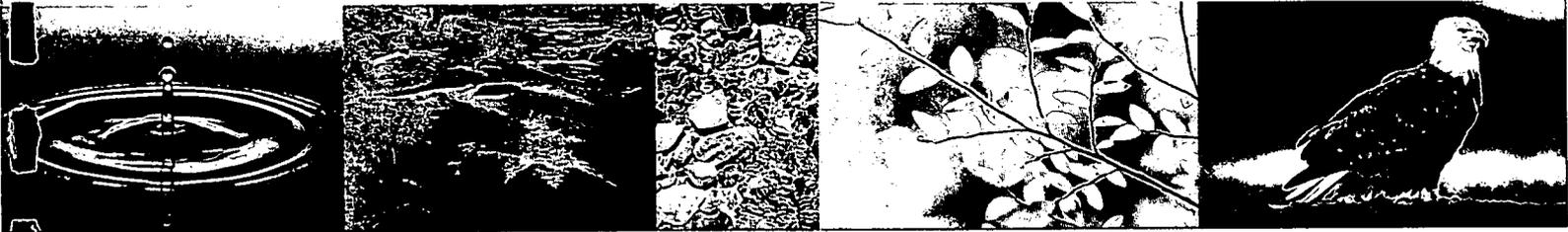


# Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055

N00164.AR.001113  
NSWC CRANE  
5090.3a



## Health and Safety Plan for Field Investigations Solid Waste Management Unit 17 PCB Capacitor Burial/Pole Yard

Naval Surface Warfare Center  
Crane Division  
Crane, Indiana

Contract Task Order 0020

July 2007



201 Decatur Avenue  
Building IA, Code EV  
Great Lakes, Illinois 60088



**TETRA TECH NUS, INC.**

661 Andersen Drive • Pittsburgh, PA 15220  
Tel 412.921.7090 • Fax 412.921.4040 • [www.tetrattech.com](http://www.tetrattech.com)

PITT-08-7-078

August 28, 2007

Project No. 112G00352

Mr. Howard Hickey  
NAVFAC MW  
201 Decatur Avenue  
Building 1A, Code EV  
Great Lakes, Illinois 60088

Reference: CLEAN Contract No. N62467-04-D-0055  
Contract Task Order (CTO) No. 0020

Subject: **Final:**  
Health and Safety Plan for Field Investigation, Solid Waste Management Unit (SWMU) 17  
(PCB Capacitor Burial/Pole Yard Building 2721)  
Naval Surface Warfare Center (NSWC) Crane  
Crane, Indiana

Dear Mr. Hickey:

Enclosed is one (1) copy of the subject HASP.

Please contact Jim Goerdt at 412-921-8425 (e-mail [Jim.Goerdt@tetrattech.com](mailto:Jim.Goerdt@tetrattech.com)) or me at 412-921-8308 (e-mail [Ralph.Basinski@tetrattech.com](mailto:Ralph.Basinski@tetrattech.com)) regarding any questions or comments.

Sincerely,

Ralph R. Basinski  
Task Order Manager

RRB:VJP/mlg  
Enclosure

cc: Mr. Tom Brent, NSWC Crane (letter and 4 copies of enclosure)  
Ms. Lee Anne Rapp, NAVFAC Atlantic (PDF copy of letter via e-mail)  
Ms. Bonnie Capito, NAVFAC Atlantic (PDF copy of letter via e-mail)  
Mr. John Trepanowski, Tetra Tech (letter and enclosure)  
Mr. James Goerdt, Tetra Tech (letter and 2 copies of enclosure)  
Mr. Garth Glenn, Tetra Tech (letter only)  
Project File – CTO 0020 (Midwest)

HEALTH AND SAFETY PLAN  
FOR  
FIELD INVESTIGATION  
AT THE  
PCB CAPACITOR BURIAL/POLE YARD  
SWMU 17

NAVAL SURFACE WARFARE CENTER (NSWC)  
CRANE, INDIANA

COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:  
Midwest  
201 Decatur Avenue  
Building IA, Code EV  
Great Lakes, Illinois 60088

Submitted by:  
TetraTech NUS  
Foster Plaza 7, 661 Andersen Drive  
Pittsburgh, Pennsylvania 15220

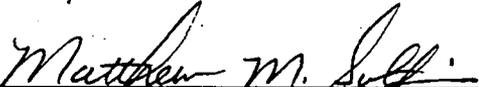
CONTRACT NUMBER N62467-04-D-0055  
CONTRACT TASK ORDER 0020

JULY 2007

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMITTAL BY:

  
\_\_\_\_\_  
RALPH R. BASINSKI  
TASK ORDER MANAGER  
TETRA TECH NUS  
PITTSBURGH, PENNSYLVANIA

  
\_\_\_\_\_  
MATTHEW M. SOLTIS, CH, CSP  
CLEAN HEALTH AND SAFETY MANAGER  
TETRA TECH NUS  
PITTSBURGH, PENNSYLVANIA

**TABLE OF CONTENTS**

<u>Section</u>	<u>Page No.</u>
<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
1.1 KEY PROJECT PERSONNEL AND ORGANIZATION .....	1-1
1.2 SITE INFORMATION AND PERSONNEL ASSIGNMENTS .....	1-3
<b>2.0 EMERGENCY ACTION PLAN.....</b>	<b>2-1</b>
2.1 INTRODUCTION.....	2-1
2.2 EMERGENCY PLANNING .....	2-1
2.3 EMERGENCY RECOGNITION AND PREVENTION .....	2-2
2.3.1 Recognition.....	2-2
2.3.2 Prevention.....	2-3
2.4 SAFE DISTANCES AND PLACES OF REFUGE .....	2-3
2.5 EVACUATION ROUTES AND PROCEDURES .....	2-3
2.6 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT.....	2-3
2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES.....	2-4
2.8 PPE AND EMERGENCY EQUIPMENT .....	2-5
2.9 EMERGENCY CONTACTS.....	2-5
2.10 EMERGENCY ROUTE TO HOSPITAL.....	2-7
2.11 INJURY/ILLNESS REPORTING.....	2-14
<b>3.0 SITE BACKGROUND .....</b>	<b>3-1</b>
3.1 SITE HISTORY.....	3-1
3.2 SWMU 17 PCB CAPACITOR BURIAL/POLE YARD .....	3-1
<b>4.0 SCOPE OF WORK.....</b>	<b>4-1</b>
<b>5.0 TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES SUMMARIZATION.....</b>	<b>5-1</b>
5.1 GENERAL SAFE WORK PRACTICES .....	5-1
<b>6.0 HAZARD ASSESSMENT.....</b>	<b>6-1</b>
6.1 CHEMICAL HAZARDS .....	6-1
6.2 PHYSICAL HAZARDS.....	6-1
6.2.1 Slips, Trips, And Falls .....	6-3
6.2.2 Cuts or Other Injuries Associated with Hand Tool Use .....	6-3
6.3 NATURAL HAZARDS.....	6-3
6.3.1 Insect Bites and Stings .....	6-4
6.3.2 Snakes and Other Wild Animals.....	6-6
6.3.3 Poisonous Plants.....	6-8
6.3.4 Inclement Weather .....	6-9
<b>7.0 AIR MONITORING .....</b>	<b>7-1</b>
<b>8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS.....</b>	<b>8-1</b>
8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING .....	8-1
8.1.1 Requirements for TtNUS Personnel.....	8-1
8.2 SITE-SPECIFIC TRAINING.....	8-1
8.3 MEDICAL SURVEILLANCE .....	8-2
8.4 MEDICAL DATA SHEET .....	8-2

## TABLE OF CONTENTS (Continued)

<u>Section</u>		<u>Page No.</u>
<b>9.0</b>	<b>SPILL CONTAINMENT PROGRAM.....</b>	<b>9-1</b>
9.1	SCOPE AND APPLICATION.....	9-1
9.2	HAZARDOUS SOILS AND FLUIDS.....	9-1
9.3	POTENTIAL SPILL AREAS.....	9-1
9.3.1	Site Drums/Containers.....	9-2
9.4	LEAK AND SPILL DETECTION.....	9-2
9.5	PERSONNEL TRAINING AND SPILL PREVENTION.....	9-2
9.6	SPILL PREVENTION AND CONTAINMENT EQUIPMENT.....	9-2
9.7	SPILL CONTROL PLAN.....	9-3
<b>10.0</b>	<b>SITE CONTROL.....</b>	<b>10-1</b>
10.1	EXCLUSION ZONE.....	10-1
10.1.1	Exclusion Zone Clearance.....	10-1
10.2	CONTAMINATION REDUCTION ZONE.....	10-1
10.3	SUPPORT ZONE.....	10-2
10.4	SITE VISITORS.....	10-2
10.5	SITE SECURITY.....	10-3
10.6	SITE MAP.....	10-3
10.7	BUDDY SYSTEM.....	10-3
10.8	MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS.....	10-3
10.9	COMMUNICATION.....	10-4
10.10	SAFE WORK PERMITS.....	10-4
<b>11.0</b>	<b>CONFINED SPACE ENTRY.....</b>	<b>11-1</b>
<b>12.0</b>	<b>MATERIALS AND DOCUMENTS.....</b>	<b>12-1</b>
12.1	MATERIALS TO BE POSTED OR MAINTAINED AT THE SITE.....	12-1
<b>13.0</b>	<b>GLOSSARY.....</b>	<b>13-1</b>

**ATTACHMENT I – INCIDENT REPORT FORM**  
**ATTACHMENT II – MEDICAL DATA SHEET**  
**ATTACHMENT III – SAFE WORK PERMITS**

## FIGURES

<u>Figure</u>		<u>Page No.</u>
2-1	Hospital Route Map (Bedford Gate).....	2-8
2-2	Hospital Route Map (Bloomington Gate) .....	2-11
2-3	Potential Exposure Protocol.....	2-15
8-1	Site Specific Training Documentation .....	8-3
10-1	Safe Work Permit.....	10-5

## TABLES

<u>Table</u>		<u>Page No.</u>
2-1	Emergency Reference .....	2-6
5-1	Tasks/Hazards/Control Measures.....	5-3
6-1	Chemical, Physical, And Toxicological Data .....	6-2

## 1.0 INTRODUCTION

This Health and Safety Plan (HASP) is specifically written for site activities that are to be conducted at the Naval Surface Warfare Center Crane (NSWC Crane), located in Crane, Indiana. This investigation will provide data on polychlorinated biphenyl (PCB) concentrations in surface soils at the PCB Capacitor Burial/Pole Yard, Solid Waste Management Unit (SWMU) 17. In addition to this HASP, a copy of the Tetra Tech-NUS, Inc. (TtNUS) Health and Safety Guidance Manual must be present at the site during the performance of site activities. This guidance manual provides detailed information pertaining to the HASP as well as TtNUS standard operating procedures (SOPs). Both documents must be present at the site to comply with the requirements stipulated in the Occupational Safety and Health Administration (OSHA) standard 29 CFR 1910.120.

This HASP has been developed using the latest available information regarding known or suspected chemical contaminants and potential physical hazards associated with the proposed work and site activities. This HASP will be modified if new information becomes available. Changes to the HASP will be requested through the TtNUS Health and Safety Manager (HSM) and the Task Order Manager (TOM). It is the responsibility of the TOM to notify affected personnel of changes to this HASP.

The elements of this HASP are in compliance with the requirements established by OSHA 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response" (HAZWOPER) and sections of 29 CFR 1926 "Safety and Health Regulations For Construction." The information contained in this plan, as well as policies on conducting on-site operations, have been obtained from the TtNUS Health and Safety Program and NSWC Crane policies and procedures.

### 1.1 KEY PROJECT PERSONNEL AND ORGANIZATION

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

- The TtNUS Task Order Manager (TOM) is responsible for the overall direction of health and safety for this project.
- The Project Health and Safety Officer (PHSO) is responsible for developing the HASP in accordance with applicable OSHA regulations. Specific responsibilities include:

- Providing information regarding site contaminants and physical hazards associated with the site
  - Establishing air monitoring and decontamination procedures
  - Assigning personal protective equipment
  - Determining emergency response procedures and emergency contacts
  - Stipulating training requirements and reviewing appropriate training and medical surveillance certificates
  - Providing standard work practices to minimize potential injuries and exposures associated with hazardous waste work.
- The TtNUS Field Operations Leader (FOL) is responsible for implementation of the HASP with the assistance of an appointed Site Safety Officer (SSO). The FOL manages field activities, executes the work plan, and enforces safety procedures as applicable to the work plan.
  - The Site Safety Officer (SSO) supports site activities by advising the FOL on the aspects of health and safety on-site. These duties may include:
    - Coordinates health and safety activities with the FOL
    - Selects, applies, inspects, and maintains personal protective equipment
    - Establishes work zones and control points
    - Implements air monitoring program for on-site activities
    - Verifies training and medical of on-site personnel status in relation to site activities
    - Implements hazard communication and respiratory protection programs
    - Coordinates emergency services.
    - Provides site specific training for on-site personnel
  - Compliance with the requirements stipulated in this HASP is monitored by the SSO and coordinated through the CLEAN Health and Safety Manager.

