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HEALTH AND SAFETY PLAN FOR SITE ASSESSMENT ACTIVITIES AT OCALA CRASH SITE
NAS CECIL FIELD FL
7/1/2006
TETRA TECH NUS INC

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055



Health and Safety Plan for Site Assessment Activities Ocala Crash Site

Naval Air Station Cecil Field
Jacksonville, Florida

Contract Task Order 0213

July 2006



Southeast

2155 Eagle Drive

North Charleston, South Carolina 29406

HEALTH AND SAFETY PLAN
FOR
ASSESSMENT ACTIVITIES AT
OCALA CRASH SITE
at
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY CONTRACT

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1.0 INTRODUCTION

This HASP has been prepared for the Ocala Crash Site under the jurisdiction of Naval Air Station Cecil Field (NAS Cecil Field), Jacksonville, Florida as part of an overall effort conducted under Comprehensive Long-Term Environmental Action-Navy (CLEAN IV) administered through the Naval Facilities Engineering Command, Southeast (NAVFAC SE), as defined under Contract Number N62467-94-D-0888. In addition to the HASP, a copy of the TtNUS Health & Safety Guidance Manual must be present at the site during the performance of site activities. The Guidance Manual provides detailed information pertaining to the HASP, as well as TtNUS Standard Operating Procedures (SOPs). Both documents must be present at the site to comply with the requirements stipulated in the Occupational Safety and Health Administration (OSHA) standard 29 Code of Federal Regulations (CFR) 1910.120.

This HASP has been developed using the latest available information regarding known or suspected chemical contaminants and potential physical hazards associated with the proposed work and site. The HASP will be modified if new information becomes available. Changes to the HASP will be made by the Project Health & Safety Officer (PHSO) and approved by the TtNUS Health and Safety Manager (HSM) and the Task Order Manager (TOM). The TOM will notify affected personnel of the changes.

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

1.1 KEY PROJECT PERSONNEL AND ORGANIZATION

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

- i. Providing information regarding site contaminants and physical hazards associated with the site.
 - ii. Establishing air monitoring and decontamination procedures.
 - iii. Assigning personal protective equipment based on task and potential hazards.
 - iv. Determining emergency response procedures and emergency contacts.
 - v. Stipulating training requirements and reviewing appropriate training and medical surveillance certificates.
 - vi. Providing standard work practices to minimize potential injuries and exposures associated with hazardous waste work.
 - vii. 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 the aspects of health and safety on-site. These duties may include:
 - i. Coordinates health and safety activities with the FOL.
 - ii. Selects, applies, inspects, and maintains personal protective equipment.
 - iii. Establishes work zones and control points in areas of operation.
 - iv. Implements air monitoring program for onsite activities.
 - v. Verifies training and medical clearance of onsite personnel status in relation to site activities.
 - vi. Implements Hazard Communication, Respiratory Protection Programs, and other associated health and safety programs as they may apply to site activities.
 - vii. Coordinates emergency services.
 - viii. Provides site-specific training for onsite personnel.
 - ix. Investigates accidents and injuries (see Attachment I - Illness/Injury Procedure and Report Form)
 - x. 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 the Ocala Crash Site the FOL may also be responsible for SSO duties. This action will be performed only as credentials, experience, and availability permits.

2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section is part of a planning effort to direct and guide field personnel in the event of an emergency. The site is located in the general forest area of the Ocala National Forest where help is not close at hand. TtNUS site personnel are responsible for providing initial treatment and transporting the victim to the Munroe Regional Medical Center in the City of Ocala.

- Evacuation by helicopter is only approved by the Forest Service when there are no other alternatives available and the person needs the immediate medical services.
- The Marion Fire Rescue provides Emergency Medical Services.
- Merion County Sheriff handles emergency searches, rescues and evacuations.
- The Seminole Ranger District office is open Monday through Friday from 7:30 a.m. - 4:00 p.m.

In the event of an emergency that cannot be mitigated using onsite resources, personnel will evacuate to a safe place of refuge and the appropriate emergency response agencies will be notified. 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. 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, include initial response measures for incidents such as:

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

2.2 EMERGENCY PLANNING

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

To minimize and eliminate the potential for these emergency situations, emergency planning activities will include the following (which are the responsibility of the SSO and/or the FOL):

- 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 map with directions (these should also be placed in each site vehicle).
 - Emergency Notification - phone numbers.

The TtNUS FOL will be responsible for the following tasks:

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

2.3 EMERGENCY RECOGNITION AND PREVENTION

2.3.1 Recognition

Emergency situations that may be encountered during site activities will generally be recognized by visual observation. Visual observation is primarily relevant for physical hazards that may be associated with the proposed scope of work. Visual observation will also play a role in detecting some chemical hazards. 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 6-2. 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, site personnel will be responsible for reporting hazardous situations. Where potential hazards exist, TtNUS will initiate control measures to prevent adverse effects to human health and the environment.

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

2.3.2 Prevention

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

2.4 EVACUATION ROUTES, PROCEDURES, AND PLACES OF REFUGE

An evacuation will be initiated whenever hazard controls beyond those listed in this HASP are required to protect the health, safety or welfare of site workers. Specific examples of conditions that may initiate an evacuation include the following: severe weather conditions; fire or explosion; excessive or sustained monitoring instrumentation readings.

In the event of an emergency requiring evacuation, personnel will immediately stop activities and report to the designated safe place of refuge unless doing so would pose additional risks. When evacuation to the primary place of refuge is not possible, personnel will proceed to a designated alternate location and remain until further notification from the TtNUS FOL. Safe places of refuge will be identified prior to the commencement of site activities by the SSO and will be conveyed to personnel as part of the pre-activities training session. This information will be reviewed during daily safety meetings. Whenever

possible, the safe place of refuge will also serve as the telephone communications point for that area. During an evacuation, personnel will remain at the refuge location until directed otherwise by the TtNUS FOL or the on-site Incident Commander of the Emergency Response Team. The FOL or the SSO will perform a head count at this location to account for and to confirm the location of site personnel. Emergency response personnel will be immediately notified of any unaccounted personnel. The SSO will document the names of personnel onsite (on a daily basis) in the site Health and Safety Logbook. This information will be utilized to perform the head count in the event of an emergency.

