

N00213.AR.000588
NAS KEY WEST
5090.3a

HEALTH AND SAFETY PLAN FOR QUARTERLY GROUNDWATER SAMPLING AT BOCA
CHICA FLYING CLUB WITH TRANSMITTAL LETTER NAS KEY WEST FL
6/17/2003
TETRA TECH NUS



TETRA TECH NUS, INC.

AIK-03-0141

June 17, 2003

Project Number HK 5658

via email

Commander
Department of the Navy
SOUTHDIV NAVFACENGCOM
ATTN: Byas Glover (Code ES24)
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Reference: CLEAN Contract No. N62467-94-D-0888
Contract Task Order No. 0301

Subject: Health and Safety Plan for Quarterly Groundwater Sampling at Boca Chica Flying Club,
Rev. 0, Naval Air Station, Key West, Florida

Dear Mr. Glover:

TtNUS is pleased to submit the enclosed PDF file for the final Health and Safety Plan for Quarterly Groundwater Sampling at Boca Chica Flying Club, Rev. 0, Naval Air Station, Key West, Florida. I am not planning on receiving comments on this document.

Please call me at (803) 649-7963, extension 345, if you have any questions regarding the enclosed document.

Sincerely,

C. M. Bryan
Project Manager

CMB:spc

Enclosure

c: Ms. Debbie Wroblewski (Cover Letter Only)
Mr. R. Courtright, NAS Key West (hard copy)
Ms. T. Vaught, FDEP

Mr. M. Perry/File
File 5658-4.2

**Health and Safety Plan
for
Quarterly Groundwater Sampling
at
Boca Chica Flying Club**

**Naval Air Station Key West
Key West, Florida**



**Southern Division
Naval Facilities Engineering Command**

Contract No. N62467-94-D-0888

Contract Task Order 0301

June 2003

**HEALTH AND SAFETY PLAN
FOR
QUARTERLY GROUNDWATER SAMPLING
AT
BOCA CHICA FLYING CLUB
NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA**

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

**Submitted to:
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406**

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

**CONTRACT NO. N62467-94-D-0888
CONTRACT TASK ORDER 0301**

June 2003

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMISSION BY:

**CHARLES BRYAN
TASK ORDER MANAGER
TETRA TECH NUS
AIKEN, SOUTH CAROLINA**

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

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION.....	1-1
1.1 KEY PROJECT PERSONNEL AND ORGANIZATION.....	1-1
1.2 SITE INFORMATION AND PERSONNEL ASSIGNMENTS.....	1-3
2.0 EMERGENCY ACTION PLAN	2-1
2.1 INTRODUCTION.....	2-1
2.2 EMERGENCY PLANNING	2-1
2.3 EMERGENCY RECOGNITION AND PREVENTION	2-2
2.3.1 Recognition	2-2
2.3.2 Prevention	2-3
2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE	2-3
2.5 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT.....	2-4
2.6 EMERGENCY CONTACTS	2-4
2.7 EMERGENCY ROUTE TO HOSPITAL	2-6
2.8 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES.....	2-7
2.9 PPE AND EMERGENCY EQUIPMENT.....	2-7
3.0 SITE BACKGROUND.....	3-1
3.1 SITE HISTORY	3-1
3.2 PROJECT SITE DESCRIPTION.....	3-1
4.0 SCOPE OF WORK	4-1
5.0 TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES SUMMARIZATION	5-1
5.1 GENERAL SITE WORK PRACTICES	5-1
6.0 HAZARD ASSESSMENT	6-1
6.1 CHEMICAL HAZARDS	6-1
6.2 PHYSICAL HAZARDS	6-1
6.3 NATURAL HAZARDS	6-3
6.3.1 Fire Ants.....	6-3
6.3.2 Snakes, Insects, and Other Animals.....	6-3
6.3.3 Inclement Weather	6-4
6.3.4 Heat Stress	6-6
7.0 AIR MONITORING.....	7-1
7.1 INSTRUMENTS AND USE	7-1
7.1.1 Photoionization Detector or Flame Ionization Detector	7-1
7.1.2 Hazard Monitoring Frequency.....	7-1
7.2 INSTRUMENT MAINTENANCE AND CALIBRATION	7-2

TABLE OF CONTENTS (continued)

<u>SECTION</u>	<u>PAGE</u>
8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS.....	8-1
8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING	8-1
8.1.1 Requirements for Subcontractors	8-1
8.2 SITE-SPECIFIC TRAINING	8-1
8.3 MEDICAL SURVEILLANCE.....	8-2
8.3.1 Medical Surveillance Requirements for Subcontractors.....	8-2
8.3.2 Requirements for All Field Personnel	8-3
8.4 SUBCONTRACTOR EXCEPTIONS.....	8-3
9.0 SPILL CONTAINMENT PROGRAM	9-1
9.1 WORK ZONES.....	9-1
9.1.1 Exclusion Zones.....	9-1
9.1.2 Contamination Reduction Zone	9-2
9.1.3 Support Zone	9-3
9.2 SAFE WORK PERMITS.....	9-3
9.3 SITE MAP.....	9-4
9.4 BUDDY SYSTEM.....	9-4
9.5 MATERIAL SAFETY DATA SHEETS (MSDS) REQUIREMENTS.....	9-4
9.6 COMMUNICATION.....	9-6
9.7 SITE VISITORS	9-6
9.8 SITE SECURITY	9-7
9.9 SANITATION AND BREAK AREAS	9-8
9.9.1 Toilets.....	9-8
9.9.2 Potable Water	9-8
9.9.3 Showers/Change Rooms and Break Areas.....	9-9
10.0 SITE CONTROL	10-1
10.1 SCOPE AND APPLICATION	10-1
10.2 POTENTIAL SPILL AREAS	10-1
10.3 LEAK AND SPILL DETECTION.....	10-1
10.4 PERSONNEL TRAINING AND SPILL PREVENTION.....	10-1
10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT	10-2
10.6 SPILL CONTROL PLAN	10-2
11.0 CONFINED SPACE ENTRY.....	11-1
12.0 MATERIALS AND DOCUMENTATION	12-1
12.1 MATERIALS TO BE POSTED AT THE SITE	12-1
13.0 GLOSSARY	13-1
ATTACHMENT I INJURY/ILLNESS PROCEDURE AND REPORT FORM	
ATTACHMENT II MEDICAL DATA SHEET	
ATTACHMENT III SAFE WORK PERMITS	
ATTACHMENT IV OSHA POSTER	

TABLE OF CONTENTS (CONTINUED)

TABLES

<u>NUMBER</u>		<u>PAGE</u>
2-1	Emergency Reference NAS Key West Key West, Florida.....	2-5
5-1	Tasks/Hazards/Control Measures Compendium For Naval Air Station Key West, Key West, Florida	5-3
6-1	Chemical, Physical, and Toxicological Data for Naval Air Station Key West, Key West, Florida	6-2
6-2	Tropical Storm/Hurricane Rating Scale	6-5
6-3	Tropical Storm/Hurricane Watch and Warning	6-6

FIGURES

<u>NUMBER</u>		<u>PAGE</u>
2-1	Route To Hospital	2-6
2-2	Emergency Response Protocol	2-9
7-1	Documentation Of Field Calibration	7-3
8-1	Example Training Letter	8-4
8-2	Site-Specific Training Documentation.....	8-5
8-3	Subcontractor Medical Approval Form	8-6
9-1	Example Safe Work Permit.....	9-5

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been developed to provide practices and procedures for Tetra Tech NUS, Inc. (TtNUS) personnel engaged in Quarterly Groundwater Sampling at the Naval Air Station Key West (NAS Key West), located in Key West, Florida. This work is authorized under the Comprehensive Long - Term Environmental Action Navy (CLEAN) contract, administered through the U.S. Navy Southern Division Naval Facilities Engineering Command, as defined under Contract No. N62467-94-D-0888; Contract Task Order Number 0301. This HASP must be used in conjunction with the TtNUS Health and Safety Guidance Manual. Both of these documents must be present at the site during the performance of all site activities. The Guidance Manual provides detailed information pertaining to the HASP as well as applicable TtNUS Standard Operating Procedures (SOPs). This HASP and the contents of the Guidance Manual were developed to comply with the requirements stipulated in 29 CFR 1910.120 (OSHA's Hazardous Waste Operations and Emergency Response Standard).

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 at the site. The HASP will be modified if new information becomes available. All changes to the HASP will be made with the approval of the TtNUS Project Health and Safety Officer (PHSO) and the TtNUS Health and Safety Manager (HSM). Requests for modifications to the HASP will be directed to the PHSO, who will determine if the changes are necessary. The PHSO will notify the Task Order Manager (TOM), who will notify all affected personnel of changes.

1.1 KEY PROJECT PERSONNEL AND ORGANIZATION

This section defines responsibility for site safety and health for TtNUS employees engaged in onsite activities. Personnel assigned to these positions will exercise the primary responsibility for all onsite 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 onsite activities.

- The TtNUS TOM is responsible for the overall direction of health and safety for this project.
- The PHSO is responsible for developing this 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 based on task and potential hazards.
 - 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.
 - Modify this HASP, as it becomes necessary.
- The TtNUS Field Operations Leader (FOL) is responsible for implementation of the HASP with the assistance of an appointed SSO. The FOL manages field activities, executes the work plan, and enforces safety procedures as applicable to the work plan.
 - The SSO supports site activities by advising the FOL on all aspects of health and safety on site. These duties may include:
 - Coordinates all health and safety activities with the FOL.
 - Selects, applies, inspects, and maintains personal protective equipment.
 - Establishes work zones and control points in areas of operation.
 - Implements air monitoring program for onsite activities.
 - Verifies training and medical clearance of onsite personnel status in relation to site activities.
 - Implements Hazard Communication, Respiratory Protection Programs, and other associated health and safety programs as they may apply to site activities.
 - Coordinates emergency services.
 - Provides site-specific training for all onsite personnel.
 - Investigates all accidents and injuries (see Attachment I - Illness/Injury Procedure and Report Form)
 - Provides input to the PHSO regarding the need to modify, this HASP, or applicable health and safety associated documents as per site-specific requirements.
 - Compliance with the requirements stipulated in this HASP is monitored by the SSO and coordinated through the TtNUS CLEAN HSM.

Note: In some cases one person may be designated responsibilities for more than one position. For example, at NAS Key West, the FOL may also be responsible for SSO duties. This action will be performed only as credentials or experience permits.

1.2 SITE INFORMATION AND PERSONNEL ASSIGNMENTS

Site Name: Naval Air Station Key West **Client Contact:** Mr. Robert Courtright
Key West, Florida **Phone Number:** (305) 293-2881

Scheduled Activities: TtNUS will conduct Quarterly Groundwater Sampling at the Boca Chica Flying Club. See section 3.0 and 4.0 for details concerning details site background and scope of work.