1.2 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: NSWC Crane Client Contact: Mr. Thomas Brent

Address: Crane, Indiana Phone Number: (812) 854-6160

**Project Team:**

**TtNUS Personnel:**

Ralph Basinski

Matthew M. Soltis, CIH, CSP

Clyde Snyder

James Goerd

TBD

TBD

**Discipline/Tasks Assigned:**

Task Order Manager (TOM)

Manager of Health and Safety (HSM)

Project Health and Safety Officer (PHSO)

Field Operations Leader (FOL)

Field Technician

Site Safety Officer (SSO)

**Non-TtNUS Personnel**

**Affiliation/Discipline/Tasks Assigned**

TBD

Drilling Subcontractor

TBD

Surveyor

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

## 2.0 EMERGENCY ACTION PLAN

### 2.1 INTRODUCTION

This section has been developed as part of a planning effort to direct and guide field personnel in the event of an emergency. In the event of on-site emergencies, which cannot be handled by on-site personnel, site personnel will be evacuated to a safe place of refuge and the appropriate emergency response agencies will be notified. It has been determined that a majority of potential emergency situations would be better supported by outside emergency responders. Based on this determination, TtNUS and subcontractor personnel will not provide emergency response support beyond the capabilities of on-site response. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/ill person. The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. These agencies are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time. This emergency action plan conforms to the requirements of OSHA Standard 29.CFR 1910.38(a), as allowed in OSHA 29 CFR 1910.120(I)(1)(ii).

TtNUS will include incidental response measures for incidents such as:

- Incipient stage fire fighting support and prevention
- Incipient spill control and containment measures and prevention
- Removal of personnel from emergency situations
- Provide initial medical support for injuries or illnesses requiring only first-aid level support
- Provide site control and security measures as necessary

### 2.2 EMERGENCY PLANNING

Through the initial hazard/risk assessment effort, injuries or illnesses resulting from exposure to chemical or physical hazards or fire are the most probable emergencies that could be encountered during site activities.

To minimize and eliminate these potential emergency situations, emergency planning activities associated with this project include the following. The SSO and/or the FOL are responsible for:

- Coordinating with NSWC Crane Emergency Services personnel to ensure that TtNUS emergency action activities are compatible with existing facility emergency response procedures.

- Establishing and maintaining information at the project staging area (support zone) for easy access in the event of an emergency. This information will include the following:
  - Chemical Inventory (used on-site), with Material Safety Data Sheets.
  - On-site personnel medical records (medical data sheets).
  - A logbook identifying personnel on site each day.

It will be the responsibility of the TtNUS FOL to ensure this information is available and present at the site.

- 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 to provide early recognition and prevention where possible.
- Drill and practice incidental response measures periodically.

It is understood that the use of two-way communication devices (cellular phones and radios) must be approved by the NSWC Crane Safety Office and such equipment will only be used with official permission. However, TtNUS is authorized to utilize two-way radio assigned to the Environmental Department. This radio is to be used only in the event of an emergency. It should only be activated if needed as the battery will only be charged periodically throughout the shift.

## 2.3 EMERGENCY RECOGNITION AND PREVENTION

### 2.3.1 Recognition

Foreseeable emergency situations that may be encountered during site activities will generally be recognizable by visual observation. Visual observation is primarily relevant for physical hazards that may be associated with the proposed scope of work. Visual observation will also play a role in detecting some chemical overexposures. To adequately recognize exposures to site contaminants, site personnel must have a clear knowledge of signs and symptoms of exposure associated with the site contaminants. This information is provided in Table 6-1 of this HASP. Potential site hazards, the activities unto which they have been associated with, and the recommended control methods are discussed in detail in Section 5.0 and 6.0 of this HASP. Additionally, early recognition of emergency situations will be supported by periodic site surveys to eliminate any situation predisposed to an emergency. The FOL, and the SSO will make up the site evaluation committee responsible for these periodic surveys. Site surveys will be conducted at least once a week during the initiation of this effort.

The above actions will provide early recognition for potential emergency situations. Should an incident occur, TtNUS will take defensive and offensive measures to control these situations. However, if the FOL

and the SSO determine that an incident has progressed to a serious emergency situation, TtNUS will withdraw, and notify the appropriate response agencies.

### **2.3.2      Prevention**

TtNUS and subcontractor personnel will minimize the potential for emergencies by ensuring compliance with the HASP, the Health and Safety Guidance Manual and applicable OSHA regulations.

## **2.4            SAFE DISTANCES AND PLACES OF REFUGE**

In the event that the site must be evacuated, personnel will immediately stop activities and report to the telephone communications point at the support zone. Telephone communication points and safe places of refuge will be identified prior to the commencement of site activities and will be conveyed to personnel as part of the daily safety meeting conducted each morning. During an evacuation, personnel reporting to the refuge location will remain there until directed otherwise by the TtNUS FOL. The FOL or the SSO will take a head count at this location to account for and to confirm the location of site personnel. The site logbook will be used to take the head count. Emergency response personnel will be immediately notified of any unaccounted personnel.

## **2.5            EVACUATION ROUTES AND PROCEDURES**

An evacuation will be initiated whenever; severe weather is encountered; a fire or explosion occurs; readings on monitoring instrumentation indicate levels of contamination greater than instituted action levels; or if personnel show signs or symptoms of overexposure to potential site contaminants. In the event of an evacuation, personnel will proceed immediately to the designated place of refuge in the support zone, unless doing so would further jeopardize the welfare of workers. In such an event, personnel will proceed to a designated alternate location and remain until further notification from the TtNUS FOL.

Evacuation procedures will be discussed prior to the initiation of any work at the site. 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.

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

During an 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 action that initiates an evacuation would further endanger the lives of workers if workers were to perform decontamination

procedures. However, it is unlikely that an evacuation would occur at this site which would require workers to evacuate the site without first performing decontamination procedures.

## 2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Since TtNUS personnel will be working in close proximity to each other, hand signals, voice commands, and air horns, will be sufficient to alert site personnel of an emergency. If site personnel will be working in remote locations or if site activities are conducted in separate sites simultaneously, two-way radios will be used to communicate between teams of workers.

If an emergency occurs on Base, the following procedures are to be initiated:

- Initiate an evacuation by hand signals, voice commands, air horn, or two-way radios. Report to the designated refuge assembly point in the support zone.
- Describe to the FOL (who will serve as the Incident Coordinator) what has occurred and as many details as possible. Once personnel are evacuated, incipient response procedures will be enacted to control the situation.

In the event that site personnel cannot control the incident through offensive and defensive measures, the FOL and SSO will enact the emergency notification procedures to secure additional outside assistance in the following manner:

- On base call 854-3300 or 864-1333\* or other emergency contacts (Table 2-1) and report the emergency. Give the emergency operator the location of the emergency, the type of emergency, the number of injured, and a brief description of what occurred. Stay on the phone and follow the instructions given by the operator. The operator will then notify and dispatch the proper emergency response agencies.

**\*NOTE:** On-base extensions 3300 and 1333 are the primary emergency phone numbers. From an NSWC Crane phone, on Base extensions must be preceded by "854." Off-base numbers can only be reached by dialing "991" first. Furthermore, emergencies involving site activities should subsequently be reported to the Environmental Protection Department (x-3114/1132/6160).

- Conduct a head count of site personnel using the site logbook.

## 2.8 PPE AND EMERGENCY EQUIPMENT

A first aid kit, eye wash units, and fire extinguishers (strategically placed) will be maintained on-site and shall be immediately available for use in the event of an emergency.

## 2.9 EMERGENCY CONTACTS

Prior to performing work at any of the sites, personnel will be thoroughly briefed on the emergency procedures to be followed in the event of an accident. A mobile phone may be available on site. Table 2-1 provides a list of emergency contacts and their associated telephone numbers. This table must be posted on site where it is readily available to site personnel.

In addition, TtNUS personnel who are injured or become ill on the job must notify appropriate company representatives. Figure 2-3 presents the procedure for reporting an injury/illness, and the form to use for this purpose. **If the emergency involves personnel exposures to chemicals, follow the steps in Figure 2-3.**

**TABLE 2-1**  
**EMERGENCY REFERENCE**  
**NSWC CRANE, INDIANA**

AGENCY	TELEPHONE
Base Emergency Number (Fire Department, Base Security, Ambulance)	854-3300 or 854-1333
Base Environmental Office	(812) 854-3114
Bedford Ambulance	(812) 279-6545
Bloomington Hospital (Bloomington, IN)	(812) 336-9515
Hospital, Bedford Medical Center (Bedford, IN)	(812) 275-1200
Poison Control Center	1-800-222-1222
National Response Center	1-800-424-8802
Base Contact, Thomas Brent	(812) 854-6160
Contract Task Order Manager, Ralph Basinski	(412) 921-8308
TtNUS Crane Field Office Building 3245	(812)-854-0280
Field Operations Leader, James Goerd	(412) 921-8425
TtNUS Office, Pittsburgh	(412) 921-7090
CLEAN Health and Safety Manager, Matthew M. Soltis, CIH, CSP	(412) 921-8912
Project Health and Safety Officer, Clyde Snyder	(412) 921-8904

Note: Most phones require the number to be preceded by 991 (i.e., 991-812-854-0280) or by "99" (if 812 is left off) (i.e., 99-854-0280)

**2.10 EMERGENCY ROUTE TO HOSPITAL**

**Directions to the Bloomington Hospital:\***

Bloomington Hospital  
601 West 2nd Street  
Bloomington, IN 47403

Exit NSWC Crane on H-45 through the Bloomington gate. Follow Highway 45 North to Bloomington at Highway 45 and Highway 37. Continue going straight over the overpass (Bloomfield Road). Follow Bloomfield Road North; this road turns into 2nd Street. Follow 2nd Street, hospital will be on the right

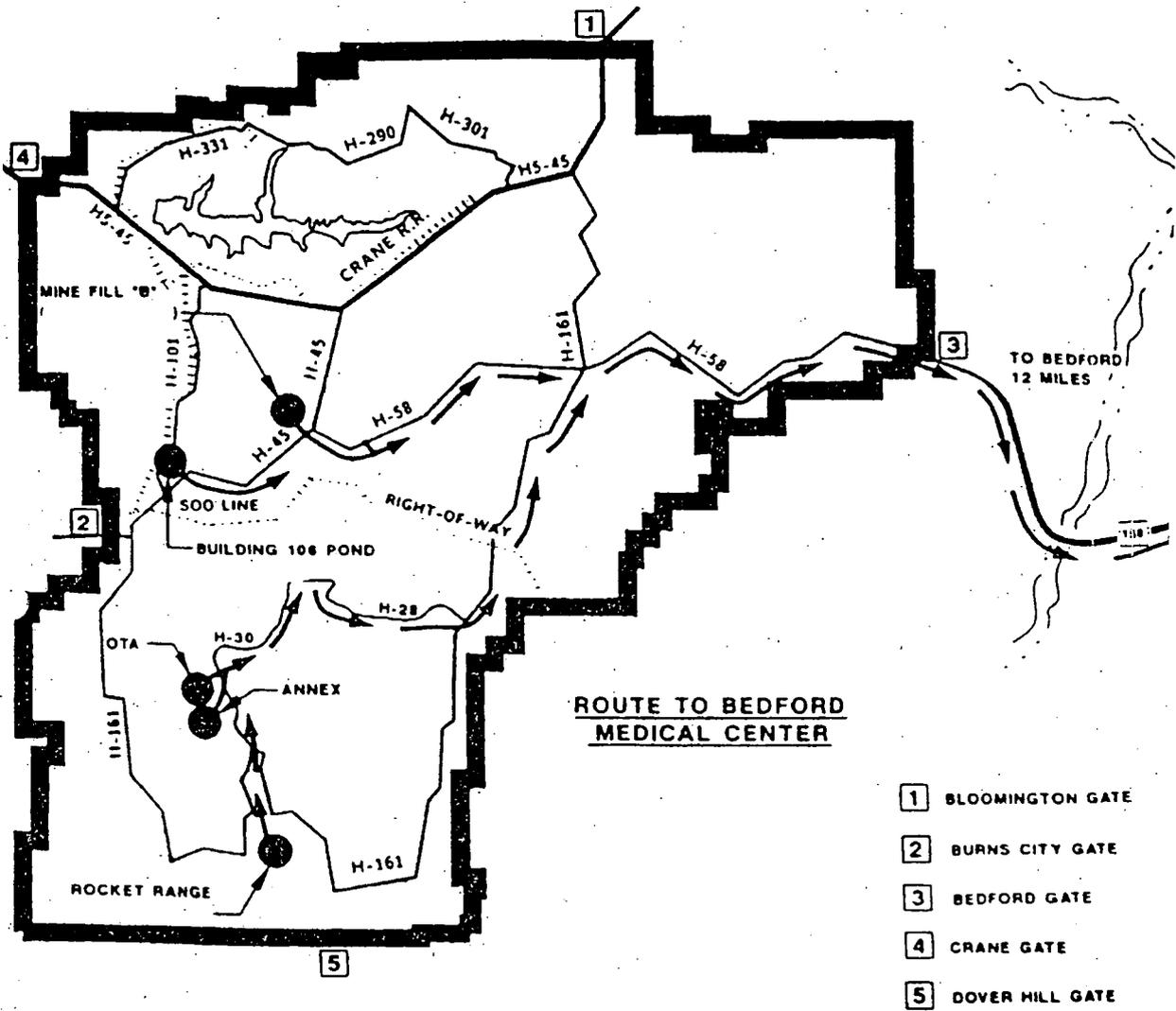
**Directions to Bedford Regional Medical Center:\*\***