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

2.5 DECONTAMINATION PROCEDURES / EMERGENCY MEDICAL TREATMENT

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

TtNUS personnel will perform rescue operations from emergency situations and may provide initial medical support for injury/illnesses requiring only "Basic First-Aid" level support, and only within the limits of training obtained by site personnel. **At least one person on site will be a currently certified in Basic First-Aid.** Basic First Aid is considered treatment that can be rendered by a trained first aid provider at the injury location and not requiring follow-up treatment or examination by a physician (for example; minor cuts, bruises, stings, scrapes, and burns). Medical attention above First-Aid level support will require assistance 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.

FIGURE 2-1 POTENTIAL EXPOSURE PROTOCOL

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

In the event of a personnel injury or accident:

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

2.6 EMERGENCY CONTACTS

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

As soon as possible, the site contact Mr. Ralph Hogan 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. If an exposure to hazardous materials has occurred, provide hazard information from Table 6-2 to medical service personnel.

TABLE 2-1

EMERGENCY CONTACTS

OCALA CRASH SITE, OCALA NATIONAL FOREST, FLORIDA

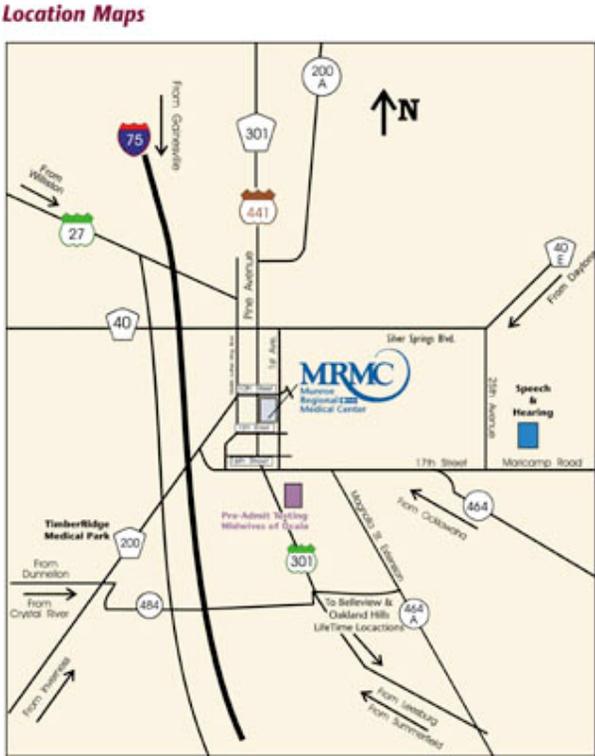
CONTACT	PHONE NUMBER
EMERGENCY (Police, Fire, Ambulance Service)	911
Marion County Sheriff's Office – Sheriff Ed Dean 692 NW 30th Ave Ocala, FL 34475	(352) 732-8181
United States Forest Service - Ranger Jim Thorsen Seminole Ranger District, Umatilla, Florida 32704	(352) 669 - 3153
Primary Hospital – Munroe Medical Center	(904) 387-7300
Florida Poison Information Center	(800) 222-1222
Chemtrec	(800) 424-9300
National Response Center	(800) 424-8802
TtNUS, Pittsburgh Office	(412) 921-7090
TtNUS, Jacksonville Office	(904) 636-6125
Task Order Manager Robert F. Simcik, P.E.	(412) 921-8163
Health and Safety Manager Matthew M. Soltis, CIH, CSP	(412) 921-8912
Project Health and Safety Officer James K. Laffey	(412) 921-8678

2.7 EMERGENCY ROUTE TO HOSPITAL

Munroe Regional Medical Center
1500 S.W. 1st Avenue
Ocala, FL 34474
352-351-7200

- 1. Take Rt. 579 South
- 2. Turn right on **SE 127th Street Road**
- 3. Turn left on **314a**
- 4. Turn right on **464c**
- 5. In Oklawaha, turn right on **25**
- 6. Turn right on **464**
- 7. **464** becomes **Maricamp Road**
- 8. In Ocala turn left on **17th Street**
- 9. Turn left on **SW 1st Ave**
- 10. Arrive at **Hospital**, on the left

**FIGURE 2-1
ROUTE TO MUNROE MEDICAL CENTER**



2.8 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

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

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

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

2.9 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.