Dates of scheduled activities: August 2003 – August 2004

Project Team:

TtNUS Management Personnel:

Chuck Bryan

Emily Harrison McRee

TBD

Matthew M. Soltis, CIH, CSP

Clyde Snyder

Discipline/Tasks Assigned:

Task Order Manager (TOM)

Field Operations Leader (FOL)

Site Safety Officer (SSO)

CLEAN Health and Safety Manager

Project Health and Safety Officer (PHSO)

Other Potential TtNUS Project Personnel:

Gary Braganza

Amanda Shearer

Hazard Assessment (for purpose of 29 CFR 1910.132) for HASP preparation has been 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. All site activities will be coordinated with the client contact, Robert Courtright. In the event of an emergency which cannot be mitigated using onsite resources, personnel will evacuate to a safe place of refuge and the appropriate emergency response agencies will be notified. It has been determined that the majority of potential emergency situations would be better supported by outside emergency responders. Based on this determination, TtNUS personnel will not provide emergency response support beyond the capabilities of onsite response. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/ill person. The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. These agencies are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time. NAS Key West contact Robert Courtright will be notified anytime outside response agencies are contacted. This Emergency Action Plan conforms to the requirements of 29 CFR 1910.38(a), as allowed in 29 CFR 1910.120(l)(1)(ii).

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

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

2.2 EMERGENCY PLANNING

Through the initial hazard/risk assessment effort, emergencies resulting from chemical, physical, or fire hazards are considered to be unlikely to be encountered during site activities. Nonetheless, to minimize and eliminate the potential for any emergency situations, emergency planning activities will include the following (which are the responsibility of the SSO and/or the FOL):

- Coordinating with local Emergency Response personnel to ensure that TtNUS emergency action activities are compatible with existing emergency response procedures. Base Fire Protection and

Emergency Services will be notified of scheduled events and activities. This is most imperative in situations where their services may be required.

- Establishing and maintaining information at the project staging area (Support Zone) for easy access in the event of an emergency. This information will include the following:
 - Chemical Inventory (of chemicals used onsite), with Material Safety Data Sheets.
 - Onsite personnel medical records (Medical Data Sheets).
 - A log book identifying personnel onsite each day.
 - Hospital route maps with directions (these should also be placed in each site vehicle).
 - Emergency Notification - phone numbers.

The TtNUS FOL will be responsible for the following tasks:

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

2.3 EMERGENCY RECOGNITION AND PREVENTION

2.3.1 Recognition

Emergency situations that may be encountered during site activities will generally be recognized by visual observation. To adequately recognize chemical exposures, site personnel must have a clear knowledge of signs and symptoms of exposure associated with site contaminants. This information is provided in Table 6-1. Tasks to be performed at the site, potential hazards associated with those tasks and the recommended control methods are discussed in detail in Sections 5.0 and 6.0. Additionally, early recognition of hazards will be supported by daily site surveys to eliminate any situation predisposed to an emergency. The FOL and/or the SSO will be responsible for performing surveys of work areas prior to initiating site operations and periodically while operations are being conducted. Survey findings will be documented by the FOL and/or the SSO in the Site Health and Safety logbook, however, all site

personnel will be responsible for reporting hazardous situations. Where potential hazards exist, TtNUS will initiate control measures to prevent adverse effects to human health and the environment.

The above actions will provide early recognition for potential emergency situations, and allow TtNUS to instigate necessary control measures. However, if the FOL and the SSO determine that control measures are not sufficient to eliminate the hazard, TtNUS will withdraw from the site and notify the appropriate response agencies listed in Table 2-1.

2.3.2 Prevention

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

2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE

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

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

Evacuation procedures will be discussed during the pre-activities training session, prior to the initiation of project tasks. Evacuation routes from the site and safe places of refuge are dependent upon the location at which work is being performed and the circumstances under which an evacuation is required. Additionally, site location and meteorological conditions (i.e., wind speed and direction) may dictate evacuation routes. As a result, assembly points will be selected and communicated to the workers relative to the site location where work is being performed. Evacuation should always take place in an upwind direction from the site.

2.5 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT

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

TtNUS personnel will perform removal of personnel from emergency situations and may provide initial medical support for injury/illnesses requiring only first-aid level support. Medical attention above that level will require assistance and support from the designated emergency response agencies. Attachment I provides the procedure to follow when reporting an injury/illness, and the form to be used for this purpose. **If the emergency involves personnel exposures to chemicals, follow the steps provided in Figure 2-1.**

2.6 EMERGENCY CONTACTS

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

TABLE 2-1
EMERGENCY REFERENCES
NAVAL AIR STATION
KEY WEST, FLORIDA

AGENCY	TELEPHONE
Key West Police/Rescue Services	(305) 293-2971
NAS Key West Point of Contact, Robert Courtright	(305) 293-2881
Base Police	(305) 293-2114
Base Fire Department Boca Chica	(305) 293-3333
Hospital: Lower Florida Keys Health System	(305) 294-5531
Base Officer of the Day (OOD)	(305) 293-2971
Poison Control Center	(800) 222-1222
Chemtrec	(800) 424-9300
National Response Center	(800) 424-8802
Task Order Manager Chuck Bryan	(803) 649-7963 x345
Field Operations Leader Emily McRee	(803) 649-7963 x344
Health and Safety Manager, Matthew M. Soltis, CIH, CSP	(412) 921-8912
Project Health and Safety Officer, Clyde Snyder,	(412) 921-8904

2.7 EMERGENCY ROUTE TO HOSPITAL

The closest hospital to NAS Key West is Lower Florida Keys Health System. Directions are as follows:

From Boca Chica, exit NAS Key West and get on U.S. 1 South. Go west across the bridge; pass Texaco and turn right on Junior College Road. Golf course will be on left; and on right, you will see hospital sign. Follow road to Hospital, which will be on the left. Hospital is located at 5900 College Road on Stock Island.

A map indicating the travel route from the site to the Hospital will be inserted as Figure 2-2.

Figure 2-1
Route to Hospital



2.8 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

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

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

- Initiate the evacuation via hand signals, voice commands, line of site communication, or vehicle horns. The following signals shall be utilized when communication via vehicle horn is necessary:

HELP	three short blasts	(. . .)
EVACUATION	three long blasts	(- - -)

- Report to the designated refuge point.
- Once all non-essential personnel are evacuated, appropriate response procedures will be enacted to control the situation.
- Describe to the FOL (FOL will serve as the Incident Coordinator) pertinent incident details.

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

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

2.9 PPE AND EMERGENCY EQUIPMENT

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

As soon as possible Navy contact Robert Courtright must be informed of any incident or accident that requires medical attention.

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

Figure 2-2 Emergency Response Protocol

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

In the event of a personnel injury or accident:

- Rescue, when necessary, employing proper equipment and methods.
- Give attention to emergency health problems -- breathing, cardiac function, bleeding, and shock.
- Transfer the victim to the medical facility designated in this HASP by suitable and appropriate conveyance (i.e. ambulance for serious events)
- Obtain as much exposure history as possible (a Potential Exposure report is attached).
- If the injured person is a Tetra Tech NUS employee, call the medical facility and advise them that the patient(s) is/are being sent and that they can anticipate a call from the WorkCare physician. WorkCare will contact the medical facility and request specific testing which may be appropriate. WorkCare physicians will monitor the care of the victim. Site officers and personnel should not attempt to get this information, as this activity leads to confusion and misunderstanding.
- Call WorkCare at 1-800-455-6155 and enter Extension 109, or follow the voice prompt after hours and on weekends 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 Tetra Tech NUS, Inc. employee(s).
 - Name and phone number of an informed site officer who will be responsible for further investigations.
 - Fax appropriate information to WorkCare at (714) 456-2154.
- Contact Corporate Health and Safety Department (Matt Soltis) at 1-800-245-2730.
- Contact Corporate Human Resources Manager (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 all data and provide a summary report of the incident. A copy of this report will be placed in each victim's medical file in addition to being distributed to appropriately designated company officials.

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

**FIGURE 2-2 (continued)
POTENTIAL EXPOSURE REPORT**

Name: _____ Date of Exposure: _____

Social Security No.: _____ Age: _____ Sex: _____

Client Contact: _____ Phone No.: _____

Company Name: _____

I. Exposing Agent

Name of Product or Chemicals (if known): _____

Characteristics (if the name is not known)

Solid Liquid Gas Fume Mist Vapor

II. Dose Determinants

What was individual doing? _____

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

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

Was their skin contact? _____

Was the exposing agent inhaled? _____

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

III. Signs and Symptoms (check off appropriate symptoms)

Immediately With Exposure:

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

Chest Tightness / Pressure
Nausea / Vomiting
Dizziness
Weakness

Delayed Symptoms:

Weakness
Nausea / Vomiting
Shortness of Breath
Cough

Loss of Appetite
Abdominal Pain
Headache
Numbness / Tingling

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

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

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

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

Improved: _____ Worsened: _____ Remained Unchanged: _____

V. Treatment of Symptoms (check off appropriate response)

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

3.0 SITE BACKGROUND

3.1 SITE HISTORY

NAS Key West is in southern Monroe County, Florida. The U.S. Navy manages 6,323 acres of land divided into twenty separate tracts in the lower Florida Keys, concentrated around Key West and Boca Chica Key. The Naval Station at Key West was disestablished in 1974, resulting in the relocation of several units. At present, NAS Key West is proceeding with realignment of aviation operations, a research laboratory, communications intelligence, counternarcotics air surveillance operations, a weather service, and several other activities on Key West. In addition to the Naval activities and units, other DOD and Federal agencies at NAS Key West include the U.S. Air Force, U.S. Army, and U.S. Coast Guard.

Several installations in various parts of the lower Florida Keys comprise the Naval Complex at Key West. Most of these are on Key West and Boca Chica Key. Key West, one of the two westernmost major islands of the Florida Keys, is approximately 150 miles southwest of Miami and 90 miles north of Havana, Cuba. Key West connects to the mainland by the Overseas Highway (U.S. Highway No. 1). The topography at the NAS Key West is generally flat.

3.2 PROJECT SITE DESCRIPTION

A contamination assessment and remedial action was performed at the site (Flying Club Underground Storage Tank [UST] Site 9). Petroleum contaminated soil was excavated, treated, and returned to the site. Contaminated groundwater remains at the site. The remedial action plan for the site recommended the monitoring of the groundwater showed no significant decrease in contaminants in the groundwater. The remedial action plan for the site recommended a Quarterly Groundwater Sampling for the site.

Groundwater Sampling will consist of quarterly sampling of existing monitoring wells for kerosene contamination.

4.0 SCOPE OF WORK

This section describes the project tasks that will be performed at NAS Key West. Additionally, each task has been evaluated and the associated hazards and recommended control measures are listed in Table 5-1 of this HASP. If new tasks are to be performed at the site, Table 5-1 and this section will be modified accordingly. Specific tasks to be conducted include, but are not necessarily limited to, the following:

- Mobilization and demobilization
- Quarterly Groundwater sampling
- Investigation derive waste (IDW) management
- Decontamination of equipment

The above listing represents a summarization of the tasks as they apply to the scope and application of this HASP. For more detailed description of the associated tasks refer to the Groundwater Sampling Work Plan (WP). If additional tasks are determined to be necessary, this HASP will be amended and a hazard evaluation of the additional tasks performed.

5.0 TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES SUMMARIZATION

Table 5-1 of this section serves as the primary portion of this HASP and identifies the tasks that are to be performed as part of the scope of work. This table may be modified if new or additional tasks become necessary. For each of the planned tasks, Table 5-1 specifies the anticipated hazards, recommended control measures, air monitoring recommendations, required Personal Protective Equipment (PPE), and decontamination measures.

Through using this 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 as well as proper air monitoring techniques.