Bedford Regional Medical Center  
2900 16<sup>th</sup> Street  
Bedford, IN 47421

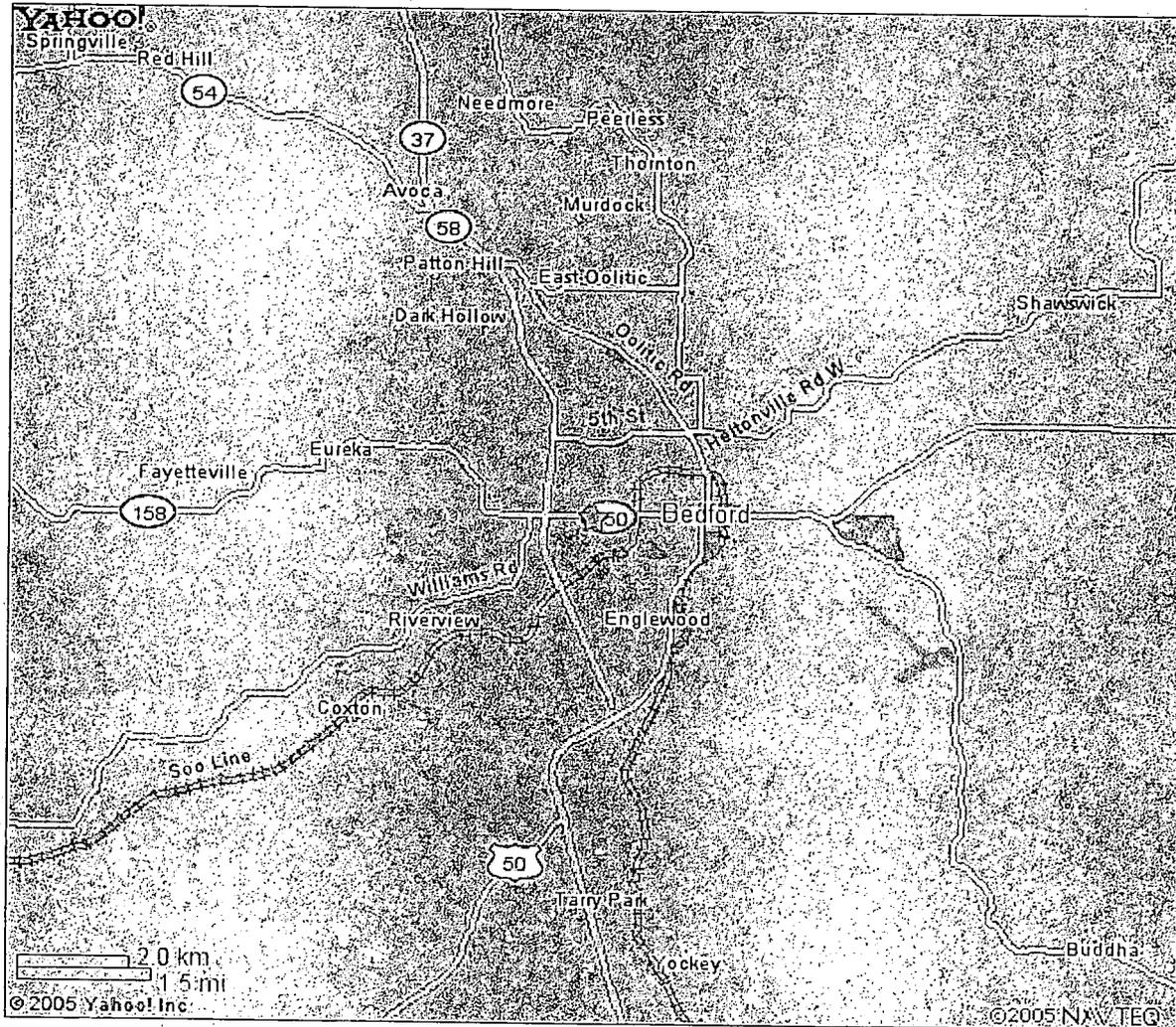
Exit the base on H-58, through the Bedford Gate. Head West on State Highway 158. State Highway 158 becomes 16th Street upon entering the City of Bedford. The medical center is on the right shortly after Plaza Drive.

Figure 2-1  
Hospital Route Maps  
Bedford Gate

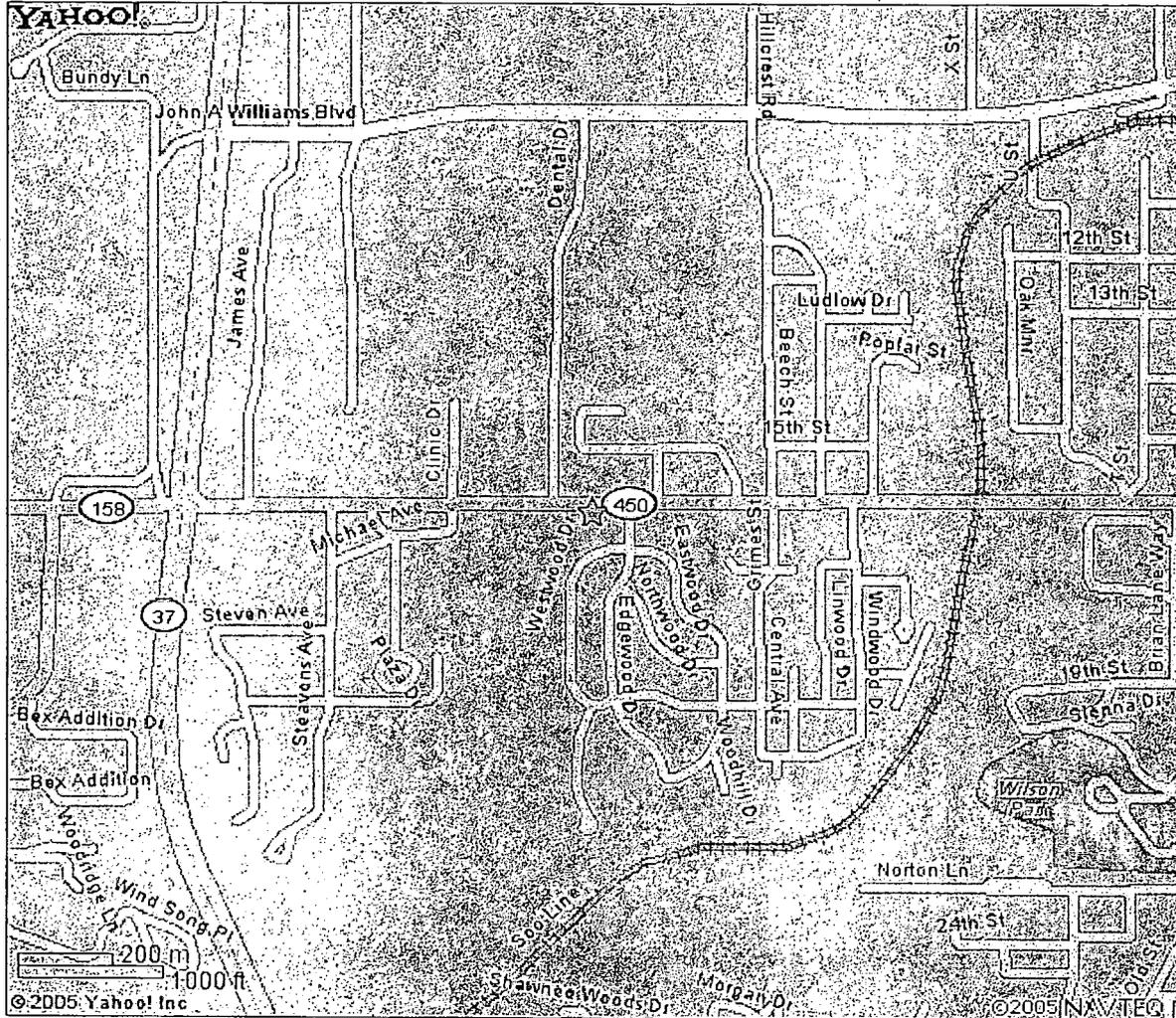
\*Note: The Bedford Gate is open only from 0600 - 0830 and 1500 - 1800 hours:



### Greater Bedford Area



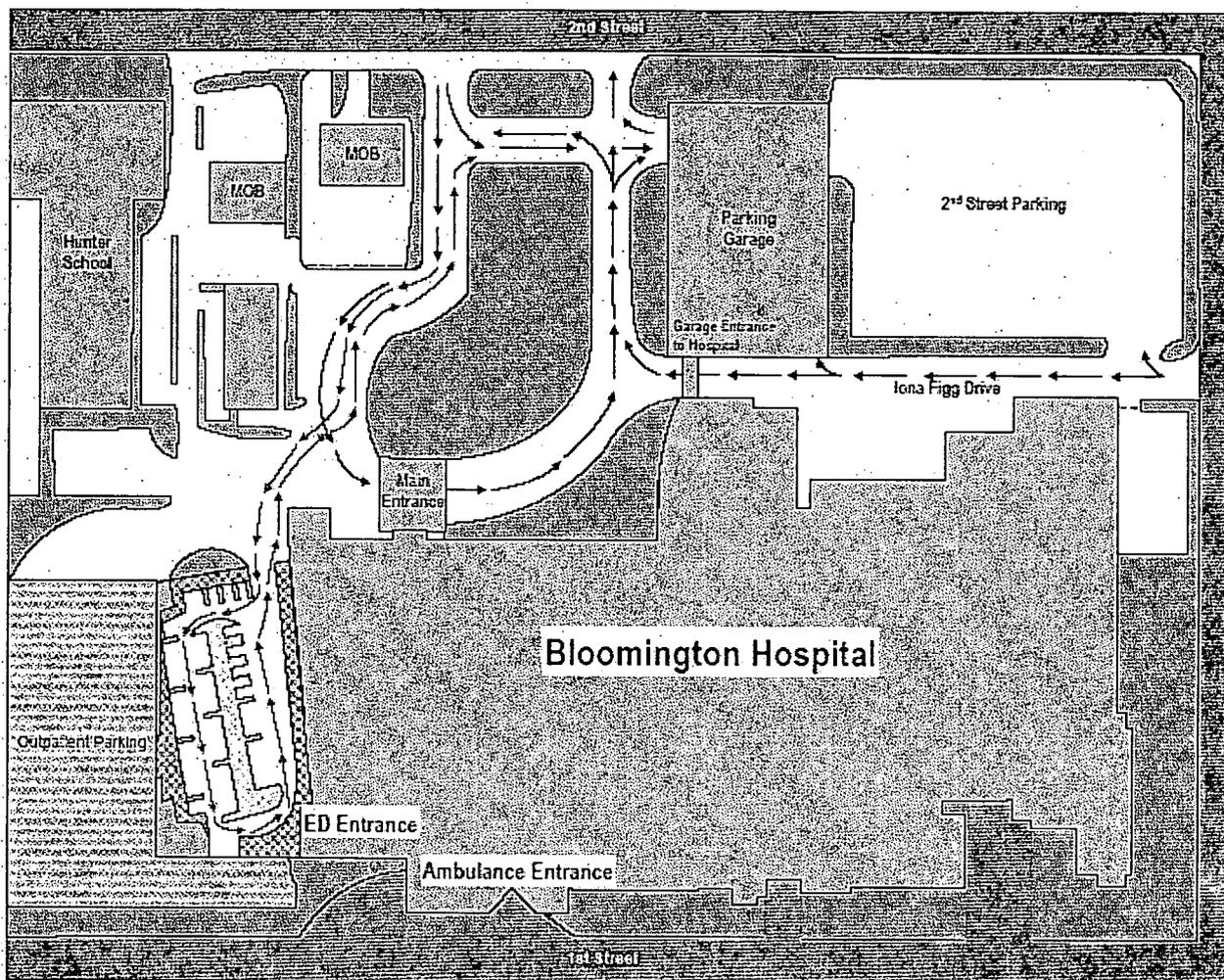
### City of Bedford Medical Center Location







### Bloomington Hospital Emergency Room and Parking



## 2.11 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 I) must be followed. Following this procedure is necessary for documenting of the information obtained at the time of the incident.