2.10 INJURY/ILLNESS REPORTING

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

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

3.0 SITE BACKGROUND

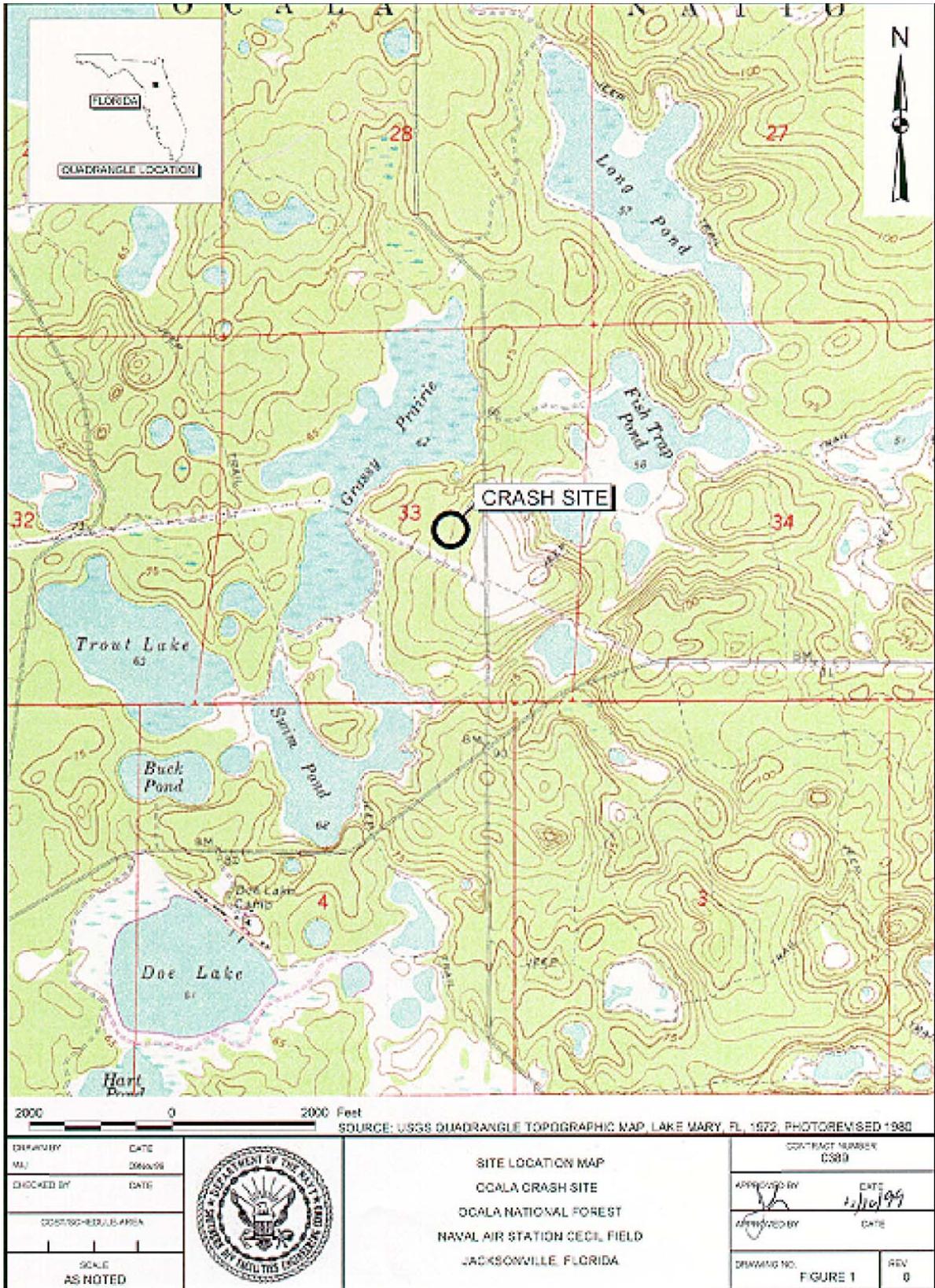
The Ocala National Forest lies between the Ocklawaha and St. Johns Rivers in central Florida. It has acreage in Putnam, Lake and Marion Counties. Interstate 75 parallels the forest on the west, while Interstates 95 and 4 are accessible on the east side.

The Ocala National Forest covers approximately 389, 000 acres in central Florida. Established in 1908, it is the oldest National Forest east of the Mississippi River and southernmost in the continental U.S. The Ocala is managed by the USDA Forest Service for the benefit of the American public.

3.1 SITE HISTORY

The Ocala Crash Site is located 120 miles south of Cecil Field and 35 miles east of the City of Ocala in the Ocala National Forest (See Figure 3-1), near the intersection of Routes 573 and 579. In June 1994, a Navy F-18 jet carrying approximately 1,285 gallons of JP-5 jet fuel crashed in the Ocala National Forest. Between September and November of 1994 approximately 3,460 tons of excessively contaminated soil was excavated from the crash site.

FIGURE 3-1
MAP OF OCALA CRASH SITE



4.0 SCOPE OF WORK

This section of the HASP addresses the proposed site activities that are to be conducted at Ocala Crash Site. The methods and activities to be conducted include:

- Mobilization/demobilization activities
- Groundwater sampling
- IDW Management

For more detailed description of the planned tasks, refer to the Project Work Plan (WP). Any tasks to be conducted outside of the elements listed here will be considered a change in scope requiring modification of this document. Modifications to this document will be submitted to the HSM by the TOM or a designated representative.

5.0 TASKS/HAZARDS/ASSOCIATED CONTROL MEASURES

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

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

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

Safe Work Permits issued for Exclusion Zone activities (See Section 9.4 and Attachment II) will use elements defined in Table 5-1 as its primary reference. The FOL and/or the SSO completing the Safe Work Permit will add additional site-specific information. In situations where the Safe Work Permit is more conservative than the direction provided in Table 5-1 due to the incorporation of site-specific elements, the Safe Work Permit will be followed.

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**TABLE 5-1
TASKS/HAZARDS/CONTROL MEASURES FOR
OCALA CRASH SITE, NAVAL AIR STATION CECIL FIELD, JACKSONVILLE, FLORIDA**