As discussed earlier, a Health and Safety Guidance Manual accompanies this table and HASP. The manual has been 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 Tetra Tech NUS' SOPs are also provided in the Guidance Manual.

Safe Work Permits issued for all exclusion zone activities (See Section 9.2) will use elements defined in Table 5-1 as its primary reference. The FOL and/or the SSO completing the Safe Work Permit (SWP) will be required to add certain task-specific information. The SWPs are to be used by the SSO as the outline for task-specific tailgate safety briefings, which are to be conducted prior to the initiation of each task, and at the beginning of each work shift.

5.1 GENERAL SAFE WORK PRACTICES

In addition to the task-specific work practices identified on Table 5-1, the following general safe work practices (SWP) are to be followed when conducting work on-site. These safe work practices address a pattern of general precautions and measures for reducing risks associated with site operations. This list is not all-inclusive and may be amended as necessary.

- Eating, drinking, chewing gum or tobacco, taking medication, or smoking is prohibited 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. Avoid puddles, pools, mud, or other such areas. Avoid, whenever possible, kneeling on the ground or leaning or sitting on equipment. Keep monitoring equipment away from potentially contaminated surfaces.
- Obey all instructions in the site-specific HASP.
- Take note of the location of the nearest telephone and all 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.
- Buddies should maintain visual contact with each other and with other on-site team members by remaining in close proximity to assist each other in case of emergency.
- Establish appropriate Safety Zones including Support, Contamination Reduction, and Exclusion Zones.
- Minimize the number of personnel and equipment in contaminated areas (such as the Exclusion Zone). Non-essential vehicles and equipment should remain within the Support Zone.
- Establish appropriate decontamination procedures for leaving the site.
- Immediately report all injuries, illnesses, and unsafe conditions, practices, and equipment to the Site Safety Officer (SSO).
- Matches and lighters are restricted from entering in the Exclusion Zone or Contamination Reduction Zone.
- 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.

TABLE 5-1
TASKS-SPECIFIC HAZARD AND HAZARD CONTROL
FOR NAS KEY WEST FLORIDA
PAGE 1 OF 4

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>Chemical hazards: 1) Exposure to potential site contaminants are not anticipated during this activity. However, chemicals brought on site in support of field activities are to be identified, inventoried, accompanied by an appropriate MSDS, and properly stored.</p> <p>Physical hazards: 2) Lifting (strain/muscle pulls) 3) Pinches and compressions 4) Slip, trips, and falls 5) Heavy equipment hazards (rotating equipment, hydraulic lines, etc.) 6) Vehicular and foot traffic 7) Ambient temperature extremes</p> <p>Natural hazards: 8) Insect/animal bites and stings</p>	<p>1) To eliminate potential chemical hazards associated with this task ensure the following: - A chemical inventory list must be generated and maintained for all chemicals brought to the site (complete Section 5.0 of the TtNUS Health and Safety Guidance Manual). - Material Safety Data Sheets must be available for all chemicals brought on site. - Materials are to be stored in accordance with recommended practices and according to compatibility (See MSDS for storage and compatibility recommendations). - Persons using or handling chemicals must observe the requirements and restrictions presented on MSDS and container labels.</p> <p>2) Use machinery or multiple personnel for heavy lifts. Use proper lifting techniques.</p> <p>3) Keep any machine guarding in place. Avoid moving parts. Use tools or equipment where necessary to avoid contacting pinch points.</p> <p>4) Preview work locations for unstable/uneven terrain.</p> <p>5) All equipment will be - Inspected in accordance with OSHA, and manufacturer's design. - Operated by knowledgeable operators, and knowledgeable ground crew.</p> <p>6) Traffic and equipment considerations are to include the following: - All activities are to be conducted consistent with the Base requirements.</p> <p>7) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding cold/heat stress concerns is provided in Section 4 of the TtNUS Health and Safety Guidance Manual.</p> <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>	Not required	<p>Level D - (Minimum Requirements) - Standard field attire (Sleeved shirt; long pants) - Steel Toe Safety shoes - Safety glasses - Hardhat (when overhead hazards exists, or as designated by the SSO) - Reflective vest for high traffic areas - Hearing protection for high noise areas, or as designated by the SSO.</p> <p>Note: The Safe Work Permit(s) for this task (see Attachment IV) 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>	Not required

TABLE 5-1
TASKS-SPECIFIC HAZARD AND HAZARD CONTROL
FOR NAS KEY WEST FLORIDA
PAGE 2 OF 4

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
<p>Quarterly Groundwater sampling.</p>	<p>Chemical hazards:</p> <p>1) Primary types of contaminants include Diesel Range Organics, including diesel fuel and general Polynuclear Aromatic Hydrocarbons (PAHs).</p> <p>Note that these contaminants may be bound to particulates (dusts, soils, etc.) and contact should be avoided whenever possible. See Table 6-1 for more information on the chemicals of concern.</p> <p>2) Transfer of contamination into clean areas</p> <p>Physical hazards:</p> <p>3) Noise in excess of 85 dBA 4) Lifting (strain/muscle pulls) 5) Pinches and compressions 6) Slip, trips, and falls 7) Ambient temperature extremes 8) Vehicular and foot traffic</p> <p>Natural hazards:</p> <p>9) Insect/animal bites and stings</p>	<p>1) Use real-time monitoring instrumentation, action levels, and identified PPE to control exposures to potentially contaminated media (air, water, soils, etc.). Generation of dusts should be minimized. If airborne dusts are observed, area wetting methods may be used. If area wetting methods are not feasible, termination of activities may be used to minimize exposure to observed airborne dusts.</p> <p>2) Establish the Exclusion Zone for this activity at 10 feet surrounding the well head and discharge collection container. Decontaminate all equipment and supplies between sampling locations and prior to leaving the site.</p> <p>3) When sampling in high noise areas use hearing protection. The use of hearing protection should be incorporated under the following condition:</p> <p style="padding-left: 40px;">If you have to raise your voice to talk to someone who is within 2 feet of your location, hearing protection must be worn.</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) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding cold/heat stress concerns is provided in Section 4 of the TtNUS Health and Safety Guidance Manual.</p> <p>8) Traffic and equipment considerations are to include the following: - All activities are to be conducted consistent with the Base requirements.</p> <p>9) When hand bailing or peristaltic pumping free product from wells take all precautions to avoid spilling product. Cover the immediate area around the well and under the transfer bucket with plastic. Use absorbent materials to contain spilled material. Properly deliver waste into a 55-gallon drum and label as Hazardous Waste.</p> <p>10) Avoid potential nesting areas of biting/stinging insects and snakes. Use commercially available insect repellents. Wear appropriate clothing, including snake chaps where warranted. Tape ankle and wrists areas to prevent ticks and chiggers, etc. from attaching themselves to you skin. Wear light colored clothing so that biting insects can be easily visible and be removed. Follow directions as specified in Section 6.3 of this HASP and Section 4.0 of the Health and Safety Guidance Manual concerning natural hazards.</p>	<p>Direct reading instrument such as a Photoionization Detector (PID) with an 9.24 eV source (or higher) or Flame Ionization Detector (FID) will be used as a general screening instrument to detect volatile organic compounds and to evaluate airborne concentrations of potential site contaminants:</p> <p>Source areas (well head and breathing zone) will be monitored using a PID or FID at regular intervals to be determined by the SSO. Positive sustained results in the breathing zone will require the following actions:</p> <p>Excessive chemical contamination concentrations affecting the field crews during this task is not anticipated. The following information is based on a contingency action only.</p> <ul style="list-style-type: none"> - Monitor the breathing zone of at-risk and downwind employees. Any sustained readings (greater than 1 minute in duration) above 25 ppm in the breathing zone areas of the at-risk employees requires site activities to be suspended and site personnel to retreat to an unaffected area. - Work may only resume if airborne readings in worker breathing zone areas return to below 25 ppm. If elevated readings in worker breathing zone persist, the PHSO and HSM will be contacted to determine necessary actions and levels of protection. <p>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>	<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"> - Standard field attire (Sleeved shirt; long pants) - Steel Toe Safety shoes - Safety glasses - Surgical style gloves (double-layered if necessary) - Reflective vest for high traffic areas - <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i> - <i>Tyvek coveralls and disposable boot covers if surface contamination is present or if the potential for soiling work attire exists.</i> - <i>Hearing protection for high noise areas, or as directed on an operation by operation scenario.</i> <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>Personnel Decontamination 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"> - Equipment drop - Outer coveralls, boot covers, and/or outer glove removal (as applicable) - Removal, segregation, and disposal of non-reusable PPE in bags/containers provided - Soap/water wash and rinse of reusable PPE (e.g., hardhat) if potentially contaminated - Wash hands and face, leave contamination reduction zone.

TABLE 5-1
TASKS-SPECIFIC HAZARD AND HAZARD CONTROL
FOR NAS KEY WEST FLORIDA
PAGE 3 OF 4

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
Decontamination of Sampling Equipment	<p>Chemical hazards:</p> <p>1) Primary types of contaminants include Diesel Range Organics, including diesel fuel and general Polynuclear Aromatic Hydrocarbons (PAHs).</p> <p>Note that these contaminants may be bound to particulates (dusts, soils, etc.) and contact should be avoided whenever possible. See Table 6-1 for more information on the chemicals of concern.</p> <p>2) Decontamination fluids - Liquinox (detergent), acetone or isopropanol</p> <p>Physical hazards:</p> <p>3) Lifting (strain/muscle pulls) 4) Noise in excess of 85 dBA 5) Flying projectiles 6) Vehicular and foot traffic 7) Slips, trips, and falls 8) Ambient temperature extremes (heat stress)</p>	<p>1) and 2) Employ protective equipment to minimize contact with site contaminants and hazardous decontamination fluids. Establish the exclusion zone for this activity at least 25 feet surrounding the gross contamination wash and rinse as well as 25 feet surrounding the heavy equipment decontamination area. Obtain manufacturer's MSDS for any decontamination solvents used onsite. 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).</p> <p>3) Use multiple persons where necessary for lifting and handling sampling equipment for decontamination purposes.</p> <p>4) Wear hearing protection when operating pressure washer.</p> <p>5) Use eye and face protective equipment when operating pressure washer. All other personnel must be restricted from the area.</p> <p>6) Traffic and equipment considerations are to include the following: - Establish safe zones of approach (i.e. Boom + 3 feet). - Secure all loose articles to avoid possible entanglement. - All equipment shall be equipped with movement warning systems. - All activities are to be conducted consistent with the Base requirements.</p> <p>7) Preview work locations for unstable/uneven terrain.</p> <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 TINUS Health and Safety Guidance Manual.</p>	<p>Use visual observation, and real-time monitoring instrumentation to ensure all equipment has been properly cleaned of contamination and dried. After decon is completed, screen equipment with a PID/FID. If any elevated readings (i.e., above background) are observed, perform decon again and re-screen. Repeat until no elevated PID/FID readings are noted.</p>	<p>For sampling equipment (trowels, bailers, etc.), the following PPE is required</p> <p>Level D Minimum requirements - - Standard field attire (Long sleeve shirt; long pants) - Safety shoes (Steel toe/shank) - Nitrile outer gloves - Safety glasses</p> <p>In the event of overspray of chemical decontamination fluids employ PVC Rainsuits or PE or PVC coated Tyvek as necessary.</p> <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>Personnel Decontamination 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: - Equipment drop - Soap/water wash and rinse of outer boots and gloves, as applicable - Soap/water wash and rinse of the outer splash suit, as applicable - Disposable PPE will be removed and bagged.</p> <p>Sampling Equipment Decontamination</p> <p>Sampling equipment will be decontaminated as per the requirements in the Sampling and Analysis Plan and/or Work 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 onsite and leaving the site. No equipment will be authorized access or exit without this evaluation.</p>