Any pertinent information regarding allergies to medications or other special conditions will be provided to medical service personnel. This information is listed on Medical Data Sheets (Attachment II) filed onsite. If an exposure to hazardous materials has occurred, provide information on the chemical, physical, and toxicological properties of the subject chemical(s) to medical service personnel.

### FIGURE 2-3 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 TtNUS 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, or follow the voice prompt for after hours and weekend notification and be 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 TtNUS, 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 (Marilyn Duffy) at 1-800-245-2730.
- 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 2-3 (continued)**  
**WORKCARE**  
**POTENTIAL EXPOSURE REPORT**

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

**I. Exposing Agent**

Name of Product or Chemicals (if known): \_\_\_\_\_

Characteristics (if the name is not known)

Solid          Liquid          Gas          Fume          Mist          Vapor

**II. Dose Determinants**

What was individual doing? \_\_\_\_\_  
How long did individual work in area before signs/symptoms developed? \_\_\_\_\_  
Was protective gear being used? If yes, what was the PPE? \_\_\_\_\_  
Was their skin contact? \_\_\_\_\_  
Was the exposing agent inhaled? \_\_\_\_\_  
Were other persons exposed? If yes, did they experience symptoms? \_\_\_\_\_

**III. Signs and Symptoms (check off appropriate symptoms)**

**Immediately With Exposure:**

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

**Delayed Symptoms:**

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

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

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

Have symptoms: (please check off appropriate response and give duration of symptoms)  
Improved: \_\_\_\_\_ Worsened: \_\_\_\_\_ Remained Unchanged: \_\_\_\_\_

**V. Treatment of Symptoms (check off appropriate response)**

None: \_\_\_\_\_ Self-Medicating: \_\_\_\_\_ Physician Treated: \_\_\_\_\_

### 3.0 SITE BACKGROUND

This section provides information pertaining to NSWC Crane and the site that is to be investigated. This information will be revised if additional information becomes available or if additional sites are going to be investigated.

#### 3.1 SITE HISTORY

The Naval Surface Warfare Center Crane (NSWC Crane) is located in Crane, Indiana approximately 75 miles southwest of Indianapolis and 71 miles northwest of Louisville, Kentucky. The facility encompasses more than 100 square miles (64,463 acres) in Daviess, Greene, Lawrence, and Martin Counties. It is located in a rural, sparsely populated area. The acreage surrounding the base is either wooded or farmed land. The facility, originally called Naval Ammunition Depot (NAD), Burns City, was opened in 1941 to serve as an inland ammunition production and storage center. The Depot's name was changed to NAD, Crane in 1943. In 1975, the name was changed to Naval Weapons Support Center, Crane and in 1992, the name was again changed to Naval Surface Warfare Center, Crane. Today NSWC Crane's mission is to "provide quality and responsive engineering, technical and material support to the Fleet for combat subsystems, equipment and components, microelectronic technology, microwave components, electronic warfare, acoustic sensors tests, engineering pyrotechnics, small arms, electronic module test and system command." Under the Single Service Management Program, a segment of the Center's mission is to provide support (including environmental protection) to the Crane Army Ammunition Activity (CAAA). The Army is tasked with the production and renovation of conventional ammunition and related items, the performance of manufacturing, engineering, and product quality assurance to support production; and the storage, shipment, demilitarization, and disposal of conventional ammunition and related components. Because of the nature of the Army's operations, CAAA contributes significant financial support for the environmental program through an Inter-service Support Agreement.

#### 3.2 SWMU 17 PCB CAPACITOR BURIAL/POLE YARD

This HASP covers CTO 0020 RCRA Phase III Facility Investigations at the PCB Capacitor Burial/Pole Yard at the Naval Surface Warfare Center Crane Division. The PCB Capacitor Burial/Pole Yard (SWMU 17) has been in use since the 1970s. Historically, the site has been used to store and possibly bury capacitors and transformers, some of which contained PCBs. In addition, utility poles impregnated with creosote and potentially contaminated with PCBs, were also stored in this area. It is known that capacitors were buried at SWMU 17 the early 1970s. NSWC Crane intends to utilize the area for different purposes than its current use. In September, 2004 more than 2930 tons of soil was excavated to 2 feet and the site was covered with clean fill. Due to contractual obligations, excavation operations ceased

before contaminated soils were removed. The vertical extent of this contamination is unknown. Excavation around the dumping area found electrical insulators, transformers and miscellaneous debris. PCB contaminated soil was found in the drainageway downgradient of the area.

## 4.0 SCOPE OF WORK

This section discusses the activities that are to be performed at the site.

Sampling and analyses for site characterization is expected to be performed in one mobilization. The scope of site characterization work includes collecting surface water and sediment samples to determine the nature and extent of PCB contamination in Boggs Creek. The Field Investigation at the PCB Capacitor Burial Pole Yard, will consist of the following tasks:

- Mobilization/Demobilization
- Multi-Media Sampling including:
  - Surface Water
  - Sediment
- Decontamination of sampling equipment
- IDW Management

## 5.0 TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES SUMMARIZATION

Table 5-1 of this section serves as the primary portion of the site specific HASP which identifies the tasks that are to be performed as part of the scope of work. The anticipated hazards, recommended control measures, air monitoring recommendations, required Personal Protective Equipment (PPE), and decontamination measures for each site task are discussed in detail. This table and the associated control measures will be revised, if the scope of work, contaminants of concern, or other conditions change.

Through using the table, site personnel can determine which hazards are associated with each task and at each site, and what associated control measures are necessary to minimize potential exposure or injuries related to those hazards. The table also assists field team members in determining which PPE and decontamination procedures to use based on proper air monitoring techniques and site-specific conditions.

A Health and Safety Guidance Manual must accompany this table and the HASP. This will require the FOL to obtain and maintain a Guidance Manual on site. The manual is designed to further explain supporting programs and elements for other site-specific aspects as required by 29 CFR 1910.120. The Guidance Manual should be referenced for additional information regarding air monitoring instrumentation, decontamination activities, emergency response, hazard assessments, hazard communication and hearing conservation programs, medical surveillance, PPE, respiratory protection, site control measures, standard work practices, and training requirements. Many of TtNUS' SOPs are also provided in this Guidance Manual.

Safe Work Permits (SWP) issued for major activities (See Section 10.11) will use elements defined in Table 5-1 as the primary reference. The FOL or the SSO completing the SWP will add additional site-specific information. In situations where the SWP is more conservative than the direction provided in Table 5-1 due to the incorporation of site-specific elements, the Safe Work Permit will be followed.

### 5.1 GENERAL SAFE WORK PRACTICES

In addition to the task-specific work practices identified on Table 5-1, the following safe work practices will be observed when conducting work involving known and unknown site hazards. These safe work practices establish a pattern of general precautions and measures for reducing risks associated with hazardous site operations.

- Refrain from 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.

- Wash hands and face thoroughly upon leaving a contaminated or suspected contaminated area. A thorough shower and washing must be conducted as soon as possible if excessive skin contamination occurs.
- Avoid contact with potentially contaminated substances by walking around puddles, pools, mud, or other such areas. Avoid, whenever possible, kneeling on the ground or leaning or sitting on equipment. Do not place monitoring equipment on potentially contaminated surfaces.
- Be familiar with and adhere to the instructions in the site-specific HASP.
- Be aware of the location of the nearest telephone and emergency telephone numbers. See Section 2.0, Table 2-1.
- Attend briefings on anticipated hazards, equipment requirements, Safe Work Permits, emergency procedures, and communication methods before going on site.
- Plan and mark entrance, exit, and emergency escape routes. See Section 2.0.
- Rehearse unfamiliar operations prior to implementation.
- Maintain visual contact with each other and with other on-site team members by remaining in close proximity in order 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 Site Safety Officer (SSO).
- Observe coworkers 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.

TASKS/HAZARDS/CONTROL MEASURES  
SWMU 17  
NAVAL SURFACE WARFARE CENTER CRANE DIVISION, CRANE, INDIANA

Tasks/Operation/ Locations	Anticipated Hazards	Recommended Control Measures	Hazard Monitoring	Personal Protective Equipment <i>(Items in italics are deemed optional as conditions or the FOL or SSO require.)</i>	Decontamination Procedures
Mobilization/ Demobilization	<p><i>Physical Hazards</i></p> <ul style="list-style-type: none"> <li>1) Lifting (strain/muscle pulls)</li> <li>2) Pinches and compressions</li> <li>3) Slips, trips, and falls</li> <li>4) Vehicular and foot traffic</li> <li>5) Ambient temperature extremes (cold stress)</li> </ul> <p><i>Natural hazards</i></p> <ul style="list-style-type: none"> <li>6) Insect/animal bites and stings, poisonous plants, etc.</li> <li>7) Inclement weather</li> </ul>	<ul style="list-style-type: none"> <li>1) Use machinery or multiple personnel for heavy lifts. Use proper lifting techniques.</li> <li>2) Keep any machine guarding in place. Avoid moving parts. Use tools, or equipment where necessary to avoid contacting pinch points.</li> <li>3) Preview work locations for unstable/uneven terrain.</li> <li>4) Traffic and equipment considerations are to include the following: <ul style="list-style-type: none"> <li>- Establish safe zones of approach.</li> <li>- Secure all loose articles.</li> <li>- All activities are to be conducted consistent with the site requirements.</li> </ul> </li> <li>5) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding cold stress is provided in Section 4.0 of the Health and Safety Guidance Manual.</li> <li>6) Avoid nesting areas, use repellents. Report potential hazards to the SSO. Follow guidance presented in Section 4.0 of the Health and Safety Guidance Manual.</li> <li>7) Suspend or terminate operations until directed otherwise by SSO.</li> </ul>	Not required	<p>Level D - (Minimum Requirements)</p> <ul style="list-style-type: none"> <li>- Standard field attire (Sleeved shirt; long pants)</li> <li>- Steel toe safety shoes/boots</li> <li>- <i>Safety glasses</i></li> <li>- <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i></li> <li>- <i>Reflective vest for high traffic areas</i></li> <li>- <i>Hearing protection for high noise areas, or as directed on an operation by operation scenario.</i></li> </ul>	Not required
Decontamination of Sampling Equipment	<p><i>Chemical Hazards</i></p> <ul style="list-style-type: none"> <li>1) Previous analytical data identified PCB's (Aroclor-1260) and creosote as potential contaminants of concern. None of the contaminants are anticipated to be present in concentrations that would present an inhalation hazard. Table 6-1 provides additional information about each of the identified contaminants of concern.</li> <li>2) Decontamination fluids - Liquinox (detergent), acetone or isopropanol</li> </ul> <p><i>Physical Hazards</i></p> <ul style="list-style-type: none"> <li>3) Lifting (strain/muscle pulls)</li> <li>4) Ambient temperature extremes (cold stress)</li> <li>5) Slips, trips, and falls</li> </ul> <p><i>Natural Hazards</i></p> <ul style="list-style-type: none"> <li>6) Inclement weather</li> </ul>	<ul style="list-style-type: none"> <li>1) and 2) Use protective equipment to minimize contact with site contaminants and hazardous decontamination fluids. Obtain manufacturer's MSDS for any decontamination fluids used on-site. These must be used in well-ventilated areas, such as outdoors. Use appropriate PPE as identified on MSDS. All chemicals used must be listed on the Chemical Inventory for the site, and site activities must be consistent with the Hazard Communication section of the Health and Safety Guidance Manual (Section 5.0).</li> <li>3) Use multiple persons where necessary for lifting and handling sampling equipment for decontamination purposes.</li> <li>4) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding cold stress is provided in Section 4.0 of the Health and Safety Guidance Manual.</li> <li>5) Preview work locations for unstable/uneven terrain.</li> <li>6) Suspend or terminate operations until directed otherwise by SSO.</li> </ul>	Use visual observation to ensure all equipment has been properly cleaned of contamination and dried.	<p>For sampling equipment (trowels, MacroCore Samplers, bailers, etc.), the following PPE is required</p> <p>Note: Consult MSDS for PPE guidance. Otherwise, observe the following.</p> <p>Level D Minimum requirements -</p> <ul style="list-style-type: none"> <li>- Standard field attire (Long sleeve shirt; long pants)</li> <li>- Steel toe safety shoes/boots</li> <li>- Nitrile outer gloves</li> <li>- Safety glasses</li> </ul> <p>Note: The Safe Work Permit(s) for this task (see Attachment III) will be issued at the beginning of each day to address the tasks planned for that day. As part of this task, additional PPE may be assigned to reflect site-specific conditions or special considerations or conditions associated with any identified task.</p>	<p><b>Personnel Decontamination</b> will consist of a soap/water wash and rinse for reusable outer protective equipment (boots, gloves, PVC splash suits, as applicable). The decon function will take place at an area adjacent to the site activities. This procedure will consist of:</p> <ul style="list-style-type: none"> <li>- Equipment drop</li> <li>- Soap/water wash and rinse of outer boots and gloves, as applicable</li> <li>- Soap/water wash and rinse of the outer splash suit, as applicable</li> <li>- Disposable PPE will be removed and bagged.</li> </ul> <p><b>Sampling Equipment Decontamination</b></p> <p>Sampling equipment will be decontaminated as per the requirements in the Quality Assurance Project Plan.</p> <p>MSDS for any decon solutions (Alconox, isopropanol, etc.) will be obtained and used to determine proper handling / disposal methods and protective measures (PPE, first-aid, etc.).</p> <p>All equipment used in the exclusion zone will require a complete decontamination between locations and prior to removal from the site.</p> <p>The FOL or the SSO will be responsible for evaluating equipment arriving on-site and leaving the site. No equipment will be authorized access or exit without this evaluation.</p>