Tasks/Operations/ Location	Anticipated Hazards	Recommended Control Measures	Hazard Monitoring	Personal Protective Equipment <i>(Items in italics are deemed optional as conditions or the FOL/SSO require.)</i>	Decontamination Procedures
Mobilization/ Demobilization	<p>Chemical hazards:</p> <p>1) Site contaminants are unlikely to be encountered during this task. However, the TtNUS Hazard Communication Program will be followed for any chemicals (fuels, sample preservatives, decontamination solvents, etc.) that are brought onsite in support of site activities.</p> <p>Physical hazards:</p> <p>2) Lifting (strain/muscle pulls)</p> <p>3) Slip, trips, and falls</p> <p>4) Ambient temperature extremes (heat stress)</p> <p>Natural hazards:</p> <p>5) Insect/animal bites and stings, poisonous plants, etc.</p>	<p>1) Implement the Hazard Communication Program (Section 5.0 TtNUS Health and Safety Guidance Manual) and assure that personnel understand its use. Inventory and obtain MSDSs for materials in use.</p> <ul style="list-style-type: none"> - Chemical inventories and manufacturer Material Safety Data sheets (MSDS) will be maintained on site. - Information contained within MSDS will be used to determine necessary safe work practices and PPE requirements. - Maintain an MSDS binder in a location readily accessible by site personnel. <p>2) Use machinery or multiple personnel for heavy lifts.</p> <ul style="list-style-type: none"> - Use proper lifting techniques as defined in Section 4.0 of this Health and Safety Guidance Manual. <p>3) Preview work locations for unstable/uneven terrain.</p> <p>4) Wear appropriate clothing for weather conditions.</p> <ul style="list-style-type: none"> - 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>5) Avoid nesting areas, use commercially available repellents. Report potential hazards to the SSO.</p>	Not required	<p>Level D - (Minimum Requirements)</p> <ul style="list-style-type: none"> - Standard field attire (long sleeve shirt; long pants) - Safety shoes (steel toe/shank) - <i>Cotton or leather work gloves when required</i> - <i>Safety glasses</i> - <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i> - Reflective vest for high traffic areas <p>Note: A Safe Work Permit (Attachment III) for this task 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
<p>Groundwater sampling</p> <p>This task also includes water level measurement and well purging.</p>	<p>Chemical hazards:</p> <p>1) Prior sampling data and/or site history have indicated the following as the primary contaminants: VOCs (specifically BETX and naphthalene)</p> <p>See Table 6-1 for more information on the chemicals of concern.</p> <p>2) Transfer of contamination into clean areas or onto persons</p> <p>Physical hazards:</p> <p>3) Lifting (strain/muscle pulls)</p> <p>4) Cuts and lacerations</p> <p>5) Slip, trips, and falls</p> <p>6) Ambient temperature extremes (heat stress)</p> <p>Natural hazards:</p> <p>7) Insect/animal bites and stings, poisonous plants, etc.</p> <p>8) Inclement weather</p>	<p>1) Use real-time monitoring instrumentation, action levels, and identified PPE to control exposures to potentially contaminated media (air, water, etc.).</p> <p>2) Use new tubing to sample each well and properly dispose of contaminated tubing.</p> <p>3) Use machinery or multiple personnel for heavy lifts. Use proper lifting techniques as described in Section 4.0 of this Health and Safety Guidance Manual. Carry small loads to sampling sites.</p> <p>4) When cutting tubing, cut away from self and others.</p> <ul style="list-style-type: none"> - Place tube to be cut on a solid firm surface - Secure glass ware in sturdy container <p>5) Preview work locations for unstable/uneven terrain.</p> <p>6) Wear appropriate clothing for weather conditions. Provide acceptable shelter and liquids for field crews. Additional information regarding heat stress concerns is provided in the TtNUS Health and Safety Guidance.</p> <p>7) Avoid nesting areas, use commercially available repellents.</p> <ul style="list-style-type: none"> - Spiders and bees next in well protective casings - Snakes are often found on monitoring well pads - Report potential hazards to the SSO. - Follow guidance presented in Section 4 of the Health and Safety Guidance Manual. <p>8) Suspend or terminate operations until directed otherwise by the SSO.</p>	<p>A Photoionization Detector (PID) w/a 10.6 eV lamp or a Flame ionization Detector (FID) will be used (at the discretion of the SSO) to screen for any detectable vapors. The following general guidance applies: Source (borehole, sampling point, etc.) monitoring will be conducted at each sample interval or at regular intervals determined by the SSO. Elevated readings above daily established background levels observed at a source area will require the SSO obtain readings within the breathing zone (BZ) of potentially affected employees.</p> <p>If sustained readings (more than 1 minute in duration) greater than 1 ppm are observed within a workers BZ initiate measures to minimize exposure (retreat to an unaffected area, station personnel in an upwind location, etc.). Workers must evacuate to a safe area if sustained BZ concentrations exceed 1 ppm above background levels.</p> <p>If elevated readings persist, contact the PHSO for additional air monitoring guidance.</p>	<p>Level D protection will be utilized for the initiation of 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) - Tape pant legs to boots. - <i>Reflective vest for high traffic areas</i> - <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, if the potential for soiling work attire exists, or in tall brush. Tyvek aids in tick identification and removal.</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"> - Removal and bagging of disposal tubing. - Removal and disposal of gloves. - Clean face and hands with hygienic wipes until access to a decon station or rest room is obtained. - Check body carefully for ticks when exiting wooded or brush areas.