TABLE 5-1
TASKS-SPECIFIC HAZARD AND HAZARD CONTROL
FOR NAS KEY WEST FLORIDA
PAGE 4 OF 4

Tasks/Operation/ Locations	Anticipated Hazards	Recommended Control Measures	Hazard Monitoring Type and Action Levels	Personal Protective Equipment <i>(Items in italics are deemed optional as conditions or the FOL or SSO require.)</i>	Decontamination Procedures
<p>IDW management and moving IDW drums to storage area</p>	<p>Chemical hazards:</p> <p>1) Primary types of contaminants include Diesel Range Organics, including diesel fuel and general Polynuclear Aromatic Hydrocarbons (PAHs).</p> <p>Note that these contaminants may be bound to particulates (dusts, soils, etc.) and contact should be avoided whenever possible. See Table 6-1 for more information on the chemicals of concern.</p> <p>2) Transfer of contamination into clean areas</p> <p>Physical hazards:</p> <p>3) Noise in excess of 85 dBA 4) Lifting (strain/muscle pulls) 5) Pinches and compressions 6) Slip, trips, and falls 7) Vehicular and foot traffic 8) Ambient temperature extremes (heat stress)</p> <p>Natural hazards:</p> <p>9) Insect/animal bites and stings</p>	<p>1) Employ real-time monitoring instrumentation, action levels, and identify PPE to control exposures to potentially contaminated media (e.g. air, water, and soils).</p> <p>2) An Investigative Derived Waste (IDW) area will be constructed and barricaded. Only authorized personnel will be allowed access. Decontaminate all equipment and supplies, if they become contaminated, between locations and prior to leaving the site.</p> <p>3) When working near heavy equipment, use hearing protection.</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: - Establish safe zones of approach (i.e. Boom + 3 feet). - Secure all loose articles to avoid possible entanglement. - All equipment shall be equipped with movement warning systems. - All activities are to be conducted consistent with the Base requirements.</p> <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) 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>Direct reading instrument such as a Photoionization Detector (PID) with an 9.24 eV source (or higher) or Flame Ionization Detector (FID) will be used as a general screening instrument to detect volatile organic compounds and to evaluate airborne concentrations of potential site contaminants:</p> <p>Source areas (sample locations) will be monitored using a PID or FID at regular intervals to be determined by the SSO. Positive sustained results in the breathing zone will require the following actions:</p> <p>Excessive chemical contamination concentrations affecting the field crews during this task is not anticipated. The following information is based on a contingency action only.</p> <ul style="list-style-type: none"> - Monitor the breathing zone of at-risk and downwind employees. Any sustained readings (greater than 1 minute in duration) above 25 ppm in the breathing zone areas of the at-risk employees requires site activities to be suspended and site personnel to retreat to an unaffected area. - Work may only resume if airborne readings in worker breathing zone areas return to below 25 ppm. If elevated readings in worker breathing zone persist, the PHSO and HSM will be contacted to determine necessary actions and levels of protection. <p>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>	<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"> - Standard field attire (Sleeved shirt; long pants) - Nitrile or cotton/leather work gloves with surgical style inner gloves - Safety Steel Toe Shoes on boots - Safety glasses - <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i> - <i>Reflective vest for high traffic areas</i> - <i>Tyvek coveralls and disposable boot covers if surface contamination is present or if the potential for soiling work attire exists.</i> - <i>Hearing protection for high noise areas, or as directed on an operation by operation scenario.</i> - <i>Work/rest regimen</i> <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>Personnel Decontamination 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"> - Equipment drop - Soap/water wash and rinse of outer boots and gloves, as applicable - Soap/water wash and rinse of the outer splash suit, as applicable - Disposable PPE will be removed and bagged.

6.0 HAZARD ASSESSMENT

The following section provides information regarding the chemical, physical, and natural hazards anticipated to be present during the activities to be conducted. Table 6-1 provides information related to chemical constituents that have been identified by analysis or are suspected to be present at the site based on historical data. Specifically, toxicological information, exposure limits, symptoms of exposure, physical properties, and air monitoring and sampling data are discussed in the table.

6.1 CHEMICAL HAZARDS

The potential health hazards associated with the Flying Club at NAS Key West include inhalation, ingestion, and dermal contact of various contaminants that may be present in soil and groundwater. The following has been identified as the primary class of these contaminants, including specific compound(s) of interest:

- Semi-Volatile Organic Compounds (SVOCs), including petroleum compounds, and specifically diesel fuel, waste oils, and general Polynuclear Aromatic Hydrocarbons (PAH's)

Table 6-1 provides information on the substances likely to be present at the site to be investigated. Included is information on the toxicological, chemical, and physical properties of these substances. It is anticipated that the greatest potential for exposure to site contaminants is during intrusive activities (e.g., well installation, groundwater sampling). Exposure to these compounds is most likely to occur through ingestion and inhalation of contaminated soil and water, or hand-to-mouth contact during intrusive activities. For this reason, PPE and basic hygiene practices (washing face and hands before leaving site) will be extremely important. Inhalation exposure will be avoided by using appropriate PPE and engineering controls where necessary. Significant exposure via inhalation is not anticipated during the planned scope of work.

6.2 PHYSICAL HAZARDS

The physical hazards that may be present during the performance of site activities are summarized below:

- Slips, trips, and falls
- Lifting (strain/muscle pulls)
- Ambient temperature extremes (heat stress)
- Pinches and compressions
- Vehicular traffic

TABLE 6-1

**CHEMICAL, PHYSICAL, AND TOXICOLOGICAL DATA
NAS KEY WEST, KEY WEST FLORIDA**

Substance	CAS No.	Air Monitoring/Sampling Information		Exposure Limits	Warning Property Rating	Physical Properties	Health Hazard Information
Diesel Range Organics (represented as Diesel Fuel)	Mixture	Components of this substance will be detected readily however no documentation exists as to the relative response ratio of either PID or FID.	Air sampling use charcoal tube as a collection media; carbon disulfide desorption; GC/FID detection. Sampling and analytical protocol in accordance with NIOSH Method #1550.	OSHA/NIOSH/ACGIH: 5 mg/m ³ as mineral oil mist. In addition NIOSH and ACGIH establish 10 mg/m ³ as a STEL.	Kerosene odor Recommended Air Purifying cartridges: Organic vapor Recommended gloves: Nitrile	Boiling Pt: <170-400°F; 77-204°C Melting Pt: Not available Solubility: Negligible Flash Pt: 125°F; 52°C LEL/LFL: 0.6% UEL/UFL: 7.5% Vapor Density: >5 Vapor Pressure: <1 mmHg @ 70°F; 21°C Specific Gravity: 0.86 Incompatibilities: strong oxidizers, halogens, and hypochlorites Appearance and odor: Colorless to amber with a kerosene odor	Prolonged or repeated exposures to this product may cause skin and eye irritation. Due to the defatting capabilities this exposure may lead to a dermatitis condition. High vapor concentrations are irritating to the eyes and respiratory tract. Exposure to high airborne concentrations may result in narcotic effects including dizziness, headaches, and anesthetic to unconsciousness. High concentrations in a confined space may adequately displace oxygen thereby resulting in suffocation.
General PAHs / Coal Tar Pitch Volatiles / Creosote / cresol (Fluoranthene, 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.	Refer to NIOSH methods for each specific compound for appropriate air sampling protocols. Many PAHs can be sampled using NIOSH Method 5506 or 5515 - Teflon filter with support ring - High pressure liquid chromatography with UV detector. For cresol (a major constituent of creosote) by silica gel or xad-7 sorbent tube; Acetone desorption and analysis by gas chromatography - flame ionization detector or high-pressure liquid chromatography. (NIOSH Method #2001, or OSHA Method #32)	General PAHs: Most PAHs have no established exposure limits. Other Coal Tar Pitch Volatiles / PAHs such as chrysene and benzo(a)pyrene have an exposure limit of 0.2 mg/m ³ (OSHA and ACGIH) and 0.1 mg/m ³ - (NIOSH) Creosote / Cresol: OSHA; ACGIH: 5 ppm NIOSH: 2.3 ppm IDLH: 80 mg/m ³ (Skin)	Adequate - 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. Recommended gloves: 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. <u>For Creosote/Cresol:</u> 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 Appearance and Odor: 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).

These physical hazards are discussed in Table 5-1 as applicable to each site task. Further, these hazards are discussed in detail in Section 4.0 of the Health and Safety Guidance Manual.

6.3 NATURAL HAZARDS

Insect/animal bites and stings, inclement weather, and other natural hazards must be considered given the location of activities to be conducted. In general, avoidance of areas of known infestation or nesting will be the preferred exposure control. Use of additional PPE with joints (ankles and wrists) taped, such as long pants tucked into boots or coveralls, is also recommended. Specific discussion on principle hazards of concern follows:

6.3.1 Fire Ants

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

Fire ants can be identified by their habitat. They build mounds in open sunny areas sometimes supported by a wall or shrub. The mound has no external opening. The size of the mound can range from a few inches across to some which are in excess of two feet or more in height and diameter. When disturbed they defend it by swarming out and over the mound, even running up grass blades and sticks.

6.3.2 Snakes, Insects, and Other Animals

The site is suspected of supporting a large population of eastern diamondback rattlesnakes. Given that areas to be investigated could be prime nesting and/or hiding locations for snakes and insects, precautions will be taken when opening manholes and other access doors. When possible, doors and manhole covers will be opened away from personnel to allow snakes or insects to escape. Personnel should avoid reaching into areas that are not visibly clear of snakes or insects. Snake chaps will be worn in areas of known or anticipated snake infestation. All site personnel who are allergic to stinging insects such as bees, wasps, and hornets must be particularly careful since severe illness and death may result from allergic reactions. As with any medical condition or allergy, information regarding the condition must be listed on the Medical Data Sheet and the FOL and SSO notified.

There are various areas throughout the U.S. where Lyme Disease is endemic. Fortunately, Florida is not one of these areas. Nonetheless, personnel should be aware of the hazards of tick bites and Lyme

Disease. The longer a disease carrying tick remains attached to the body, the greater the potential for contracting the disease. Wearing long sleeved shirts and long pants (tucked into boots). As well as performing frequent body checks will prevent long term attachment. Site first aid kits should be equipped with medical forceps and rubbing alcohol to assist in tick removal. For information regarding tick removal procedures, and symptoms of exposure consult Section 4.0 of the Health and Safety Guidance Manual. An Office of Natural Resources or similar entity on Base should be contacted for further direction on the hazards and precautions of naturally occurring wildlife and insects.