TASKS/HAZARDS/CONTROL MEASURES  
SWMU 17  
NAVAL SURFACE WARFARE CENTER CRANE DIVISION, CRANE, INDIANA

Tasks/Operation/Locations	Anticipated Hazards	Recommended Control Measures	Hazard/Monitoring	Personal Protective Equipment <i>(Items in italics are deemed optional as conditions of the EOP or SSO require)</i>	Decontamination Procedures
Multi-media sampling, including surface water; sediment.	<p><b>Chemical Hazards</b></p> <p>1) Previous analytical data identified PCB's (Aroclor-1260) and creosote as potential contaminants of concern. None of the contaminants are anticipated to be present in concentrations that would present an inhalation hazard. Table 6-1 provides additional information about each of the identified contaminants of concern.</p> <p>2) Transfer of contamination into clean areas</p> <p><b>Physical hazards</b></p> <p>3) Lifting (strain/muscle pulls)</p> <p>4) Pinches and compressions</p> <p>5) Slips, trips, and falls</p> <p>6) Ambient temperature extremes (cold stress)</p> <p>7) Vehicular and foot traffic</p> <p><b>Natural hazards</b></p> <p>8) Insect/animal bites and stings, poisonous plants, etc.</p> <p>9) Inclement weather</p>	<p>1) Use safe work practices and identified PPE to control exposures to potentially contaminated media. Generation of dusts should be minimized. If airborne dusts are observed, area wetting methods may be used. If area wetting methods are not feasible, activities must be suspended until dust levels subside, or until an acceptable alternative control method can be selected.</p> <p>2) Decontaminate all equipment and supplies between sampling locations and prior to leaving the site.</p> <p>3) Use machinery or multiple personnel for heavy lifts. Use proper lifting techniques.</p> <p>4) Avoid moving parts. Use tools or equipment where necessary to avoid contacting pinch points.</p> <p>- A remote sampling device must be used to sample near rotating tools. The equipment operator shall shutdown machinery if the sampler is near moving machinery parts.</p> <p>5) Preview work locations for unstable/uneven terrain.</p> <p>6) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding cold stress is provided in Section 4 of the Health and Safety Guidance Manual.</p> <p>7) Traffic and equipment considerations are to include the following:</p> <ul style="list-style-type: none"> <li>- Establish safe zones of approach (i.e. Boom + 5 feet). See Section 9 of the HASP for specific safety zones based on media being sampled.</li> <li>- All equipment shall be equipped with movement warning systems.</li> <li>- All activities are to be conducted consistent with the site requirements.</li> </ul> <p>8) Avoid nesting areas, use repellents. Report potential hazards to the SSO. Follow guidance presented in Section 4 of the Health and Safety Guidance Manual.</p> <p>9) Suspend or terminate operations until directed otherwise by the SSO.</p>	None Required Site contaminants may adhere to or be part of airborne dusts or particulates generated during site activities. Generation of dusts should be minimized to avoid inhalation of contaminated dusts or particulates. Evaluation of dust concentrations will be performed by observing work conditions for visible dust clouds. Potential exposure to contaminated dust will be controlled using water suppression, by avoiding dust plumes, or evacuating the operation area until dust subsides.	<p>Level D protection will be utilized for the initiation of all sampling activities.</p> <p>Level D - (Minimum Requirements)</p> <ul style="list-style-type: none"> <li>- Standard field attire (Sleeved shirt; long pants)</li> <li>- Steel toe safety shoes/boots</li> <li>- Safety glasses</li> <li>- Surgical style gloves (<i>double-layered if necessary</i>)</li> <li>- <i>Reflective vest for high traffic areas</i></li> <li>- <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i></li> <li>- <i>Tyvek coveralls and disposable boot covers if surface contamination is present or if the potential for soiling work attire exists.</i></li> </ul> <p><b>Note:</b> The Safe Work Permit(s) for this task (see Attachment VIII) will be issued at the beginning of each day to address the tasks planned for that day. As part of this task, additional PPE may be assigned to reflect site-specific conditions or special considerations or conditions associated with any identified task.</p>	<p><b>Personnel Decontamination</b> will consist of a removal and disposal of non-reusable PPE (gloves, coveralls, etc., as applicable). The decon function will take place at an area adjacent to the site activities. This procedure will consist of:</p> <ul style="list-style-type: none"> <li>- Equipment drop</li> <li>- Outer coveralls, boot covers, and/or outer glove removal (as applicable)</li> <li>- Removal, segregation, and disposal of non-reusable PPE in bags/containers provided</li> <li>- Soap/water wash and rinse of reusable PPE (e.g., hardhat) if potentially contaminated</li> <li>- Wash hands and face, leave contamination reduction zone.</li> </ul>
IDW management and moving IDW drums to storage areas	<p><b>Chemical hazards:</b></p> <p>1) Previous analytical data identified PCB's (Aroclor-1260) and creosote as potential contaminants of concern. None of the contaminants are anticipated to be present in concentrations that would present an inhalation hazard. Table 6-1 provides additional information about each of the identified contaminants of concern.</p> <p>2) Transfer of contaminants to unaffected areas.</p> <p><b>Physical hazards:</b></p> <p>3) Lifting (strain/muscle pulls)</p> <p>4) Pinches and compressions</p> <p>6) Slip, trips, and falls</p> <p>7) Vehicular and foot traffic</p> <p>8) Ambient temperature extremes (heat stress)</p> <p><b>Natural hazards:</b></p> <p>9) Inclement weather</p>	<p>1) Employ visual observation to identify and control exposures to potentially contaminated media (e.g., water, sediment).</p> <p>2) An Investigative Derived Waste (IDW) area will be constructed and barricaded. Only authorized personnel will be allowed access. Decontaminate equipment and supplies, if they become contaminated, between locations and prior to leaving the site.</p> <p>4) Use machinery or multiple personnel for heavy lifts. Use proper lifting techniques.</p> <p>5) Keep any machine guarding in place. Avoid moving parts. Use tools or equipment where necessary to avoid contacting pinch points.</p> <p>6) Preview work locations for unstable/uneven terrain.</p> <p>7) Traffic and equipment considerations are to include the following:</p> <ul style="list-style-type: none"> <li>- Establish safe zones of approach (i.e. Boom + 3 feet).</li> <li>- Secure loose articles to avoid possible entanglement.</li> <li>- Equipment shall be equipped with movement warning systems.</li> <li>- Activities are to be conducted consistent with the Base requirements.</li> </ul> <p>8) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding heat stress concerns is provided in Section 4 of the TtNUS Health and Safety Guidance Manual.</p> <p>9) Operations will be temporarily suspended during electrical storms.</p>	No monitoring instrument is required for this activity. Site contaminants may adhere to or be part of airborne dusts or particulates generated during site activities.	<p>Level B protection will be utilized for the initiation of sampling activities.</p> <p>Level B - (Minimum Requirements)</p> <ul style="list-style-type: none"> <li>- Standard field attire (long sleeve shirt; long pants)</li> <li>- If necessary, Nitrile or cotton/leather work gloves with surgical style inner gloves</li> <li>- Safety steel toe shoes/boots</li> <li>- Safety glasses</li> <li>- <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i></li> <li>- <i>Reflective vest for high traffic areas</i></li> <li>- <i>Tyvek coveralls and disposable boot covers if surface contamination is present and if the potential for soiling work attire exists.</i></li> </ul>	<p><b>Personnel Decontamination</b> will consist of a soap/water wash and rinse for reusable outer protective equipment (boots, gloves, PVC splash suits, as applicable). The decon function will take place at an area adjacent to the site activities. This procedure will consist of:</p> <ul style="list-style-type: none"> <li>- Equipment drop</li> <li>- Soap/water wash and rinse of outer boots and gloves, as applicable</li> <li>- Soap/water wash and rinse of the outer splash suit, as applicable</li> <li>- Disposable PPE will be removed and bagged.</li> </ul>

## 6.0 HAZARD ASSESSMENT

The following section provides information regarding the chemical and physical hazards associated with the NSWCrane Site and the activities that are to be conducted as part of the scope of work. Table 6-1 provides information related to the chemical hazards that may be present at the site. Specifically, toxicological information, exposure limits, symptoms of exposure, physical properties, and air monitoring and sampling data are discussed in the table. It should be noted that the contaminants of concern might vary between tasks.

### 6.1 CHEMICAL HAZARDS

General contaminants of concern associated with these sites include PCB and Creosote. Pure PCBs have never been found in transformers or capacitors at NSWCrane. The greatest concentrations of PCBs have been in the range of 10,000-ppm PCB. Therefore, any releases of capacitor or transformer oil at SWMU 17 would be expected to exhibit concentrations, in the range of 10,000 ppm PCB. Previous sampling events show that PCBs are present at concentrations exceeding criteria for industrial soils. The presence of PCBs correlates with information regarding historical activities at the PCB Capacitor Burial Pole Yard. PCBs were found at locations where capacitors are reportedly buried, transformers were stored, and creosote-impregnated utility poles were stored.

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 hygiene practices.

For further information on these contaminants and other potential contaminants see Table 6-1.

### 6.2 PHYSICAL HAZARDS

The following is a list of physical hazards that may be encountered at the site or may present during the performance of site activities associated with the scope of work. Some of these hazards are discussed below while the rest are discussed in the TtNUS Health and Safety Guidance Manual.

- Slips, trips, and falls
- Cuts (or other injuries associated with hand tool use)
- Lifting (strain/muscle pulls)
- Ambient temperature extremes (cold and heat stress)