**TABLE 5-1
TASKS/HAZARDS/CONTROL MEASURES FOR
OCALA CRASH SITE, NAVAL AIR STATION CECIL FIELD, JACKSONVILLE, FLORIDA**

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 the SHSO require)</i>	Decontamination Procedures
<p>IDW Management and Handling</p> <p>This activity includes the following tasks:</p> <ul style="list-style-type: none"> • Containerization • Labelling • Staging • Monitoring <p>of IDW generated in support of site activities.</p>	<p>Chemical hazards: 1) The only anticipated chemical hazard associated with IDW management is the potential for a spill. In situations such as that the spill containment program identified in Section 10.0 of this HASP will be employed.</p> <p>Physical hazards: 2) Strains and sprains 3) Back injuries 4) Compressions</p>	<p>1) It is not anticipated that chemical hazards will be significant during this operation, as the IDW will be in sealed containers. It is anticipated that the IDW will represent a limited chemical hazard, if the container is breached. Control measures in this case will represent PPE and good work hygiene practices to control potential exposures during the implementation of the Spill Containment Program (See Section 10.0 of this HASP).</p> <p>2 & 3) Use machinery (preferred method) or multiple personnel for heavy lifts.</p> <p>- Use proper lifting techniques: -- Lift with your legs, not your back, bend your knees move as close to the load as possible, and ensure good hand holds are available. -- Minimize the horizontal distance to the center of the lift to your center of gravity. -- Minimize turning and twisting when lifting as the lower back is especially vulnerable at this time. -- Break lifts into steps if the vertical distance (from the start point to the placement of the lift) is excessive. -- Plan your lifts – Place heavy items on shelves between the waist and chest; lighter items on higher shelves. -- Periods of high frequency lifts or extended duration lifts should provide sufficient breaks to guard against fatigue and injury.</p> <p>4) Material handling devices (drum dollies with pneumatic tires, drum grapplers, etc) shall be used for moving drums within the storage area.</p> <p>- Maximum 4-drums to a pallet with retaining ring bolt and label on the outside for easy access/reference. - Maintain a minimum of 4-feet between each row of pallets. This is the minimum distance necessary to wheel drums on a drum dolly - If the site is not secured, the satellite storage area shall be fenced and signs placed indicating the following:- -- Primary Point of Contact -- Phone Number -- Emergency Contact (If different from the Primary)</p> <p>-Provide a drum/container inventory to the Point of Contact. The inventory should contain: -- Each drum shall be assigned a unique identification number. This number shall be placed on the label and drum shell using a paint marker (paint the number on the side because lids can easily change) -- Type of waste materials (purge/development waters, etc.) -- Volumes (full or level associated with the container after completion of the project location) -- Where it was derived from (IDW should be separated by SWMU and media) -- Dates (for all filled containers and at the completion of work for that area or SWMU) -- Site Point of Contact</p>	<p>None Required, unless spill containment provisions are invoked. Then monitoring will proceed as described in the activity associated with the task when the materials were generated such as Soil boring or well installation.</p>	<p>Level D - (Minimum Requirements) - Standard field attire (Sleeved shirt; long pants) - Steel toe safety shoes/boots - Leather or canvas work gloves - Safety glasses - <i>Hardhat (when overhead hazards exists, or identified as a operation requirement)</i></p> <p>PPE changes may be made with the implementation of the Spill Containment Program. This represents the only anticipated modification to this level of protection.</p>	<p>Not required, unless the implementation of the Spill Containment Program is required due to a spill and/or release. At that point the decontamination procedures for those activities such as soil borings and/or well installation. The reference reflects the tasks conducted when the materials were generated.</p>
<p>Surveying – Geographical</p> <p>The locations identified to be surveyed are largely within improved and well maintained areas. Therefore, the necessity to cut clear lines from vertical and horizontal control monuments is not anticipated.</p> <p>Items to be surveyed include:</p> <p>New monitoring wells Soil sample locations</p> <p>Control points</p> <p>Existing monitoring wells</p> <p>Physical features (building corners, intersections, etc.)</p>	<p>Chemical hazards: Significant exposure to site contaminants is not anticipated during this task.</p> <p>Physical hazards: 1) Slips, trips, and falls 2) Traffic hazards</p> <p>Natural hazards: 3) Inclement weather 4) Insect/animal bites or stings, poisonous plants, etc.</p>	<p>Exposure to site contaminants is not anticipated during this activity. However, it will be required to open the monitoring well cap to survey from the top of the casing.</p> <p>-Exposure potential is the greatest when opening a well that has been sealed and may have gases present in the confined headspace. - Approach the well upwind and, at arms length, open the well. - Let the gas dissipate for a few minutes.</p> <p>1) Preview work locations and site lines for uneven and unstable terrain. A review of accident/injury statistics associated with land surveying identifies slips, trips, and falls as the number one injury cause, followed by cuts and lacerations, and animal/insect bites.</p> <p>2) Vehicular traffic hazards: - Wear high visibility vests when working in traffic patterns. - Provide signage in areas where traffic patterns will be altered (Survey crew working; lane restriction, etc.). - See Mobilization/Demobilization, Table 5-1 for information concerning control measures for vehicle and traffic hazards as it pertains to accessing and working on taxiways and runways.</p> <p>4) Electrical storms or high winds - Suspend or terminate operations until directed otherwise by SHSO.</p> <p>Harmful effects of the Sun - Care should be exercised when working outdoors due to harmful effects of the sun. To reduce the potential for sunburn and melanoma the following measures should be employed: - Wear a hat that shades the face, neck, and ears. - Apply sunscreen with a SPF of 15 or higher liberally on any exposed skin at least 15 minutes before going outside, then at least every two hours, more if you are sweating a lot. - To the extent possible, plan/provide suitable equipment to offer shade to avoid the midday sun since the sun's ultraviolet rays are most intense between 10 A.M. and 4 P.M. and can damage your skin even on hazy days. - Wear wrap-around sunglasses to protect the eyes and delicate skin around them. - This is not considered a predominant hazard as these activities are to be conducted in maintained areas. However, to combat the potential impact of natural hazards, the following actions are recommended as necessary: Insects and spiders - Wear light color clothes. This will allow easier detection of ticks and insects crawling on your body. It will also assist in heat stress control. - Tape pant legs to work boots to block direct access. This is especially critical when clearing or entering heavy brush and wooded areas. - Use repellents – Follow manufacturer's recommendations for application and re-application. Permethrin should be applied liberally to the clothing, but not the skin as it may cause irritation. Apply repellants containing DEET directly on skin surfaces. Concentrate on areas where ticks and other insects may access your body such as pant cuffs, shirt to pants, and collars. - Upon exiting the high brush and wooded areas perform a close body inspection to remove any ticks or other insects that have attached to your clothing or skin. - Do not stick your hands or feet anywhere where you can't see. - When opening existing well heads be cautious of bees and spiders as these are preferred nesting locations. See Section 4.0 of the TINUS Health and Safety Guidance Manual for additional information concerning natural hazards.</p>	<p>Air monitoring is not required given the unlikelihood that airborne contaminants will be present. The potential for exposure to site contaminants during this activity is considered minimal.</p>	<p>Surveying activities shall be performed in Level D protection</p> <p>Level D Protection consists of the following:</p> <ul style="list-style-type: none"> - Standard field dress including sleeved shirt and long pants - Shoes rugged lug sole for traction - Work gloves shall be worn when clearing brush. - <i>Safety glasses, hard hats (if working near machinery, overhead hazards, or clearing brush)</i> - <i>Snake chaps for heavily wooded area where encounters are likely.</i> - <i>Tyvek coveralls may be worn to provide additional protection against poisonous plants and insects, particularly ticks.</i> - <i>Reflective or blaze orange vests should be worn when working along traffic thoroughfares.</i> <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>	<p>Personnel Decontamination - A structured decontamination is not required as the likelihood of encountering contaminated media is considered remote. However, survey parties should inspect themselves and one another for the presence of ticks when exiting wooded areas, grassy fields, etc. This action will be employed to stop the transfer of these insects into vehicles, homes, and offices. In addition, early detection shall provide for early removal.</p>

6.0 HAZARD ASSESSMENT AND CONTROLS

This section provides reference information regarding the chemical, physical, and natural hazards which may be associated with activities to be conducted as part of the scope of work. Table 6-1 provides specific information related to some of the various chemical hazards that may be present or generated at the planned project areas at the Ocala Crash Site. 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 work to be conducted at the Ocala Crash Site include inhalation, ingestion, and dermal contact of various contaminants that may be present in groundwater. Based on the site histories and prior sampling efforts, the primary types of contaminants include volatile and semivolatile organic compounds (VOC and SVOC) associated with petroleum products. Specifically, the following have been identified – the VOCs benzene, ethylbenzene, toluene, xylenes and the SVOC naphthalene.