6.3.3 Inclement Weather

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

Tropical Storms and Hurricanes

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

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

- High winds
- Excessive rainfall
- Storm surge

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

High Winds

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

Table 6-2
Tropical Storm/Hurricane Rating Scale

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

Based on the Saffir-Simpson scale
NA – Not Applicable

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

Excessive Rainfall

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

Storm Surge

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

TABLE 6-3
TROPICAL STORM/HURRICANE
WATCH AND WARNING

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

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

6.3.4 Heat Stress

Given the geographic location of the site and the project schedule, overexposure to high ambient temperatures (heat stress) may exist during performance of this work depending on the project schedule. (extremely cold temperatures are not expected to be encountered due to project location). Work performed when ambient temperatures exceed 70 °F may result in varying levels of heat stress (heat rash, heat cramps, heat exhaustion, and/or heat stroke) depending on variables such as wind speed, humidity, and percent sunshine, as well as physiological factors such as metabolic rate and skin moisture

content. Additionally, work load and level of protective equipment will affect the degree of exposure. Site personnel will be encouraged to drink plenty of fluids to replace those lost through perspiration. Additional information such as Work-Rest Regimens and personnel monitoring may be found in Section 4.0 of the Health & Safety Guidance Manual.

Many of these physical hazards are discussed in detail in Section 4.0 of the Health and Safety Guidance Manual. Additional information regarding physical hazards associated with the site is provided in Table 5-1 of this HASP.

7.0 AIR MONITORING

Direct reading instruments will be used at the site to detect and evaluate the presence of site contaminants and other potentially hazardous conditions. As a result, specific air monitoring measures and requirements are established in Table 5-1 pertaining to the specific hazards and tasks of an identified operation. Additionally, the Health and Safety Guidance Manual, Section 1.0, contains detailed information regarding direct reading instrumentation, as well as general calibration procedures of various instruments.

7.1 INSTRUMENTS AND USE

Instruments will be used primarily to monitor source points and worker breathing zone areas, while observing instrument action levels. Action levels are discussed in Table 5-1 as they may apply to a specific task or location.

7.1.1 Photoionization Detector or Flame Ionization Detector

In order to accurately monitor for any substances which may present an exposure potential to site personnel, a Photoionization Detector (PID) using a lamp energy of 9.24 eV or higher will be used. This instrument will be used to monitor potential source areas and to screen the breathing zones of employees during site activities. The PID has been selected because it is capable of detecting the organic vapors of concern (Note: A Flame Ionization Detector [FID] may be used as an alternative to the PID).

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

7.1.2 Hazard Monitoring Frequency

Table 5-1 presents the frequencies that hazard monitoring will be performed as well as the action levels which will initiate the use of elevated levels of protection. The SSO may decide to increase these frequencies based on instrument responses and site observations. The frequency at which monitoring is performed will not be reduced without the prior consent of the PHSO or HSM.

7.2 INSTRUMENT MAINTENANCE AND CALIBRATION

Hazard monitoring instruments will be maintained and pre-field calibrated by the TtNUS Equipment Manager. Operational checks and field calibration will be performed on all instruments each day prior to their use. Field calibration will be performed on instruments according to manufacturer's recommendations (for example, the PID must be field calibrated daily and an additional field calibration must be performed at the end of each day to determine any significant instrument drift). These operational checks and calibration efforts will be performed in a manner that complies with the employees health and safety training, the manufacturer's recommendations, and with the applicable manufacturer standard operating procedure (copies of which can be found in the Health & Safety Guidance Manual which will be maintained on site for reference). All calibration efforts must be documented. Figure 7-1 is provided for documenting these calibration efforts. This information may instead be recorded in a field operations logbook, provided that all of the information specified in Figure 7-1 is recorded. This required information includes the following:

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

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

This section is included to specify health and safety training and medical surveillance requirements for TtNUS personnel participating in site activities.

All TtNUS personnel must complete 40 hours of introductory hazardous waste site training prior to performing work at NAS Key West. 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. In addition, 8-hour supervisory training in accordance with 29 CFR 1910.120(e)(4) will be required for site supervisory personnel. Documentation of TtNUS introductory, supervisory, and refresher training as well as site-specific training will be maintained at the project. Copies of certificates or other official documentation will be used to fulfill this requirement.

TtNUS will conduct a pre-activities training session prior to initiating site work. Additionally, a brief meeting will be held 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 encountered. This activity will be supported through the use of a Safe Work Permit System (See Section 9.2).

8.1.1 Requirements for Subcontractors

Identified TtNUS subcontractor personnel must have completed introductory hazardous waste site training or equivalent work experience as defined in OSHA Standard 29 CFR 1910.120(e) and 8 hours of refresher training meeting the requirements of 29 CFR 1910.120(e)(8) prior to performing field work at the NAS Key West. TtNUS subcontractors must certify that each employee has had such training by sending TtNUS a letter, on company letterhead, containing the information in the example letter provided in Figure 8-1. This letter will be accompanied by training certificates or some other form of official documentation for all subcontractor personnel participating in site activities.

8.2 SITE-SPECIFIC TRAINING

TtNUS will provide site-specific training to all site personnel who will perform work on this project. Site-specific training will also be provided to all personnel [U.S. Department of Defense (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 designated 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
- Contents of the Health and Safety Plan
- Emergency response procedures (evacuation and assembly points)
- Spill response procedures
- Review of the contents of relevant Material Safety Data Sheets

Site-specific documentation will be established through the use of Figure 8-2. All site personnel and visitors must sign this document upon receiving site-specific training.

8.3 MEDICAL SURVEILLANCE

All TtNUS personnel participating in project field activities will have had a physical examination meeting the requirements of TtNUS's 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 and/or Aiken offices and made available as necessary.

Each field team member and visitor entering the Exclusion Zone(s) shall be required to complete and submit a copy of Medical Data Sheet presented in Figure 8-4. This shall be provided to the SSO prior to participating in site activities. The purpose of this document is to provide site personnel and emergency responders with additional information that may be necessary in order to administer medical attention.

8.3.1 Medical Surveillance Requirements for Subcontractors

Identified subcontractors are required to obtain a certificate of their ability to perform hazardous waste site work and to wear respiratory protection. The "Subcontractor Medical Approval Form" provided in Figure 8-3 shall be used to satisfy this requirement, providing it is properly completed and signed by a licensed physician.

Subcontractors who have a company medical surveillance program meeting the requirements of paragraph (f) of OSHA 29 CFR 1910.120 can substitute "Subcontractor Medical Approval Form" with a letter, on company letterhead, containing all of the information in the example letter presented in Figure 8-3 of this HASP.

8.3.2 Requirements for All Field Personnel

Each field team member (including subcontractors) and visitors entering the Exclusion Zone(s) shall be required to complete and submit a copy of 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.

8.4 SUBCONTRACTOR EXCEPTIONS

The use of the subcontractor exception is strictly limited to the authority of the CLEAN Health and Safety Manager.

In situations in which the exclusion zone is not entered or when there is no potential for exposure to site contaminants, subcontractor personnel may be exempt from some of the training and medical surveillance requirements. All subcontractors and visiting personnel are required to receive site-specific training (as discussed in Section 8.2) regarding information provided in this HASP. Examples of subcontractors who may be exempt from training and medical surveillance requirements may include surveyors who perform surveying activities at the site perimeters or in areas where there is no potential for exposure to site contaminants, and in this case the subcontractor providing concrete coring services.

Figure 8-1

Example Training Letter

The following statements must be typed on company letterhead and signed by an officer of the company and accompanied by copies of personnel training certificates:

LOGO
XYZ CORPORATION
555 E. 5th Street
Nowheresville, Kansas 55555

Month, day, year

Mr. Charles Bryan
Task Order Manager
Tetra Tech NUS, Inc.
900 Tail Ridge Road
Aiken, South Carolina 29803

Subject: HAZWOPER Training for Naval Air Station Key West, Florida

Dear Mr. Bryan:

As an officer of XYZ Corporation, I hereby state that I am aware of the potential hazardous nature of the subject project. I also understand that it is our responsibility to comply with all applicable occupational safety and health regulations, including those stipulated in Title 29 of the Code of Federal Regulations (CFR), Parts 1900 through 1910 and Part 126.

I also understand that Title 29 CFR 1910.120, entitled "Hazardous Waste Operations and Emergency Response," requires an appropriate level of training for certain employees engaged in hazardous waste operations. In this regard, I hereby state that the following employees have had 40 hours of introductory hazardous waste site training or equivalent work experience as requested by 29 CFR 1910.120(e) and have had 8 hours of refresher training as applicable and as required by 29 CFR 1910.120(e)(8) and that site supervisory personnel have had training in accordance with 29 CFR 1910.120(e)(4).

LIST FULL NAMES OF EMPLOYEES AND THEIR SOCIAL SECURITY NUMBERS HERE.

Should you have any questions, please contact me at (555) 555-5555.

Sincerely,

(Name and Title of Company Officer)

Figure 8-3
Subcontractor Medical Approval Form
Page 1 of 2

For employees of _____
Company Name

Participant Name: _____ Date of Exam: _____

Part A

The above-named individual has:

1. Undergone a physical examination in accordance with OSHA Standard 29 CFR 1910.120, paragraph (f) and found to be medically -

 qualified to perform work at the NAS Key West work site
 not qualified to perform work at the NAS Key West work site

and,
2. Undergone a physical examination as per OSHA 29 CFR 1910.134(b)(10) and found to be medically -

 qualified to wear respiratory protection
 not qualified to wear respiratory protection

My evaluation has been based on the following information, as provided to me by the employer.

- A copy of OSHA Standard 29 CFR 1910.120 and appendices.
- A description of the employee's duties as they relate to the employee's exposures.
- A list of known/suspected contaminants and their concentrations (if known).
- A description of any personal protective equipment used or to be used.
- Information from previous medical examinations of the employee which is not readily available to the examining physician.

Part B

I, _____, have examined _____
Physician's Name (print) Participant's Name (print)

and have determined the following information:

Figure 8-3
Subcontractor Medical Approval Form
Page 2 of 2

1. Results of the medical examination and tests (excluding finding or diagnoses unrelated to occupational exposure):

2. Any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health:

3. Recommended limitations upon the employee's assigned work:

I have informed this participant of the results of this medical examination and any medical conditions which require further examination or treatment.

Based on the information provided to me, and in view of the activities and hazard potentials involved at the NAS Key West work site, this participant

- may
 may not

perform his/her assigned task.

Physician's Signature _____

Address _____

Phone Number _____

NOTE: Copies of test results are maintained and available at:

Address

9.0 SPILL CONTAINMENT PROGRAM

Site operations and control will be facilitated through the use of established work zones and security and control of those zones. These activities will minimize the impact and spread of contaminants brought to the surface through demolition and excavation methods as well as protect personnel and visitors within these zones during ongoing operations.

9.1 WORK ZONES

Tetra Tech NUS will delineate and use work zones in conjunction with decontamination procedures to prevent the spread of contaminants to other areas of the site. A three-zone approach will be used for work at this site; an Exclusion Zone, a Contamination Reduction Zone, and a Support Zone. These will be used to control access to the work areas, restricting the general public, avoiding potentials to spread any contaminants, and to protect individuals who are not cleared to enter by way of training and/or medical surveillance qualifications.