TABLE 6-1

## CHEMICAL, PHYSICAL, AND TOXICOLOGICAL DATA

Substance	CAS No.	Air Monitoring	Exposure Limits	Warning Property Rating	Physical Properties	Health Hazard Information
General PAHs / Coal Tar Pitch Volatiles / Creosote / cresol (Fluoranthene, pyrene, benzo(a)anthracene, benzo(a)pyrene, benzo(f)fluoranthene, benzo(k)fluoranthene, etc.)	(CAS Numbers vary depending on specific compound)	PID: I.P. of 8.97 eV, relative response ratio unknown.  FID: Response factor unknown but given the substances flammability, detection by FID can be anticipated.	<b>General PAHs:</b>  Most PAHs have no established exposure limits. Other Coal Tar Pitch Volatiles /PAHs, such as chrysene and benzo(a)pyrene have an exposure limits of:  OSHA; ACGIH: 0.2 mg/m <sup>3</sup>  NIOSH: 0.1 mg/m <sup>3</sup>  <b>Creosote / Cresol:</b>  OSHA; ACGIH: 5 ppm  NIOSH: 2.3 ppm  IDLH: 80 mg/m <sup>3</sup>	<b>Adequate</b> - use a full-face air-purifying respirator with organic vapor / dust/mist cartridge up to 250 ppm. Cresol has an Odor Threshold of 0.00005-0.0079 ppm.  <b>Recommended gloves:</b> Viton >96.00 hrs; butyl rubber >90.00 hrs; neoprene >4.50 hrs	Properties of various PAHs/Coal Tar Pitch Volatiles vary depending upon the specific compound.  <i>For Creosote/Cresol:</i> Boiling Pt: 376-397°F; 191-203°C Melting Pt: 52-96°F; 10.9-35.5°C Solubility: Insoluble Flash Pt: 178°F; 81°C LEL/LFL: Not available UEL/UFL: Not available Vapor Density: 3.72 Vapor Pressure: 1 mmHg @ 100-127°F; 38-53°C Specific Gravity: 1.030-1.038 Incompatibilities: Nitric acid, oleum, chlorosulfonic acid, oxidizers <b>Appearance and Odor:</b> Yellowish or colorless, flammable, oily liquid (often brownish because of impurities or oxidation)	Regulated based on effects on respiratory tract and skin irritation Other effects may include eye irritation and central nervous system, disturbances. Acute exposures may result in difficulty breathing, respiratory failure and skin and eye irritation and burns. Chronic exposure may damage the liver, kidneys, lungs and skin and cause photosensitivity.  IARC, NTP, NIOSH, ACGIH, and the EPA list some PAHs such as benzo(a)pyrene as a potential carcinogen (ARC 2A, NTP-2, ACGIH TLV-A2, NIOSH-X, EPA-B2).
Aroclor-1260 (Polychlorinated Biphenyl, PCB) It should be noted that this substance is representative of the more common isomers Aroclor - 1242, 1254, which may be encountered.	11096-82-5  53469-21-9 (42%)  11097-69-1 (54%)	Substance is not volatile (VP=0.00006 mmHg), I.P. is unknown - PID is not anticipated to detect this substance.  Substance is non combustible and as a result will not be detected by FID.	OSHA; ACGIH: 0.5 mg/m <sup>3</sup> (skin)  NIOSH: 0.001 mg/m <sup>3</sup>  IDLH: 5 mg/m <sup>3</sup>	<b>Inadequate</b> - However due to the low volatility it is assumed unless agitated this substance does not present a volatile vapor or gas respiratory threat. For dusty conditions where this material may cling to particulates, use a HEPA filter.  APRs are approved for escape only when concentrations exceed the exposure limits. Concentrations greater than the exposure limits require PAPR or supplied air respirators.  <b>Recommended glove:</b> Butyl rubber >24 hrs; Neoprene rubber >24.00 hrs; Silver shield or Viton (for pure product).	Boiling Pt: distillation range 689- 734°F; 365-390°C Melting Pt: -2 to 50°F; -19 to 10°C Solubility: Insoluble Flash Pt: Not applicable LEL/LFL: Not applicable UEL/UFL: Not applicable Nonflammable liquid, however, exposure to fire results in black soot containing PCBs, dibenzofurans, & chlorinated dibenzo-p-dioxins Vapor Density: Not available Vapor Pressure: 0.00006 - 0.001 mmHg Specific Gravity: 1.566 @ 60°F; 15.5°C Incompatibilities: Strong oxidizers <b>Appearance and Odor:</b> Colorless to pale yellow, viscous liquid or solid (Aroclor 54 below 50°F) with a mild, hydrocarbon odor	This substance is irritating to the eyes and skin. Chronic effects of overexposure may include potential to cause liver damage, chloracne, and reproductive effects. Recognized as possessing carcinogenic properties by NIOSH, and NTP.

### 6.2.1 Slips, Trips, And Falls

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

- The safest approach to sample points will be identified and cleared to permit field crew access to sample locations.
- Establish anchor points and rope handrails for traversing/ascending/descending angles and slopes greater than 45% grade.
- Footwear with an adequate traction.
- Prepare work areas by removing tripping hazards (ruts, roots, debris). This is especially critical around rotating equipment, where a fall into the rotating apparatus could be life threatening.

### 6.2.2 Cuts or Other Injuries Associated with Hand Tool Use

The control measures presented below will help minimize the potential for physical and cutting hazards.

- Wear leather or heavy cotton work gloves when using tools to protect against blisters, cuts, or other hand injuries.
- Wear eye protection (safety glasses with side shields) to protect the eyes from flying debris.
- Wear long pants and long-sleeved shirts to protect against abrasions.
- Inspect hand tools before each use.
- Ensure knives are sharp to facilitate cutting action. This will avoid persons forcing to cut and increasing potential hazards.
- Use the proper tool for the intended purpose. The proper tool for cutting the acetate tube for sampling is the retention tub recommended by Geoprobe. This will avoid potential injury possibly created through improper cutting procedures.

### 6.3 **NATURAL HAZARDS**

Insect/animal bites and stings, poisonous plants, and inclement weather are natural hazards that may be present given the location of activities to be conducted. As previously discussed, some portions of the site include vegetated areas which increases the potential for field crews to encounter ticks, bees, mosquitoes/insects, snakes, and poisonous vegetation.

### 6.3.1 Insect Bites and Stings

Insect/animal bites and stings are difficult to control given the climate and environmental setting of NSW Crane. 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. Commercially available repellants may be used providing they don't contain substances which appear on the analytical list for pesticide analysis. 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 to provide easy recognition of crawling insects against the lighter background. Pant legs should be secured to the work-boots using duct tape to prevent access by ticks. Mosquito nets 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 (arm-pits, genitals, etc.) 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 must determine if site personnel (through completion of Medical Data Sheets), suffer allergic reactions to bee and other insect stings and bites. Field crew members who are allergic to bites should have their emergency kit containing antihistamine and a preloaded syringe of epinephrine readily available.

Any allergies (insect bites, bee stings, etc.) must be reported on the Medical Data Sheet 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 Health and Safety Guidance Manual.

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.

The Indiana State Department of Health has been monitoring the arrival of WNV in the state. Crows found in Marion and Floyd Counties are the first positive indicator that West Nile virus has officially arrived in Indiana. State health officials say that although this is the first time West Nile encephalitis virus, which is transmitted by mosquitoes, has been identified in the state, it is not unexpected. No human cases have been found in Indiana. West Nile Encephalitis cases occur primarily in the late summer or early fall.

Mild infections are common and include fever, headache, and body aches, often with skin rash and swollen lymph glands. More severe infection is marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, occasional convulsions, paralysis and, rarely, and death (especially in the elderly and very young). The incubation period of West Nile encephalitis is usually 3 to 12 days. There is no specific therapy or vaccine against West Nile encephalitis.

Precautions include:

- Limit outdoor activities during peak mosquito times – at dusk and dawn.
- Avoid standing water
- Wear long-sleeved shirts and long pants whenever you are outdoors.
- Apply insect repellent according to manufacturers instruction to exposed skin. An effective repellent will contain 20% to 30% DEET (N,N-diethyl-meta-toluamide). Avoid products containing more than 30% DEET.
- Spray clothing with repellents containing permethrin or DEET, mosquitoes may bite through thin clothing.

### 6.3.2 Snakes and Other Wild Animals

Indigenous animals including snakes (poisonous and non-poisonous varieties), 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.

#### **Venomous Snakes of Indiana**

There are few poisonous snakes in Indiana. Indiana's poisonous snakes are very heavy-bodied – they look “fat.” They also have broad, spade-shaped heads that are distinctly wider than their narrow necks. The heads of non-venomous snakes are typically about the same width as their bodies. Such distinctions are not completely reliable, as some species such as water snakes can be rather stout, and many species of snakes will flatten their heads when bluffing, giving the head a spade-like shape as well. The pupils of the venomous snakes of Indiana are vertical slits rather than round. This distinction may not hold elsewhere, but works in this state.

Do not attempt to handle or kill a snake that you believe may be venomous. Simply keep at a safe distance and move on your way. Snakes do not actively seek out people and bite them. Given the chance, snakes will almost always try to escape an encounter. If you leave them alone, they will make every effort to leave you alone as well. Be very careful to avoid the head when handling dead snakes. A snake's reflexes can remain functional hours after death, and supposedly “dead” snakes have bitten people.

#### **Copperhead**

The most common venomous species is the copperhead, and even it has a restricted range in the hills of southern Indiana.

*Appearance:* The copperhead is a moderately large snake that typically measures 24 to 36 inches in length. Its head is reddish-brown in color and its body is tan. The body is marked with 15 to 19 mahogany lateral bands with darker edges that are wide on the sides and narrow on the back. The lateral bands are occasionally interrupted along the midline. Viewed from above, these bands appear hourglass shaped. Irregular brown spots are often found between the bands. The copperhead has a wedge-shaped head,

sensory pits, and vertically elliptical "cat-like" pupils. The young are pale with a yellow tipped tail and are 8 to 9 inches in length.

*Ecology:* The copperhead is found primarily in high, dry, rocky and well-forested areas dominated by oaks and hickories. This species is very secretive and does not tolerate human presence. The copperhead is active at night the warmest part of the year and is more likely to defend itself during the evening hours. It can be found resting under logs, in cracks of foundations, and under rocks. Small rodents such as mice are its primary prey, but it also eats large moth larvae and lizards.

### **Timber Rattlesnakes**

Timber rattlesnakes are rare and usually restricted to some of the forested hills in south central Indiana.

*Appearance:* These snakes are Indiana's largest, averaging 48 to 72 inches in length with a rattle on the end of their tail. They can be found in the hill country of south central Indiana. The timber rattlesnake is a thick-bodied snake with a wide head distinct from the neck, typical of our venomous snakes. The color pattern of the timber rattler is very variable, ranging from sulfur yellow and buff brown, to dark gray. Regardless of the pattern, a series of wide black cross bands line the back along the length of the body. These cross bands have been described as "blunt chevrons." Its distinctly wedge-shaped head, sensory pit, and elliptical eye slits are characteristic of snakes in the viper family.

*Ecology:* The timber rattlesnake is native to heavily forested areas in the hills of southern Indiana. It feeds on small mammals and birds. The timber rattler hibernates inside the cracks and crevices of rocky hillsides. Timber rattlesnakes do not stalk their prey, but rather remain motionless and wait for their prey to move within striking distance. Populations of timber rattlesnakes are mostly limited to areas fairly isolated from human development.

### **Snake Bites**

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 Poisonous Plants

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

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

- Identify plants for field personnel.
  - Poison Ivy - Characterized by climbing vines, three leaf configuration ovate to elliptical in shape, deep green leaves with a reddish tint, greenish flowers, and white berries.
  - Poison Sumac - Characterized as a tall bush of the sumac family bearing compound leaves (7-13 entire leaflets), branched from a central axis, drooping, with axillary clusters of white fruit: However, these white fruits and berries may exist only during pubescent stages.
  - Poison oak - Characterized as similar to poison ivy consisting of a shrub, stems erect, 0.3 to 2.0 meters tall, leaflets consist of broad thick lobes coarsely serrated configuration, denser at the base, less so than the top.
- Protective measures may include wearing disposable garments such as Tyvek when clearing brush. These may be carefully removed and disposed of along with any oils accumulated from the plants.
- Personal Hygiene - The oils obtained from the plants will only elicit an allergic response when the person's bare skin layer is contacted. This can be aggravated when skin pores are open (perspiring), or through breaks in the skin such as cuts, nicks, scratches, etc. This can also be accomplished

when using excessively hot water for cleaning the skin, which also causes pores to open. Prior to break time, lunchtime, etc. personnel should wash with cool water and soap to remove as much of the oils as possible. In heavily vegetated areas of these plants, additional measures including barrier creams and blocks may be used to prevent the oils from accessing and penetrating the skin.

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

#### 6.3.4 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, tornados, hailstorms, 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

Direct reading instruments will be not used at this site due to the nature of the work (surface water and sediment sampling) which will not produce airborne concentrations of site contaminants.

## 8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

### 8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

#### 8.1.1 Requirements for TtNUS Personnel

TtNUS personnel must complete 40 hours of introductory hazardous waste site training in accordance with 29 CFR 1910.120(e) prior to performing work at NSWC Crane. Additionally, 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. 8-hour Supervisory Training in accordance with 29 CFR 1910.120(e)(4) will be required for site supervisory personnel.

Documentation of TtNUS Health and Safety Training will be maintained at the project site. Copies of certificates or other official documentation will be used to fulfill this requirement.

At the request of the U.S. Navy, TtNUS will conduct a brief meeting daily to discuss operations planned for that day. At the end of the workday, a short meeting will be held to discuss the operations completed and any problems that were encountered.

### 8.2 SITE-SPECIFIC TRAINING

TtNUS will provide site-specific training to TtNUS employees who will perform work on this project. Site-specific training will also be provided to site visitors (DOD, EPA, etc.) who may enter the site to perform functions that may or may not be directly related to site operations. Site-specific training will include:

- Names of personnel and alternates responsible for site safety and health
- Safety, health and other hazards present on site
- Use of personal protective equipment
- Work practices to minimize risks from hazards
- Safe use of engineering controls and equipment
- Medical surveillance requirements
- Signs and symptoms of overexposure to site contaminants
- The contents of the site-specific health and safety plan including the contents of Table 5-1 and 6-1.
- Emergency response procedures (evacuation and assembly points)
- Spill response procedures
- Review the contents of relevant Material Safety Data Sheets
- Review Safe Work Permits

Site-specific documentation will be established through the use of Figure 8-1. Site personnel and visitors must sign this document upon receiving site-specific training prior to commencement of site activities.

### **8.3 MEDICAL SURVEILLANCE**

Personnel participating in project field activities will have had a physical examination meeting the requirements of TtNUS' medical surveillance program and will be medically qualified to perform hazardous waste site work using respiratory protection.

Documentation for medical clearances will be maintained in the TtNUS Pittsburgh office and made available as necessary.

