Preparation**

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

**IX. Additional Permits required** (Hot work, confined space entry, excavation etc.) .....

Yes  No  
*If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090*

**X. Special instructions, precautions:** Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Review PPE needs based on activities being performed and the associated hazards. Use safe lifting procedures and obtain assistance when handling heavy or awkward objects. Suspend site activities in the event of inclement weather. Observe site workers for signs and symptoms of heat/cold stress. Use sun block (SPF > 15) to prevent sunburn if necessary. If UXO is encountered, stop work, mark site with pin flag and notify Site Contact Gary LeFlore. Resume work when the area has been cleared and certified clear of UXO.

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

**ATTACHMENT IV**

**OSHA POSTER**

# Job Safety and Health

## It's the law!



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

### EMPLOYEES:

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

### EMPLOYERS:

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

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



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

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

OSHA 3165-12-06R