It is anticipated that the greatest potential for exposure to site contaminants is during intrusive activities. The most efficient route of exposure for the contaminants of concern is through inhalation of airborne VOCs. Available analytical data from previous site investigations indicate that elevated airborne concentrations in worker breathing zones are of concern during site activities. Site personnel will use air monitoring equipment, PPE, and safe work practices to minimize the inhalation exposure potential. Potential exposures as a result of dermal contact or accidental ingestion of contaminated sediment or water by hand-to-mouth contact during sampling activities will be prevented through the use of PPE and basic hygiene practices (washing face and hands before leaving site).

Table 6-1 provides information on the compounds and individual substances likely to be present. Included is information on the toxicological, chemical, and physical properties of these substances.

TABLE 6-1
CHEMICAL, PHYSICAL, AND TOXICOLOGICAL DATA
OCALA CRASH SITE OCALA NATIONAL FOREST, FLORIDA – CTO 213

Substance	CAS No.	Air Monitoring	Exposure Limits	Warning Property Rating	Physical Properties	Health Hazard Information
Benzene	71-43-2	PID: I.P 9.24 eV, 100% response with PID and 10.2 eV lamp. FID: 150% relative response ratio with FID.	OSHA: 1 ppm ACGIH: 0.5 ppm 2.5 ppm - STEL (skin) NIOSH: 0.1 ppm 1.0 – STEL IDLH: 500 ppm	Inadequate - Odor threshold 34-199 ppm. OSHA accepts the use of air-purifying respirators with organic vapor cartridge up to 10 ppm despite the inadequate warning properties providing cartridges are changed at the beginning of each shift. Recommended gloves: Butyl/neoprene blend - >8.00 hrs; Silver shield as a liner - >8.00 hrs; Viton - >8.00 hrs	Boiling Pt: 176°F; 80°C Melting Pt: 42°F; 5.5°C Solubility: 0.07% Flash Pt: 12°F; -11°C LEL/LFL: 1.3% UEL/UFL: 7.9% Vapor Density: 2.77 Vapor Pressure: 75 mmHg Specific Gravity: 0.88 Incompatibilities: Strong oxidizers, fluorides, perchlorates, and acids Appearance and Odor: Colorless to a light yellow liquid with an aromatic odor	Overexposure may result in irritation to the eyes, nose, throat, and respiratory system. CNS effects include giddiness, lightheadedness, headaches, staggered gait, fatigue, and lassitude and depression. Additional effects may include nausea. Long duration exposures may result in respiratory collapse. Regulated as an OSHA carcinogen. May cause damage to the blood forming organs and may cause a form of cancer called leukemia.
Ethylbenzene	100-41-4	PID: I.P 8.76, High response with PID and 10.2 eV lamp. FID: 100% response with FID.	ACGIH & NIOSH: 100 ppm; 125 ppm - STEL OSHA: 100 ppm IDLH: 800 ppm	Adequate - Can use air-purifying respirator with organic vapor cartridge up to 1,000 ppm. Recommended gloves: Neoprene or nitrile w/ silver shield when potential for saturation; Teflon >3.00 hrs	Boiling Pt: 277°F; 136°C Melting Pt: -139°F; -95°C Solubility: 0.01% Flash Pt: 55°F; 13°C LEL/LFL: 1.0% UEL/UFL: 6.7% Vapor Density: 3.66 Vapor Pressure: 10 mmHg @ 79° F; 26°C Specific Gravity: 0.87 Incompatibilities: Strong oxidizers Appearance and odor: Colorless liquid with an aromatic odor. Odor threshold of 0.092-0.60.	Regulated primarily because of its potential to irritate the eyes and respiratory system. In addition, effects of overexposure may include headaches, narcotic effects, CNS changes (i.e., coordination impairment, impaired reflexes, tremoring) difficulty in breathing, possible chemical pneumonia, and potentially respiratory failure or coma.

TABLE 6-1
CHEMICAL, PHYSICAL, AND TOXICOLOGICAL DATA
OCALA CRASH SITE OCALA NATIONAL FOREST, FLORIDA – CTO 213

Substance	CAS No.	Air Monitoring	Exposure Limits	Warning Property Rating	Physical Properties	Health Hazard Information
Toluene	108-88-3	PID: I.P. 8.82 eV, High response with PID and 10.2 eV lamp. FID: 110% response with FID.	OSHA: 200 ppm 300 ppm - Ceiling ACGIH: 50 ppm (skin) NIOSH: 100 ppm 150 ppm - STEL IDLH: 500 ppm	Adequate - Odor threshold 1.6 ppm is considered good. Can use air-purifying respirator with organic vapor cartridge up to 1,000 ppm. Recommended gloves: Teflon >15.00 hrs; Viton >16.00 hrs; silver shield >6.00 hrs; supported nitrile (Useable time limit 0.5 hr, complete submersion for the nitrile selection); PV alcohol >25.00 hrs	Boiling Pt: 232°F; 111°C Melting Pt: -139°F; -95°C Solubility: 0.05% (61°F;16°C) Flash Pt: 40°F; 4°C LEL/LFL: 1.2% UEL/UFL: 7.1% Vapor Density: 3.14 Vapor Pressure: 20 mmHg @ 65°F; 18°C Specific Gravity: 0.87 Incompatibilities: Strong oxidizers Appearance and odor: Colorless liquid with a sweet pungent aromatic odor.	Overexposure to this substance may result in mild to moderate irritation at points of contact, and CNS changes including euphoria, confusion, nervousness, and possibly paresthesia characterized by an abnormal burning sensation, pricking, or numbness. At 200-500 ppm exposure has resulted in headaches, nausea, eye irritation, loss of appetite, bad taste, impair coordination, fatigue, and weariness. Chronically, toluene overexposure may result in dermatitis, liver, and kidney damage.
Xylene All isomers o-,m-, p-	1330-20-7	PID: I.P. 8.56 eV, High response with PID and 10.2 eV lamp. FID: 110% response with FID.	ACGIH, & NIOSH: 100 ppm, 150 ppm STEL OSHA: 100 ppm IDLH: 900 ppm	Adequate - Odor thresholds for the following isomers: 0.6 m-; 5.4 p-; 20 o- ppm. Can use air-purifying respirator with organic vapor cartridge up to 1,000 ppm concentrations. Recommended gloves: PV Alcohol >12.67 hrs; Viton >8.00 hrs; CPE >1.00 hr; Butyl 0.87 hrs; Nitrile is acceptable for limited operations and contact (>0.20 hrs)	Boiling Pt: 269-281°F; 132-138°C Melting Pt: -130/-54m/56p°F; -25o/-48m/13p °C Solubility: 0.02 % Flash Pt: 81-90°F;27-32°C LEL/LFL: 0.9% UEL/UFL: 7.0% Vapor Density: 3.66 Vapor Pressure: 7-9 mmHg @ 70°F; 21°C Specific Gravity: 0.86-0.88 Incompatibilities: Strong oxidizers and strong acids Appearance and odor: Colorless liquid with an aromatic odor.	Effects may of overexposure include irritation at points of contact, CNS changes (i.e. dizziness, excitement, drowsiness, incoherent, staggering gait), difficulty in breathing, pulmonary edema, and possibly respiratory failure. Chronic effects may include dermatitis and cornea vacuolization.