### **8.4 MEDICAL DATA SHEET**

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



## 9.0 SPILL CONTAINMENT PROGRAM

### 9.1 SCOPE AND APPLICATION

This program applies to the single or aggregate accumulation of bulk storage materials (over 55-gallons). As the classification of certain materials such as IDW is unknown, materials will be treated as hazardous, pending laboratory certification to the contrary. The types of materials for which this program will apply are as follows:

- Investigative Derived Wastes (IDW) such as decontamination fluids.

The spill containment and control will be engaged any time there is a release of the above identified materials from a containment system or vessel. This spill containment program will be engaged in order to minimize associated hazards.

### 9.2 HAZARDOUS SOILS AND FLUIDS

Quantities of bulk potentially hazardous materials (greater than 55-gallons) will not be handled during site activities conducted as part of the scope of work. If for some reason significant quantities of hazardous waste water (decontamination, and purge) and hazardous Investigative-Derived Wastes (IDW) are generated as part of site activities the following procedures will be applied. As needed, 55 -gallon drums will be used to contain hazardous waste waters, IDW, and other unwanted items generated during investigatory activities. These drums will be labeled with the site name, drum number, the type of contents (purge waters), volume, the date, point of contact with telephone number.

Samples will be analyzed to characterize the material and determine appropriate disposal measures. Once characterized they can be removed from the staging area and disposed of in accordance with Federal, State and local regulations.

### 9.3 POTENTIAL SPILL AREAS

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

- Areas used for central staging of resources
- Areas used for central staging of IDW materials
- Decontamination area

Additionally, areas designated for handling, loading, and unloading of potentially contaminated waters, and debris present limited potential for leaks or spills. Monitoring of these areas will be done at least weekly.

### 9.3.1 Site Drums/Containers

Drums/containers used for containing liquids will be sealed, labeled, and staged within a centralized area awaiting shipment or disposal. Drums used for the storage and transportation of IDW will meet the packaging requirements for steel drums category U.N. 1A2, removable head as specified in paragraph 9.6.1, United Nations Transport of Dangerous Goods.

## 9.4 LEAK AND SPILL DETECTION

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

## 9.5 PERSONNEL TRAINING AND SPILL PREVENTION

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

## 9.6 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

The following represents the minimum equipment which will be maintained at the staging area for the purpose of supporting this Spill Prevention/Containment Program.

### **Spill Response Equipment:**

- Sand, clean fill, vermiculite, or other noncombustible absorbent (oil-dry);
- Drums (55-gallon U.N 1A2)
- Portable storage tanks or additional drums
- Shovels, rakes, and brooms

- Labels

**PPE stored at the staging area:**

- Rubber boot covers; nitrile outer gloves, PVC rain-suit or other form of impermeable splash protection, should it be required.

**9.7 SPILL CONTROL PLAN**

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

- 1) Notify the SSO or FOL immediately upon the detection of a leak or spill.
- 2) Employ the personnel protective equipment stored at the staging area. Take immediate actions to stop the leak or spill by plugging or patching the drum or raising the leak to the highest point. Spread the absorbent material in the area of the spill covering completely.
- 3) Transfer the material to a new container, collect and containerize the absorbent material. Label the new container appropriately. Await analyses for treatment or disposal options.
- 4) Spills occurring on soils, grassy areas, gravel lots will be re-containerized including 2-inches of top cover on which the spill occurred, and await test results for treatment or disposal options.

It is not anticipated that a spill will occur in which the field crews cannot handle. Should this occur notification of appropriate emergency response agencies will be carried out by the FOL or SSO.

## 10.0 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 three zone approach will utilize an exclusion zone, a contamination reduction zone, and a support zone. It is also anticipated that this control measure will be used to control access to site work areas. Use of such controls will restrict the general public, minimize the potential for the spread of contaminants, and protect individuals who are not cleared to enter work areas.

### 10.1 EXCLUSION ZONE

The exclusion zone will be considered those areas of the site of known or suspected contamination. It is not anticipated that significant amounts of surface contamination are present in the proposed work areas of this site. The exclusion zone for this activity will be fragmented to represent the areas where the sediment is disturbed through intrusive activities. When necessary, exclusion zones will be delineated using barrier tape, cones and/or drive poles, and postings to inform personnel other than the field crew. The exclusion zones for this project will be limited to those areas of the site where active work is being performed:

- Multi-media sampling. The exclusion zone for this activity will be set at 10 feet surrounding the sampling location.
- Decontamination operation. The exclusion zone for this activity will be set at 25 feet surrounding the gross contamination wash and rinse.

#### 10.1.1 Exclusion Zone Clearance

Access to work areas will be controlled by TtNUS personnel. No persons will be permitted to enter site exclusion zones without site-specific training. Site visitors will be provided site-specific training and will be escorted by TtNUS personnel (see Section 10.4).

### 10.2 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. The personnel and equipment decontamination will not take place in this area, but will take place at a central location established for this project. This area instead will serve as a focal point in supporting exclusion zone activities. When applicable, this area will

be delineated using barrier tape, cones and/or drive poles, and postings to inform and direct facility personnel.

### 10.3 SUPPORT ZONE

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

### 10.4 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 (EPA, OSHA, etc.)
- NSWC Crane or DOD Personnel
- Other authorized visitors

Personnel working on this project are required to gain initial access to the NSWC Crane by coordinating with the TtNUS FOL or designee and following established NSWC Crane access procedures.

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

- Site visitors will be routed to the FOL, who will sign them into the field logbook. Information to be recorded in the logbook will include the individual's name (proper identification required), the entity which they represent, and the purpose of the visit.
- Site visitors will be required to produce the necessary information supporting clearance to the site. This shall include information attesting to applicable training (40-hours of HAZWOPER 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. Any unauthorized site visitation will cause the termination of on-site activities until the unauthorized visitor is removed from the area. Removal of unauthorized visitors will be accomplished with support from the Base Contact and Base Security. Site visitors granted access to the exclusion zones during ongoing operations will be escorted by a TtNUS representative (arranged for by the FOL) while the visitor remains in the exclusion zone.

#### **10.5 SITE SECURITY**

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

#### **10.6 SITE MAP**

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

#### **10.7 BUDDY SYSTEM**

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

#### **10.8 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS**

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

## 10.9 COMMUNICATION

As personnel may not always be working in proximity to one another during field activities, a supported means of communication between field crews will be used as necessary. As a result, two-way radio communication devices will be used by field personnel while at the site. Two-way radio communications intended for use at NSWC Crane, will have GSA approval prior to being brought on-site for use.

External communication will be accomplished by using provided telephones at the site. External communication will primarily be used for the purpose of resource and emergency resource communications.

## 10.10 SAFE WORK PERMITS

Exclusion zone work conducted in support of this project will be performed using Safe Work Permits to guide and direct field crews on a task by task basis. An example of the safe work permit to be used is illustrated in Figure 10-1. Attachment V contains partially completed safe work permits for tasks that are to be performed as part of the investigation. Information such as field crew performing the task, date, time, procedure reviews, and equipment preparation information need to be completed by the FOL or SSO prior to the initiation of site activities. Safe work permits will be further supported by the daily safety meetings. This effort will ensure site specific considerations and changing conditions are incorporated into the planning effort. Permits will require the signature of the FOL and/or SSO. Personnel engaged in on-site activities will be aware of the elements indicating levels of protection and precautionary measures to be used.

Use of these permits will provide the communication line for reviewing protective measures and hazards associated with each operation. This HASP will be used as the primary reference for selecting levels of protection and control measures. The SWP will take precedence over the HASP when more conservative measures are required based on specific site conditions.

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

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

**FIGURE 10-1  
SAFE WORK PERMIT**

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

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

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

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

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

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

Respiratory equipment required  
 Yes  Specify on the reverse  
 No

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

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

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

VII. Additional Safety Equipment/Procedures

Hard-hat.....	<input type="checkbox"/> Yes <input 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 - Work ).....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Impermeable apron.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Work/rest regimen.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Steel toe work shoes or boots.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Chemical Resistant Boot Covers.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
High Visibility vest.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Tape up/use insect repellent.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
First Aid Kit.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Fire Extinguisher.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety Shower/Eyewash.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	Other.....	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

VIII. Site Preparation

Utility Locating and Excavation Clearance completed.....	Yes	No	NA
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: \_\_\_\_\_

## 11.0 CONFINED SPACE ENTRY

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 that has one or more of the following characteristics:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
- Is not designed for continuous employee occupancy.
- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material that has the potential to engulf an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.
- Contains any other recognized, serious, safety or health hazard.

For further information on confined space consult the Health and Safety Guidance Manual or call the Manager, Health Sciences. If confined space operations are to be performed as part of the scope of work, detailed procedures and training requirements will be addressed in an addendum or the site specific health and safety plan.

## 12.0 MATERIALS AND DOCUMENTS

The T1NUS 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 decon solutions, fuels, lime, sample preservatives, calibration gases, etc.
- A full-size OSHA Job Safety and Health Poster (posted in the site trailers)
- Training/Medical Surveillance Documentation Form (Blank)
- Emergency Reference Information (Section 2.0, extra copy for posting)

### 12.1 MATERIALS TO BE POSTED OR MAINTAINED 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 chemicals brought on-site, including decontamination solutions, sample preservations, fuel, etc.. This list should be posted in a central area.

**Material Safety Data Sheets (MSDS) (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 substances used 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, as directed by 29 CFR 1903.2 (a)(1), should be conspicuously posted in places where notices to employees are normally posted. Each FOL shall ensure that this poster is not defaced, altered, or covered by other material.

**Site Clearance (maintained)** - This list is found within the training section of the HASP (See Figure 8-2). 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 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 personnel to be carried on their person.

**Hearing Conservation Standard (29 CFR 1910.95) (posted)** - this standard will be posted anytime hearing protection or other noise abatement procedures are employed.

**Personnel Monitoring (maintained)** - Results generated through personnel sampling (levels of airborne toxins, noise levels, etc.) will be posted to inform individuals of the results of that effort.

**Placards and Labels (maintained)** - Where chemical inventories have been separated because of quantities and incompatibilities, these areas will be conspicuously marked using DOT placards and acceptable (Hazard Communication 29 CFR 1910.1200(f)) labels.

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

## 13.0 GLOSSARY

ACGIH	American Conference of Governmental Industrial Hygienists
APR	Air Purifying Respirators
CAAA	Crane Army Ammunition Activity
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CLEAN	Comprehensive Long-Term Environmental Action Navy
CSP	Certified Safety Professional
CTO	Contract Task Order
FOL	Field Operations Leader
HSGM	Health and Safety Guidance Manual
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HEPA	High Efficiency Particulate Air
HSM	Health and Safety Manager
IDLH	Immediately Dangerous to Life and Health
NAD	Naval Ammunition Depot
N/A	Not Available
NIOSH	National Institute Occupational Safety and Health
NSWC	Naval Surface Warfare Center
OB/OD	Open Burning/Open Detonation
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PCB	Polychlorinated Biphenyl
PEL	Permissible Exposure Limit
PHSO	Project Health and Safety Manager
PM	Project Manager
PPE	Personal Protective Equipment
PPM	Parts Per Million
PVC	Poly Vinyl Chloride
RCRA	Resource Conservation and Recovery Act
SCBA	Self Contained Breathing Apparatus
SSO	Site Safety Officer
STEL	Short Term Exposure Limit
SWMU	Solid Waste Management Unit
TBD	To Be Determined
TOM	Task Order Manager

TWA  
UV  
WP

Time Weighted Average  
Ultra Violet  
Work

Plan

**ATTACHMENT I**  
**INCIDENT REPORT FORM**



Report Date	Report Prepared By	Incident Report Number

**INSTRUCTIONS:**

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

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

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

**INFORMATION ABOUT THE INCIDENT**

Description of Incident

---



---



---



---

Date of Incident	Time of Incident
	_____ AM <input type="checkbox"/> PM <input type="checkbox"/> OR Cannot be determined <input type="checkbox"/>

Weather conditions at the time of the incident	Was there adequate lighting?
	_____ Yes <input type="checkbox"/> No <input type="checkbox"/>

Location of Incident

\_\_\_\_\_ Was location of incident within the employer's work environment? Yes  No

Street Address	City, State, Zip Code and Country

Project Name	Client:

Tt Supervisor or Project Manager	Was supervisor on the scene?
	Yes <input type="checkbox"/> No <input type="checkbox"/>

**WITNESS INFORMATION (attach additional sheets if necessary)**

Name	Company

Street Address	City, State and Zip Code

Telephone Number(s)

---



**CORRECTIVE ACTIONS**

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ROOT CAUSE ANALYSIS LEVEL REQUIRED**

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

**Root Cause Analysis Level Definitions**

Level - 1	<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>
Level - 2	<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>

Complete the Root Cause Analysis Worksheet and Corrective Action form. Identify a corrective action(s) for each root cause identified within each area of inquiry.