9.1.1 Exclusion Zone

An Exclusion Zone will be established at each location where intrusive site work will be performed. The purpose of an exclusion zone is to define an area where specified requirements and restrictions must be observed (such as PPE usage, restrictions against smoking/eating etc.). These are areas that could be adversely impacted by either chemical or physical hazards. Exclusion Zone sizes and dimensions can vary based on various factors, such as:

- The nature of planned activities and the size of the area needed to safely perform them
- Physical and topographical features of the site
- Weather conditions
- Field and analytical measurements of air and environmental contaminants
- Air dispersion calculations
- Physical, chemical and toxicological properties of the contaminants being investigated

The following dimensions are to be observed for establishing the initial size of Exclusion Zones for this project:

- Monitoring well sampling and risk mitigation of free produce: The exclusion zone for this activity will be set at 10 feet surrounding the well head and discharge collection container.

- Decontamination operation. The exclusion zone for this activity will be set at 10 feet surrounding the personnel and sample equipment decontamination wash and rinse.
- Investigative Derived Waste (IDW) area will be constructed and barricaded. Only authorized personnel will be allowed access.

All exclusion zones shall remain marked until the SSO has evaluated the restoration effort and has authorized changing the zone status.

Exclusion zones will be marked using fencing, barrier tape, traffic cones and/or drive poles. Signs will be posted to inform and direct site personnel and site visitors.

9.1.2 Contamination Reduction Zone

The contamination reduction zone will be split to represent two separate functions. The first function will be a control/supply point for supporting exclusion zone activities. The second function, which may take place a sufficient distance from the exclusion zone is the decontamination of personnel and sampling equipment.

In order to move from the exclusion zone to a separate location the following activities will be used:

- As samplers move from location to location during sampling activities, dedicated sampling devices and PPE will be washed of gross contamination, removed, separated, and bagged. Personnel will use hygienic wipes, such as Handy Wipes, as necessary for personnel decontamination until they can access the centralized decontamination unit. At the first available opportunity personnel will wash their face and hands. This is also true prior to breaks and lunch when contamination can be transferred to the mouth through hand to mouth contact. This route of exposure is estimated to have the greatest and most likely potential for exposure to the contaminants of concern.
- Muddy over-boots and gloves may be required to go through a gross contamination wash at the exclusion zone. These items will then be cleaned thoroughly at the centralized decontamination unit.
- Potentially contaminated tooling along with PPE will be wrapped, when necessary, for transport to the decontamination area.
- Upon completion of the assigned tasks all personnel will move through the central decontamination area to clean reusable PPE and field equipment. Based on ambient conditions medical evaluations may take place at the termination point of the decontamination line. These evaluations will include

pulse rate, oral temperature, breathing rate to evaluate physiological demands on site personnel. As stated earlier, these evaluations will be based on ambient conditions and acclimation periods.

9.1.3 Support Zone

The Support Zone will consist of a field trailer, storage, lay-down areas, or some other uncontaminated, controlled point. The Support Zone for this project will include a staging area where site vehicles can be parked, equipment will be unloaded, and where food and drink containers will be maintained. In all cases, the support zones will be established in clean areas of the site.

9.2 SAFE WORK PERMITS

All Exclusion Zone work and certain support tasks 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. Partially completed Safe Work Permits have been prepared for each of the planned tasks and are included in Attachment IV of this HASP. The SSO is responsible for completing the remaining portions of these permits, and for reviewing them with all task participants as part of daily task-specific tailgate meetings. An blank Safe Work Permit is included in Figure 9-1 as an example.

The use of these permits will ensure that site-specific considerations and changing conditions are incorporated and addressed into the field activities. All Safe Work Permits will require the signatures of either the FOL or the SSO, as well as the signature of a representative of any subcontractors that will participate in the task (when appropriate). All personnel that will be engaged in on-site activities must be made aware of the contents of the appropriate Safe Work Permits before participating in any of the covered tasks. If additional tasks become necessary, the PHSO is to be notified so that this HASP can be appropriately reviewed/modified and to help prepare the necessary Safe Work Permit(s).

The use of these permits will establish and provide 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 Safe Work Permit will take precedence over the HASP when more conservative measures are required based on specific site conditions.

Upon completion of the work for which the Safe Work Permit was assigned, the Safe Work Permit will be turned into the FOL or the SSO. Concerns, complaints, and suggestions may be made on the reverse of the Safe Work Permit for consideration by the FOL and/or the SSO. All permits turned in with suggestions, difficulties, or complaints are to be forwarded to the PHSO for review.

9.3 SITE MAP

Once the areas of contamination, access routes, topography, dispersion routes are determined, a site map will be generated and adjusted as site conditions change. This map will be posted to illustrate up-to-date information of contaminants and adjustment of zones and access points. This map will be posted at the field support trailer or other centralized location. Figure 2-1 in the Work Plan will serve as the preliminary version until investigation reveals more information. A map of the base is included in this HASP in Figure 9-2.

9.4 BUDDY SYSTEM

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

9.5 MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS

Tetra Tech NUS and subcontractor personnel will provide MSDSs for all chemicals brought on-site. The contents of these documents will be reviewed by the SSO with the user(s) of the chemical substances prior to any actual use or application of the substances on-site. The MSDSs will be maintained in a central location (i.e., temporary office) and will be available for anyone to review upon request. The SSO will be responsible for implementing a site-specific Hazard Communication Program (See Section 5.0 of the TtNUS Health and Safety Guidance Manual). This includes collection of MSDSs, creation and maintenance of an accurate Chemical Inventory Listing, addresses SPILL CONTAINMENT PROGRAM, container labeling and personnel training issues, and other aspects of Hazard Communication.

**Figure 9-1
Safe Work Permit**

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

SECTION I: General Job Scope (To be filled in by person performing work)

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

 II. Names: _____

 III. On-site Inspection conducted Yes No Initials of Inspector _____

TtNUS

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

- | | |
|---|--|
| IV. Protective equipment required | Respiratory equipment required |
| Level D <input type="checkbox"/> Level B <input type="checkbox"/> | Full face APR <input type="checkbox"/> Escape Pack <input type="checkbox"/> |
| Level C <input type="checkbox"/> Level A <input type="checkbox"/> | Half face APR <input type="checkbox"/> SCBA <input type="checkbox"/> |
| | SKA-PAC SAR <input type="checkbox"/> Bottle Trailer <input type="checkbox"/> |
| | Skid Rig <input type="checkbox"/> None <input type="checkbox"/> |

Modifications/Exceptions: _____

V. Chemicals of Concern	Action Level(s)	Response Measures
_____	_____	_____
_____	_____	_____
_____	_____	_____

- VI. Additional Safety Equipment/Procedures
- | | | | |
|--|--|--------------------------------------|--|
| Hardhat..... | <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 | <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 suit/coveralls (Type: _____) | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel toe/shank Workboots | <input type="checkbox"/> Yes <input type="checkbox"/> No | Work/rest regimen | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Chemical Protective Over-boots (Type: _____) | <input type="checkbox"/> Yes <input type="checkbox"/> No | | |

Modifications/Exceptions: _____

- | | | | | |
|---|--------------------------|--------------------------|-------------------------|---|
| VII. Procedure review with permit acceptors | Yes | NA | Yes | NA |
| Safety shower/eyewash (Location & Use)..... | <input type="checkbox"/> | <input type="checkbox"/> | Emergency alarms | <input type="checkbox"/> <input type="checkbox"/> |
| Procedure for safe job completion | <input type="checkbox"/> | <input type="checkbox"/> | Evacuation routes | <input type="checkbox"/> <input type="checkbox"/> |
| Contractor tools/equipment inspected..... | <input type="checkbox"/> | <input type="checkbox"/> | Assembly points..... | <input type="checkbox"/> <input type="checkbox"/> |

VII. Site Preparation Yes No

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| | NA | | |
| Utility Locating and Excavation Clearance completed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Equipment and Foot Traffic Routes Cleared and Established | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Physical Hazards Barricaded and Isolated | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Emergency Equipment Staged | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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

If yes, See SSO for appropriate permit

- IX. Special instructions, precautions: _____

Permit Issued by: _____ Permit Accepted by: _____

9.6 COMMUNICATION

It is anticipated that site personnel will be working in close proximity during proposed field activities. In the event that site personnel are in isolated areas or are separated by significant distances, a supported means of communication between field crews will be utilized. Two-way radio communication devices, if needed, will be used only with NAS Key West approval.

External communications may be accomplished utilizing telephones that have been/can be installed at predetermined and approved locations, or through cellular phones. External communication will primarily be used for the purpose of resource and emergency resource communications. Prior to the commencement of site activities, the FOL will determine and arrange for appropriate means to accomplish external communications.

Switch off the phone when in any area with a potentially explosive atmosphere and obey all signals and instructions. Most manufacturers advised users to switch off the phone when at a refueling point. Do not use near fuels or chemicals or where blasting is in progress. Also, any restrictions or regulations in force at the base related to cellular phone use must be observed.

9.7 SITE VISITORS

Potential site visitors that may be encountered during the performance of the fieldwork could include the following:

- Personnel invited to observe or participate in operations by Tetra Tech NUS.
- Regulatory personnel (i.e., DOD, FDEP, EPA, OSHA, etc.)
- US Naval Personnel
- Other authorized visitors (Airfield Operations)

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

Once access to the base is obtained, all personnel who require access to Tetra Tech NUS work sites (areas of ongoing operations) will be required to obtain permission from the FOL and the Base Contact. Upon gaining access to the work site, all site visitors wishing to observe operations in progress will be required to meet the minimum requirements as stipulated below.

- All site visitors will be routed to the FOL, who will sign them into the field logbook. Information to be recorded in the logbook will include the individuals name (proper identification required), who they represent, and the purpose for the visit. **The FOL is responsible for ensuring that site visitors are escorted at all times.**
- All site visitors will be required to produce the necessary information supporting clearance on to the site. This includes information attesting to applicable training (40-hours of HAZWOPER, 8-Hour Refresher as applicable), and medical surveillance as stipulated in Section 8.4, of this document. In addition, to enter the sites operational zones during planned activities, all 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 site and applicable operational areas. All visitors are required to observe the protective equipment and site restrictions in effect at the work areas visited. Any and all visitors not meeting the requirements as stipulated in this plan for site clearance will not be permitted to enter the site operational zones during planned activities. Any incidence of unauthorized site visitation will cause all on-site activities to be terminated until that visitor can be removed. Removal of unauthorized visitors will be accomplished with support from the Base Contact, if necessary. At a minimum, the Base Contact will be notified of any unauthorized visitors.

9.8 SITE SECURITY

As this activity will take place at a United States Naval facility, the first line of security will be provided by the base gate restricting the general public. The second line of security will take place at the work site referring interested parties to the FOL and Base Contact.

Security at the work areas will be accomplished using field personnel. This is a multiple person operation, involving multiple operational zones. Tetra Tech NUS personnel will retain complete control over active operational zones.

The Base Contact will serve as the focal point for base personnel and interested parties and will serve as the primary enforcement contact.

9.9 SANITATION AND BREAK AREAS

This section will address the following items:

- Toilets
- Potable water
- Showers and change rooms
- Break Areas

9.9.1 Toilets

One toilet will be provided for every 20 people. All toilets will be unisex and will have locking doors. The toilet provided will either be a chemical toilet or a flush toilet associated with an existing location.

9.9.2 Potable Water

Potable water as well as electrolyte balance sports drinks such as Gatorade will be provided to the field crews for fluid replacement. Storage and dispensing will proceed as follows:

- All containers will be clean and replenished daily.
- All containers will clearly marked as to their contents (Potable Water – Drinking Water Only; Gatorade, etc.).
- Dispensing locations will be placed in identified break areas within the support zone. The most likely location will be a break trailer. This will serve as an area for cooling or warming as well as an identified food and drink consumption area.
- If larger containers are used, dispensing cups will be provided.
- The coolers used for storage of potable drinks and cups will be stored away from potentially contaminating materials. Coolers used for shipping samples are not acceptable to store food or drink.