TABLE 6-1
CHEMICAL, PHYSICAL, AND TOXICOLOGICAL DATA
OCALA CRASH SITE OCALA NATIONAL FOREST, FLORIDA – CTO 213

Substance	CAS No.	Air Monitoring	Exposure Limits	Warning Property Rating	Physical Properties	Health Hazard Information
Naphthalene	91-20-3	<p>PID: I.P. 8.12 eV, relative response ratio unknown.</p> <p>No information was found as to the relative response for FID, however it is certain it is detectable at a high response.</p>	<p>OSHA; NIOSH; ACGIH: 10 ppm</p> <p>NIOSH; ACGIH: 15 ppm - STEL</p> <p>IDLH: 250 ppm</p>	<p>Odor Threshold 0.038 ppm, Adequate - Use an air purifying respirator with organic vapors and dust/mists cartridges for concentrations up to 250 ppm.</p> <p>Recommended glove: Nitrile >6.00 hrs; Neoprene >6.00 hrs</p>	<p>Boiling Pt: 424°F; 218°C</p> <p>Melting Pt: 176°F; 80°C</p> <p>Solubility: 0.003%</p> <p>Flash Pt: 174°F; 79°C</p> <p>LEL/LFL: 0.9%</p> <p>UEL/UFL: 5.9%</p> <p>Vapor Density: Not available</p> <p>Vapor Pressure: 1 mmHg</p> <p>Specific Gravity: 1.15</p> <p>Incompatibilities: Strong oxidizers, chromic anhydride</p> <p>Appearance and odor: Colorless to brown solid with and odor of mothballs</p>	<p>Overexposure to this substance may result in irritation to the eyes, headache, confusion, excitement, nausea, vomiting, abdominal pain, irritation of the bladder, profuse sweating, jaundice, blood in the urine, renal (kidney shutdown), and dermatitis. Prolonged or chronic exposure may further cause optical neuritis, and corneal damage. Target organs are listed as eyes, blood, liver, kidneys, skin, red blood cells, and central nervous system.</p>

6.2 PHYSICAL HAZARDS

- Slips, trips, and falls
- Ambient temperature extremes (cold and heat stress)

Each of these physical hazards is discussed in greater detail in Section 4.0 of the TtNUS health and Safety Guidance Manual. Additionally, information on the associated control measures for these hazards is discussed in Table 5-1 of this HASP.

6.3 NATURAL HAZARDS

Mosquitoes and chiggers are found at most times during the year in the Ocala National Forest. Dressing properly provides your best protection. Wear long-sleeved shirts and tuck your pant legs inside heavy wool socks or boot tops to protect your ankles. A hat provides excellent protection from the summer deerflies and horseflies. Wear light-colored clothing and avoid dark colors, especially in the blue and green range, as they tend to attract insects more than other colors. Insect repellents also are very useful.

6.3.1 Insect/Animal/Snake Bites and Stings

Black Bear

Most black bear sightings in the Ocala National Forest are in the general forest area. Black bears should always be considered unpredictable and potentially dangerous. A black bear will usually detect human presence and flee the area before they are noticed unless the bear has been conditioned to people and their foods.

- If a black bear is visible, but not close, alter your route so that you will move away from its area.
- If a black bear approaches, do not run.
- Remain calm, continue facing the bear and slowly back away.
- If the bear continues to approach, try to group together.
- Never run from a bear. Running may elicit a chase from an otherwise non-aggressive bear, and since they can run faster than 30 mph, you have no chance of outrunning them.
- Try to scare the bear away by shouting and acting aggressively.

- If a black bear attacks, it is suggested to fight back using everything in your power fists, sticks, rocks, and EPA registered bear pepper spray.

Fire Ants

Various insects and animals may be present and should be considered. For example, 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 (formic acid) 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.

Site personnel who are allergic to stinging insects such as bees, wasps, hornets, and ants 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 SHSO notified.

Tick Borne Illnesses

During warm months (spring through early fall), tick-borne Lyme's Disease and STARI (Southern Tick-Borne Associated Rash Illness) may pose a potential health hazards for field personnel. The longer a disease carrying tick remains attached to the body, the greater the potential for contracting these diseases.

Prevention is typically facilitated through taping pants to boots and using insect repellent as well as performing frequent body checks to 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 HSGM.

Mosquito-Borne Illness

Mosquitoes may carry diseases including St. Louis encephalitis, Eastern equine encephalitis, La Crosse encephalitis and West Nile virus.

Mosquitoes become infected after biting infected birds. The symptoms for mosquito-borne illnesses may include headache, moderate to high fever, stiff neck and confusion. In serious cases coma, seizures or paralysis can result. Symptoms usually appear between 5 to 15 days after exposure to infected mosquitoes. Mosquito-borne illnesses may be mild or serious and can lead to death.

West Nile Virus - Encephalitis is an inflammation of the brain and can be caused by bacteria and viruses. West Nile encephalitis is caused by a virus transmitted to humans by mosquitoes. The mosquito becomes infected by feeding on birds infected with the West Nile virus. Infected mosquitoes then transmit the West Nile virus to humans and animals when biting (or taking a blood-meal).

West Nile encephalitis is NOT transmitted from person-to-person. There is no evidence that a person can get the virus from handling live or dead infected birds. However, avoid bare-handed contact when handling any dead animals, including dead birds. Ticks have not been implicated as vectors of West Nile-like virus.