**NOTIFICATIONS**

Title	Printed Name	Signature	Telephone Number	Date
Project Manager or Supervisor				
Site Safety Coordinator or Office H&S Representative				
Operating Unit H&S Representative				
Other: _____				

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

**INSTRUCTIONS:**

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

Incident Report Number: (From the IR Form)

**EMPLOYEE INFORMATION**

**Company Affiliation**

Tetra Tech Employee?

TetraTech subcontractor employee (directly supervised by Tt personnel)?

Full Name

Company (if not Tt employee)

Street Address, City, State and Zip Code

Address Type

Home address (for Tt employees)

Business address (for subcontractors)

**Telephone Numbers**

Work: \_\_\_\_\_

Home: \_\_\_\_\_

Cell: \_\_\_\_\_

Occupation (regular job title)

Department

Was the individual performing regular job duties?

Yes  No

Time individual began work

\_\_\_\_\_ AM  PM  OR Cannot be determined

**Safety equipment**

Provided? Yes  No

Type(s) provided:  Hard hat  Protective clothing

Used? Yes  No  If no, explain why

Gloves  High visibility vest

Eye protection  Fall protection

Safety shoes  Machine guarding

Respirator  Other (list)

**NOTIFICATIONS**

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

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

Yes  No

Date of report

H&S Personnel Notified

Time of report

Time of Report

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

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

### INJURY / ILLNESS DETAILS

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

---



---



---

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

---



---



---

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

---



---

### MEDICAL CARE PROVIDED

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

---

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

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

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

### SIGNATURES

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

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

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

**INSTRUCTIONS:**

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

Incident Report Number: (From the IR Form)

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

Property Damage       Equipment Damage       Fire or Explosion       Spill or Release

**INCIDENT DETAILS**

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Response Actions Taken:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

Agency(s) Contact Name(s)

\_\_\_\_\_  
\_\_\_\_\_

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

Item:	Extent of damage:	Estimated repair cost

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

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

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

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

**NOTIFICATIONS**

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

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

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

**INSTRUCTIONS:**

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

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

### DRIVER INFORMATION

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

### PASSENGERS IN VEHICLES (NON-INJURED)

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

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

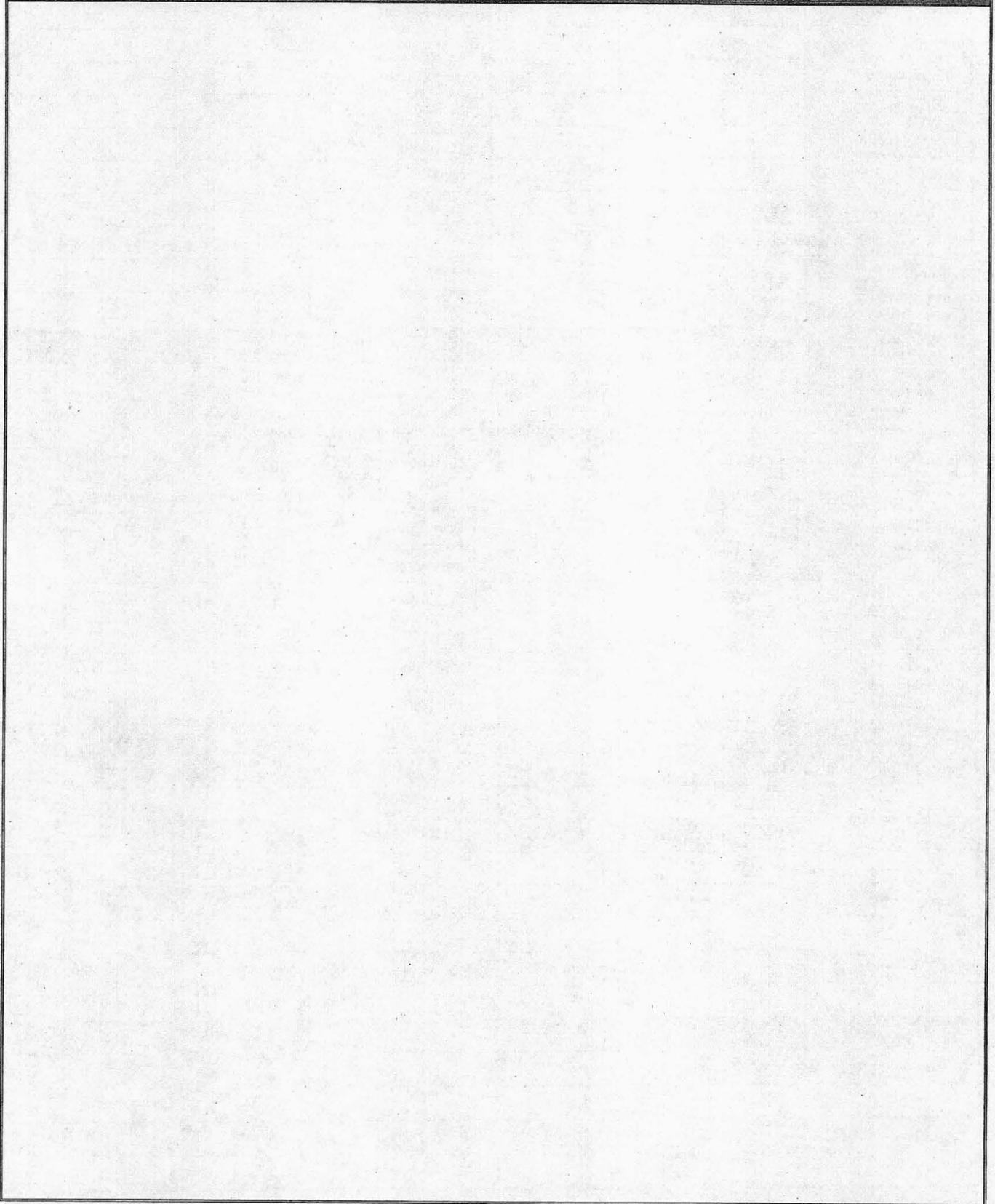
### INJURIES TO NON-TETRATECH EMPLOYEES

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

### OTHER PROPERTY DAMAGE

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

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED



**ATTACHMENT II**  
**MEDICAL DATA SHEET**

## MEDICAL DATA SHEET

*This brief Medical Data Sheet will be completed by all onsite personnel and visitors who are cleared and will enter defined areas of operation. The medical data sheets will be kept in a central location 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: \_\_\_\_\_

Name of Next Kin: \_\_\_\_\_

Telephone Numbers: Home: \_\_\_\_\_ Work: \_\_\_\_\_ Cell: \_\_\_\_\_

Address: \_\_\_\_\_

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

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

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

Provide a Checklist of Previous Illnesses or Overexposure to Hazardous Chemicals Resulting in signs and symptoms of overexposure and/or the necessity for Medical Attention and/or First-aid: \_\_\_\_\_

Do you have any medical restrictions? \_\_\_\_\_

Past Medical History/Review of Systems (Check if you have had positive history)

- |   |   |
|---|---|
| <input type="checkbox"/> Heart Conditions (Chest pains, angina, heart attacks)                  | <input type="checkbox"/> Endocrine (Thyroid, diabetes)                  |
| <input type="checkbox"/> Gastrointestinal Conditions (Ulcers, liver, GI Bleeding)               | <input type="checkbox"/> Hematological (Clotting, anemia)               |
| <input type="checkbox"/> Pulmonary (Difficulty in breathing, coughing, asthma, pneumonia)       | <input type="checkbox"/> Cancer   |
| <input type="checkbox"/> Neurological (Headaches, dizziness, strokes (CVA, TIA))                | <input type="checkbox"/> Muscular/Skeleton (Arthritis, Fractures, etc.) |
| <input type="checkbox"/> Kidney/Urological Disorder (kidney stones, renal failure, fever, etc.) | <input type="checkbox"/> Other (Recent Illnesses, weight loss, etc.)    |

Comments: (Please explain positive indications): \_\_\_\_\_

Immunization History: Last Tetanus Shot or Booster (Date): \_\_\_\_\_ Pneumonia Vaccination (Date): \_\_\_\_\_

Flu Vaccination (Date): \_\_\_\_\_ Other: \_\_\_\_\_

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

I am the individual described above. I have read and understand this HASP.

Signature

Date

**ATTACHMENT III**  
**SAFE WORK PERMITS**

**SAFE WORK PERMIT FOR  
MOBILIZATION AND DEMOBILIZATION  
NSWC, CRANE INDIANA**

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

I. Work limited to the following (description, area, equipment used): Mob and Demob activities at SWMU 17

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

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

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

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

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>None expected during this Task.</u>	_____	_____	_____
_____	_____	_____	_____

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

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

VII. Additional Safety Equipment/Procedures

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

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

VIII. Site Preparation

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

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

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

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

**SAFE WORK PERMIT FOR  
MULTIMEDIA SAMPLING  
NSWC, CRANE INDIANA**

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

- I. **Work limited to the following (description, area, equipment used):** Multimedia sampling including surface water and sediment at SWMU 17
- II. **Primary Hazards:** Chemical contamination, transfer contamination, pinch/compression, lifting, slips, trips and falls, vehicular and foot traffic, ambient temperature extremes, insect/animal bites, stings, poisonous plants, and inclement weather

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

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

V. **Protective equipment required**  
 Level D  Level B   
 Level C  Level A   
 Modifications/Exceptions: \_\_\_\_\_

**Respiratory equipment required**  
 Yes  Specify on the reverse  
 No

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>PCBs and Creosote</u>	<u>None Required</u>		
	<u>Dust</u>	<u>visible dust</u>	<u>Use area wetting techniques</u>

Primary Route(s) of Exposure/Hazard: inhalation

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

- VII. **Additional Safety Equipment/Procedures**
- |  |   |
|--|---|
| Hard-hat ..... <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 type="checkbox"/> No                        |
| Chemical/splash goggles ..... <input type="checkbox"/> Yes <input type="checkbox"/> No               | Radio/cellular phone ..... <input type="checkbox"/> Yes <input type="checkbox"/> No                       |
| Splash shield ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No              | Barricades ..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                      |
| Splash suits/coveralls ..... <input type="checkbox"/> Yes <input type="checkbox"/> No                | Gloves (Type - surgical style ) ..... <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 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: double layer gloves if necessary, Tyvek coveralls and disposable boot covers if surface contamination present or potential for soiling clothes.

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

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

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

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

**SAFE WORK PERMIT FOR  
DECONTAMINATION  
NSWC, CRANE INDIANA**

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

I. Work limited to the following (description, area, equipment used): Decontamination activities at SWMU 17

II. Primary Hazards: Chemical contamination, decontamination fluids, lifting, slips, trips and falls, ambient temperature extremes, and inclement weather

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

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

V. Protective equipment required  
 Level D  Level B   
 Level C  Level A   
 Respiratory equipment required  
 Yes  Specify on the reverse  
 No

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

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

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

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

VII. Additional Safety Equipment/Procedures

Hard-hat	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hearing protection (Plugs/Muffs)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Safety glasses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Safety belt/harness	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Chemical/splash goggles	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radio/cellular phone	<input type="checkbox"/> Yes <input type="checkbox"/> No
Splash shield	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Barricades	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Splash suits/coveralls	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gloves (Type - 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 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: \_\_\_\_\_

VIII. Site Preparation

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

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

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

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

**SAFE WORK PERMIT FOR  
IDW  
NSWC, CRANE INDIANA**

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

- I. Work limited to the following (description, area, equipment used): IDW activities at SWMU 17.
- II. Primary Hazards: Chemical contamination; lifting; pinches and compressions; slips, trips, and falls; vehicle and foot traffic; ambient temperature extremes and inclement weather.

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

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

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

Respiratory equipment required  
 Yes  Specify on the reverse  
 No

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>PCBs and Creosote</u>	<u>None Required</u>		
_____	_____	_____	_____
_____	<u>Dust</u>	<u>visible dust</u>	<u>Use area wetting techniques</u>
_____	_____	_____	_____

Primary Route(s) of Exposure/Hazard: Contaminants are not anticipated to be present at concentrations that pose a health threat to site workers.

(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<br>Safety Glasses <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Chemical/splash goggles <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Splash Shield <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Splash suits/coveralls <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Impermeable apron <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Steel toe work shoes/boots <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>High Visibility vest <input type="checkbox"/> Yes <input type="checkbox"/> No<br>First Aid Kit <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Safety Shower/Eyewash <input type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs) <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Safety belt/harness <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Radio/Cellular Phone <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Barricades <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Gloves (Type - Nitrile, Inner and Work) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Work/rest regimen <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Chemical Resistant Boot Covers <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Tape up/use insect repellent <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Fire Extinguisher <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Other <input type="checkbox"/> Yes <input type="checkbox"/> No |
|---|--|
- Modifications/Exceptions: PPE selection is largely dependent upon conditions and tasks being performed. Tyvek if potential for soiling clothes; reflective vest in high traffic areas; hard hat in overhead hazard area

VIII. Site Preparation

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

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

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

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