Fluid intake recommendations will be made based on the medical evaluations conducted at the end of the decontamination process, as necessary based on ambient conditions.

9.9.3 Showers/Change Rooms and Break Areas

Based on this scope and duration of this project shower facilities and locker rooms will not be provided.

Suitable locations will be provided for field personnel for the following use:

- Break areas for food and drink consumption
- Areas suitable for warming and cooling regimens
- Areas suitable for Safety Meetings

This location will be either the project trailer, or its own separate trailer based on the crew size. This area will be climate control to provide suitable shelter to combat heat or cold stress.

10.0 SITE CONTROL

10.1 SCOPE AND APPLICATION

It is not anticipated that bulk hazardous materials (over 55-gallons) will be accumulated or handled as part of the scope of work. It is also not anticipated that spillage of stored materials would constitute a danger to human health or the environment. As intended in the project scope of work, potentially contaminated soil will be containerized in 55-gallon drums for transportation off-site and disposal. Disposal will be in accordance with Federal, State, and local regulations. Based on previous sampling activities, the wastes have already been characterized and identified. While this groundwater remains in the staging area, this spill containment program will be instituted.

10.2 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 several areas vulnerable to this hazard including the area used for central staging and decontamination.

10.3 LEAK AND SPILL DETECTION

To establish an early detection of potential spills or leaks, a periodic walk-around by personnel staging or disposing of containers will be conducted at least once each week while site activities are underway. These inspections are to be performed during working hours, to visually determine that containers are not leaking. Any leaks identified will be collected and contained using absorbents such as Oil-dry, vermiculite, or sand, stored at the staging area in a drum conspicuously marked. This material too, will be containerized for disposal pending analyses. All inspections are to be documented in the Project Logbook.

10.4 PERSONNEL TRAINING AND SPILL PREVENTION

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

10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

The following represents examples of the equipment that may be maintained at the staging area for the purpose of supporting this Spill Prevention/Containment Program.

- Sand, clean fill, vermiculite, or other noncombustible absorbent (Oil-dry);
- 55-gallon U.S. DOT 17-E or 17-H drums
- Shovels, rakes, and brooms
- Labels

10.6 SPILL CONTROL PLAN

It is not anticipated that a spill will occur which the field crews cannot handle. Should one occur, however, the FOL or SSO will carry out notification of appropriate emergency response agencies. The following describes the steps field personnel will implement upon detecting a spill or leak.

1. Notify the SSO or FOL immediately upon the detection of a leak or spill.
2. Use the personal protective equipment stored at the staging area. Take immediate actions to stop the leak or spill by plugging or patching the drum/container 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 drum/container, collect and containerize the absorbent material. Label the new drum/container appropriately. Await analyses for shipment or disposal options.

11.0 CONFINED-SPACE ENTRY

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

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

A Permit-Required Confined Space is one that:

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

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

12.0 MATERIALS AND DOCUMENTATION

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

- A complete copy of this HASP
- Health and Safety Guidance Manual
- Incident Reports
- Medical Data Sheets
- Material Safety Data Sheets for all chemicals brought on site, including decon solution, fuels, sample preservations, calibration gases, etc.
- A full size OSHA Job Safety and Health Poster
- Training/Medical Surveillance Documentation Form (blank)
- Emergency Reference Form (Section 2.0, extra copy for posting)
- A copy of the confined space entry program with extra copies of permits

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 specified documents is not feasible, (such as no office trailer), these documents should be separated and immediately accessible.

Chemical Inventory Listing (maintained) - This list represents all 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 all site personnel. These documents should match all the listings on the chemical inventory list for all substances employed on site. It is acceptable to have these documents within a central folder and the chemical inventory as the table of contents.

The OSHA Job Safety & Health Protection Poster (posted) - this poster, 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. A copy of the OSHA poster is included in Attachment VI of this HASP.

Site Clearance Posting (maintained) - This list is found within the training section of the HASP (See Figure 8-2). This list identifies all site personnel, dates of training (including site-specific training), and medical surveillance. The list indicates not only clearance but also status. If personnel do not meet these requirements, they do not enter the site while site personnel are engaged in activities.

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

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

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

13.0 GLOSSARY

ACGIH	American Conference of Governmental Industrial Hygienists
APR	Air Purifying Respirators
Cas	Chemical Abstract Service
CFR	Code of Federal Regulations
CNS	Central Nervous System
CRZ	Contamination Reduction Zone
DOD	Department of Defense
DOT	Department of Transportation
EPA	Environmental Protection Agency
eV	electron Volts
FID	Flame Ionization Detector
FOL	Field Operations Leader
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HEPA	High Efficiency Particulate Air
I.P.	Ionization Potential
LEL/O ₂	Lower Explosive Limit/Oxygen
N/A	Not Available
NIOSH	National Institute Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PAH	Polycyclic Aromatic Hydrocarbons
PEL	Permissible Exposure Limit
PHSO	Project Health and Safety Officer
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
PVC	Poly Vinyl Chloride
SAP	Sampling and Analysis Plan
SCBA	Self Contained Breathing Apparatus
SSO	Site Safety Officer
STEL	Short Term Exposure Limit
TOM	Task Order Manager
TPH	Total Petroleum Hydrocarbons
TWA	Time Weighted Average
UV	Ultraviolet
WP	Work Plan

ATTACHMENT I

**INJURY/ILLNESS PROCEDURE
AND REPORT FORM**

**TETRA TECH NUS, INC.****INJURY/ILLNESS PROCEDURE
WORKER'S COMPENSATION PROGRAM**

WHAT YOU SHOULD DO IF YOU ARE INJURED OR DEVELOP AN ILLNESS AS A RESULT OF YOUR EMPLOYMENT:

- If injury is minor, obtain appropriate first aid treatment.
- If injury or illness is severe or life threatening, obtain professional medical treatment at the nearest hospital emergency room.
- If incident involves a chemical exposure on a project work site, follow instructions in the Health & Safety Plan.
- Immediately report any injury or illness to your supervisor or office manager. In addition, you must contact your Human Resources representative, Marilyn Duffy at (412) 921-8475, and the Corporate Health and Safety Manager, Matt Soltis at (412) 921-8912 within 24 hours. You will be required to complete an Injury/Illness Report (attached). You may also be required to participate in a more detailed investigation from the Health Sciences Department.
- If further medical treatment is needed, The Hartford Network Referral Unit will furnish a list of network providers customized to the location of the injured employee. These providers are to be used for treatment of Worker's Compensation injuries subject to the laws of the state in which you work. Please call Marilyn Duffy at (412) 921-8475 for the number of the Referral Unit.

ADDITIONAL QUESTIONS REGARDING WORKER'S COMPENSATION:

Contact your local human resources representative, corporate health and safety coordinator, or Corporate Administration in Pasadena, California, at (626) 351-4664.

Worker's compensation is a state-mandated program that provides medical and disability benefits to employees who become disabled due to job related injury or illness. Tetra Tech, Inc. and its subsidiaries (Tetra Tech or Company) pay premiums on behalf of their employees. The type of injuries or illnesses covered and the amount of benefits paid are regulated by the state worker's compensation boards and vary from state to state. Corporate Administration in Pasadena is responsible for administering the Company's worker's compensation program. The following is a general explanation of worker's compensation provided in the event that you become injured or develop an illness as a result of your employment with Tetra Tech or any of its subsidiaries. Please be aware that the term used for worker's compensation varies from state to state.



CASE NO. _____

WHO IS COVERED:

All employees of Tetra Tech, whether they are on a full-time, part-time or temporary status, working in an office or in the field, are entitled to worker's compensation benefits. All employees must follow the above injury/illness reporting procedures. Consultants, independent contractors, and employees of subcontractors are not covered by Tetra Tech's Worker's Compensation plan.

WHAT IS COVERED:

If you are injured or develop an illness caused by your employment, worker's compensation benefits are available to you subject to the laws of the state you work in. Injuries do not have to be serious; even injuries treated by first aid practices are covered and must be reported. Please note that if you are working out-of-state and away from your home office, you are still eligible for worker's compensation benefits.



TETRA TECH, INC.

ACCIDENT AND ILLNESS INVESTIGATION REPORT

To: _____
Subsidiary Health and Safety Representative

Prepared by: _____

Position: _____

cc: _____
Workers Compensation Administrator

Office: _____

Project name: _____

Telephone number: _____

Project number: _____

Fax number: _____

Information Regarding Injured or Ill Employee

Name: _____

Office: _____

Home address: _____

Gender: M F No. of dependents: _____

Marital status: _____

Home telephone number: _____

Date of birth: _____

Occupation (regular job title): _____

Social security number: _____

Department: _____

Date of Accident: _____

Time of Accident: _____ a.m. p.m.

Time Employee Began Work: _____

Check if time cannot be determined

Location of Incident

Street address: _____

City, state, and zip code: _____

County: _____

Was place of accident or exposure on employer's premises? Yes No

Information About the Incident

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

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

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.



TETRA TECH, INC.

ACCIDENT AND ILLNESS INVESTIGATION REPORT (Continued)

Information About the Incident (Continued)

What was the injury or illness? Describe the part(s) of the body affected and how it was affected. Be more specific than "hurt," "pain," or "sore." Examples "Strained back"; "Chemical burn, right hand"; "Carpal tunnel syndrome, left wrist"

Describe the Object or Substance that Directly Harmed the Employee: Examples: "Concrete floor"; "Chlorine"; "Radial arm saw." If this question does not apply to the incident, write "Not applicable."

Did the employee die? Yes [] No [] Date of death: _____

Was employee performing regular job duties? Yes [] No []

Was safety equipment provided? Yes [] No [] Was safety equipment used? Yes [] No []

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

Witness (Attach additional sheets for other witnesses.)

Name: _____

Company: _____

Street address: _____

City: _____ State: _____ Zip code: _____

Telephone number: _____

Medical Treatment Required? [] Yes [] No [] First aid only

Name of physician or health care professional: _____

If treatment was provided away from the work site, provide the information below.

Facility name: _____

Street address: _____

City: _____ State: _____ Zip code: _____

Telephone number: _____

Was the employee treated in an emergency room? [] Yes [] No

Was the employee hospitalized over night as an in-patient? [] Yes [] No

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.



TETRA TECH, INC.

ACCIDENT AND ILLNESS INVESTIGATION REPORT (Continued)

Corrective Action(s) Taken by Unit Reporting the Accident:

Corrective Action Still to be Taken (by whom and when):

Name of Tetra Tech employee the injury or illness was first reported to: _____

Date of Report: _____ **Time of Report:** _____

I have reviewed this investigation report and agree, to the best of my recollection, with its contents.

Printed Name of Injured Employee

Telephone Number

Signature of Injured Employee

Date

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

Title	Printed Name	Signature	Telephone Number	Date
Office Manager				
Project Manager				
Site Safety Coordinator or Office Health and Safety Representative				

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.



TETRA TECH, INC.

ACCIDENT AND ILLNESS INVESTIGATION REPORT (Continued)

To Be Completed by the Subsidiary Health and Safety Representative

Classification of Incident:
 Injury Illness

Result of Incident:
 First aid only
 Days away from work
 Remained at work but incident resulted in job transfer or work restriction
 Incident involved days away and job transfer or work restriction
 Medical treatment only

No. of days away from work _____
 Date employee left work _____
 Date employee returned to work _____
 No. of days placed on restriction or job transfer: _____

OSHA Recordable Case Number _____

To Be Completed by Human Resources

Social security number: _____
 Date of hire: _____ Hire date for current job: _____
 Wage information: \$ _____ per Hour Day Week Month
 Position at time of hire: _____
 Current position: _____ Shift hours: _____
 State in which employee was hired: _____
 Status: Full-time Part-time Hours per week: _____ Days per week: _____
 Temporary job end date: _____

To Be Completed during Report to Workers Compensation Carrier

Date reported: _____ Reported by: _____
 Confirmation number: _____
 Name of contact: _____
 Field office of claims adjuster: _____

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.

ATTACHMENT II

MEDICAL DATA SHEET

MEDICAL DATA SHEET

This Medical Data Sheet must be completed by all on-site personnel and kept in a central location during the execution 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 _____

Drug or other Allergies _____

Particular Sensitivities _____

Do You Wear Contacts? _____

Provide a Checklist of Previous Illnesses or Exposure to Hazardous Chemicals _____

What medications are you presently using? _____

Do you have any medical restrictions? _____

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
DECONTAMINATION ACTIVITIES
NAS KEY WEST FLORIDA**

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

SECTION I: General Job Scope

- I. Work limited to the following (description, area, equipment used): Decontamination of sampling equipment. Brushes and spray bottles will be used to decon small sampling equipment.
- II. Required Monitoring Instrument(s): PID with 9.24 eV or higher lamp source (used to screen equipment)
- III. Field Crew: _____
- IV. On-site Inspection conducted Yes No Initials of Inspector TtNUS

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

- V. Protective equipment required Respiratory equipment required

Level D <input checked="" type="checkbox"/> Level B <input type="checkbox"/>	Full face APR <input type="checkbox"/>	Escape Pack <input type="checkbox"/>
Level C <input type="checkbox"/> Level A <input type="checkbox"/>	Half face APR <input type="checkbox"/>	SCBA <input type="checkbox"/>
Detailed on Reverse	PAPR <input type="checkbox"/>	Bottle Trailer <input type="checkbox"/>
	Skid Rig <input type="checkbox"/>	None <input checked="" type="checkbox"/>
- Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety glasses, safety footwear, and nitrile gloves.

VI. Chemicals of Concern	Action Level(s)	Response Measures
<u>Diesel range organics and</u>	<u>Any sustained readings</u>	<u>Suspend site activities and</u>
<u>Poly nuclear aromatic</u>	<u>above 25 ppm in worker</u>	<u>report to an unaffected area.</u>
<u>hydrocarbons</u>	<u>breathing zones.</u>	

- 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..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Splash Shield..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Barricades..... <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Splash suits/coveralls..... <input type="checkbox"/> Yes <input type="checkbox"/> No	Gloves (Type - Nitrile)..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Steel toe Work shoes or boots..... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Work/rest regimen..... <input type="checkbox"/> Yes <input type="checkbox"/> No

Modifications/Exceptions: PVC rain suits or PE or PVC coated Tyvek may be required (at the SSO's discretion) for protection against splashes and overspray. Chemical resistant boot covers if excessive liquids are generated or to protected footwear.

VIII. Procedure review with permit acceptors	Yes	NA	Yes	NA
Safety shower/eyewash (Location & Use).....	<input type="checkbox"/>	<input type="checkbox"/>	Emergency alarms.....	<input type="checkbox"/>
Procedure for safe job completion.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Evacuation routes.....	<input type="checkbox"/>
Contractor tools/equipment/PPE inspected.....	<input type="checkbox"/>	<input type="checkbox"/>	Assembly points.....	<input type="checkbox"/>

- IX. Site Preparation

Utility Locating and Excavation Clearance completed.....	Yes	No	NA
Vehicle and Foot Traffic Routes Cleared and Established.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Physical Hazards Barricaded and Isolated.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Equipment Staged.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- X. Additional Permits required (Hot work, confined space entry, excavation etc.). Yes No
If yes, complete permit required or contact Health Sciences, Pittsburgh Office

- XI. Special instructions, precautions: If decontamination solvents are used (such as isopropyl alcohol, methanol, etc.), consult appropriate MSDS and container labels. Avoid or control visible dust clouds. To minimize the potential for exposure, site personnel will use PPE and prevent contact with potentially contaminated equipment.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION ACTIVITIES NA
KEY WEST FLORIDA**

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

SECTION I: General Job Scope

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

- II. Required Monitoring Instruments: None
- III. Field Crew: _____
- IV. On-site Inspection conducted Yes No Initials of Inspector TtNUS

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

- | | | |
|--|--|--|
| V. Protective equipment required | Respiratory equipment required | |
| Level D <input checked="" type="checkbox"/> Level B <input type="checkbox"/> | Full face APR <input type="checkbox"/> | Escape Pack <input type="checkbox"/> |
| Level C <input type="checkbox"/> Level A <input type="checkbox"/> | Half face APR <input type="checkbox"/> | SCBA <input type="checkbox"/> |
| Detailed on Reverse | PAPR <input type="checkbox"/> | Bottle Trailer <input type="checkbox"/> |
| | Skid Rig <input type="checkbox"/> | None <input checked="" type="checkbox"/> |

Modifications/Exceptions: Minimum requirement include sleeved shirt, long pants and safety footwear. Safety glasses are required if any potential eye hazards are noted. Hard hats and hearing protection will be worn when working near operating equipment. Reflective vests required in high traffic areas.

- | | | |
|--|-----------------|-----------------------|
| VI. Chemicals of Concern | Action Level(s) | Response Measures |
| <u>None anticipated given the nature of surveying activities and limited contact w/ media.</u> | <u>None</u> | <u>Not Applicable</u> |

- 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..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash Shield..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Splash suits/coveralls | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Gloves (Type - _____) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Steel toe Work shoes or boots... <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Work/rest regimen..... | <input type="checkbox"/> Yes <input type="checkbox"/> No |
- Modifications/Exceptions: Tyvek coverall to protect against natural hazards (e.g., ticks). If working in areas where snakes are a threat, wear snake chaps to protect against bites.

- | | | | | |
|--|---|----|-------------------------|--|
| VIII. Procedure review with permit acceptors | Yes | NA | Emergency alarms | <input type="checkbox"/> Yes <input type="checkbox"/> NA |
| Safety shower/eyewash (Location & Use)..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | | Evacuation routes | <input type="checkbox"/> Yes <input type="checkbox"/> NA |
| Procedure for safe job completion | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | | Assembly points | <input type="checkbox"/> Yes <input type="checkbox"/> NA |
| Contractor tools/equipment/PPE inspected | <input type="checkbox"/> Yes <input type="checkbox"/> NA | | | |

- | | | |
|---|---|----|
| IX. Equipment Preparation | Yes | NA |
| Equipment drained/depressurized | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | |
| Equipment purged/cleaned..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | |
| Isolation checklist completed..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | |
| Electrical lockout required/field switch tested..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | |
| Blinds/misalignments/blocks & bleeds in place..... | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | |
| Hazardous materials on walls/behind liners considered | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NA | |

- X. Additional Permits required (Hot work, confined space entry, excavation etc.)..... Yes No
If yes, complete permit required or contact Health Sciences, Pittsburgh Office

- XI. Special instructions, precautions: Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Avoid potential nesting areas. Wear light colored clothing so that ticks and other biting insects can be easily visible and can be removed. Inspect clothing and body for ticks. Minimize contact with potentially contaminated media. Suspend site activities in the event of inclement weather.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT FOR
QUARTERLY GROUNDWATER SAMPLING
NAS KEY WEST FLORIDA**

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

SECTION I: General Job Scope

I. Work limited to the following (description, area, equipment used): Quarterly groundwater sampling. IDW sampling is also included in this task.

II. Required Monitoring Instrument(s): FID or PID with 9.24 eV lamp (or higher) lamp source.

III. Field Crew: _____

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

TtNUS

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

V. Protective equipment required	Respiratory equipment required	
Level D <input checked="" type="checkbox"/> Level B <input type="checkbox"/>	Full face APR <input type="checkbox"/>	Escape Pack <input type="checkbox"/>
Level C <input type="checkbox"/> Level A <input type="checkbox"/>	Half face APR <input type="checkbox"/>	SCBA <input type="checkbox"/>
Detailed on Reverse	PAPR <input type="checkbox"/>	Bottle Trailer <input type="checkbox"/>
	Skid Rig <input type="checkbox"/>	None <input checked="" type="checkbox"/>

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, safety shoes, surgical style gloves, and safety glasses.

VI. Chemicals of Concern	Action Level(s)	Response Measures
<u>Diesel Range Organics and</u>	<u>Any sustained readings</u>	<u>Suspend site activities and</u>
<u>General Polynuclear Aromatic</u>	<u>above 25 ppm in worker</u>	<u>report to an unaffected area.</u>
<u>Hydrocarbons</u>	<u>breathing zones</u>	

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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Splash Shield	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Barricades	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Splash suits/coveralls	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Gloves (Type – Surgical Style)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Steel toe Work shoes or boots	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Work/rest regimen	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Modifications/Exceptions: Reflective vests for high traffic areas. Tyvek coverall if there is a potential for soiling work clothes.

VIII. Procedure review with permit acceptors	Yes	NA	Yes	NA
Safety shower/eyewash (Location & Use).....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Procedure for safe job completion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Contractor tools/equipment/PPE inspected	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IX. Site Preparation	Yes	No	NA
Utility Locating and Excavation Clearance completed.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vehicle and Foot Traffic Routes Cleared and Established	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical Hazards Barricaded and Isolated.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Equipment Staged	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

X. Additional Permits required (Hot work, confined space entry, excavation etc.)..... Yes No
If yes, complete permit required or contact Health Sciences, Pittsburgh Office

XI. Special instructions, precautions _____

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT IV

OSHA POSTER

You Have a Right to a Safe and Healthful Workplace. IT'S THE LAW!

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



The *Occupational Safety and Health Act of 1970 (OSH Act)*, P.L. 91-596, assures safe and healthful working conditions for working men and women throughout the Nation. The Occupational Safety and Health Administration, in the U.S. Department of Labor, has the primary responsibility for administering the *OSH Act*. The rights listed here may vary depending on the particular circumstances. To file a complaint, report an emergency, or seek OSHA advice, assistance, or products, call 1-800-321-OSHA or your nearest OSHA office: • Atlanta (404) 562-2300 • Boston (617) 565-9860 • Chicago (312) 353-2220 • Dallas (214) 767-4731 • Denver (303) 844-1600 • Kansas City (816) 426-5861 • New York (212) 337-2378 • Philadelphia (215) 861-4900 • San Francisco (415) 975-4310 • Seattle (206) 553-5930. Teletypewriter (TTY) number is 1-877-889-5627. To file a complaint online or obtain more information on OSHA federal and state programs, visit OSHA's website at www.osha.gov. If your workplace is in a state operating under an OSHA-approved plan, your employer must post the required state equivalent of this poster.

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