Mild infections are common and include fever, headache, and body aches, often with skin rash and swollen lymph glands. More severe infection is marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, occasional convulsions, paralysis and, rarely, and death (especially in the elderly and very young). The incubation period of West Nile encephalitis is usually 3 to 12 days.

Eastern Equine Encephalitis (EEE) - Eastern Equine Encephalitis is spread to horses and humans though the bite of an infected mosquito. The mosquito becomes infected after biting an infected bird. EEE can cause severe complications and even death. Symptoms for EEE in humans begin with high fever, chills, soar throat, nausea and vomiting. The illness can affect the central nervous system, cause sudden fever, severe headache, mental confusion, seizures and coma. Symptoms usually appear between 5 to 15 days after exposure to infected mosquitoes. There is no cure for EEE in humans.

Precautions include:

- Limit outdoor activities during peak mosquito times – at dusk and dawn.
- Avoid standing water
- Wear long-sleeved shirts and long pants whenever you are outdoors.

- Apply insect repellent according to manufacturers instruction to exposed skin. An effective repellent will contain 20% to 30% DEET (N,N-diethyl-meta-toluamide). Avoid products containing more than 30% DEET.
- Spray clothing with repellents containing permethrin (such as Permanone) or DEET, mosquitoes may bite through thin clothing.

6.3.2 Ambient Temperature Extremes (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. 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.

Temperature extremes are considered inclement weather. Steps should be taken to the extent possible protect site personnel from the effects of heat stress and the sun. Control measures include:

- Watch for signs of heat stress/exhaustion,
- Provide fluid replacement
- Provide adequate number of breaks within a cooler environment.

Sunburn

Care should be exercised when working outdoors due to harmful effects of the sun. To reduce the potential for sunburn and melanoma the following measures should be employed

- Wear a hat that shades the face, neck, and ears.
- Apply sunscreen with a SPF of 15 or higher liberally on any exposed skin at least 15 minutes before going outside, then at least every two hours, more if you are sweating a lot.
- Plan/provide suitable equipment to offer shade to avoid the midday sun since the sun's ultraviolet rays are most intense between 10 A.M. and 4 P.M. and can damage your skin even on hazy days. Portable canopies over the sample station are an example of this.
- Wear wrap-around sunglasses to protect the eyes and delicate skin around them.

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 SHSO 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, TOM, 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 6-1 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.

In preparation for high winds and storms – Secure loose articles. Lash empty drums or associated containers together contained within storage areas. During electrical storms/high winds lower mast evacuate to a safe refuge location.

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.

7.0 AIR MONITORING

A direct reading instrument such as a PID will be used at the site to detect and measure the presence and concentration of airborne site contaminants.

7.1 INSTRUMENTS AND USE

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

7.1.1 Photoionization Detector

A Photoionization Detector (PID) with a 10.6 eV (or equivalent) lamp will be used to monitor potential sources areas and to screen collected samples and breathing zones of employees during sampling activities. Prior to the commencement of any field activities, the background level of the site must be determined and noted. Daily background readings must be taken away from areas of potential contamination to obtain accurate results. These readings, and any influencing conditions (i.e., weather, temperature, humidity) and location will also be documented in the Health and Safety Logbook as a matter of reference.

7.1.2 Hazard Monitoring Frequency

Table 5-1 presents the frequencies that hazard monitoring will be performed as well as the action levels that will initiate the use of personnel retreat or the need for elevated levels of protection. The SHSO 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 the 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 procedures which are provided with each instrument. Calibration efforts must be documented. Figure 7-1 is provided for documenting these calibration efforts. This information may be recorded in a field operations logbook, provided that the information specified in Figure 7-1 is recorded. This required information includes the following:

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

7.3 DOCUMENTING INSTRUMENT READINGS

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

- Date, time, and duration of the reading
- Site location where the reading was obtained
- Instrument used
- Personnel present at the area where the reading was noted

Other conditions that are considered relevant to the SHSO (such as possible instrument interferences, etc.)



Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : NAS Cecil Field

INSTRUMENT NAME/MODEL: _____

SITE NAME: Ocala Crash Site

MANUFACTURER: _____

PROJECT No.: _____

SERIAL NUMBER: _____

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		

8.0 TRAINING/MEDICAL SURVEILLANCE REQUIREMENTS

8.1 INTRODUCTORY/REFRESHER/SUPERVISORY TRAINING

This section specifies health and safety training and medical surveillance requirements for both Tetra Tech NUS and subcontractor personnel participating in on-site activities.

8.1.1 Requirements for Field Personnel

The Tetra Tech NUS and subcontractor personnel who will engage in field associated activities as described in this HASP must have:

- Completed 40 hours of introductory hazardous waste site training or equivalent work experience as defined in OSHA Standard 29 CFR 1910.120(e).
- Completed 8-Hour Refresher Training, if the identified persons had introductory training more than 12 months, prior to this site work.
- Completed 8-hour Supervisory training in accordance with 29 CFR 1910.120(e) (4), if their assigned function will involve the supervision of subordinate personnel.

Documentation of introductory training or equivalent work experience, supervisory, and refresher training, as well as, site-specific training will be maintained at the site. Copies of certificates or other official documentation will be used to fulfill this requirement and to track site personnel's training status. The SHSO shall be responsible for insuring training qualifications through review of training documentation and for monitoring the status of on-site personnel to insure during the course of this project site personnel do not cycle outside of their training compliance status. The documentation supporting training compliance and status shall be maintained at the project site and be made available, upon request.

8.2 SITE-SPECIFIC TRAINING

Tetra Tech NUS SHSO will provide site-specific training to Tetra Tech NUS employees and subcontractor personnel who will perform work on this project.

Figure 8-1 will be used to document the provision and content of the project-specific and associated training. Site personnel will be required to sign this form prior to commencement of site activities. This

training documentation will be employed to identify personnel who through record review and attendance of the site-specific training are cleared for participation in site activities. This document shall be posted to maintain an active list of cleared site personnel.

TtNUS will conduct a pre-activities training session prior to initiating site work. Additionally, a brief meeting may be held daily to discuss operations planned for that day as well as, a short meeting may be held at the end of the day 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 9.10) and/or documented in the Project Logbook.

8.3 MEDICAL SURVEILLANCE

Tetra Tech NUS and subcontractor personnel participating in project field activities will have had a physical examination. Physical examinations shall meet the minimum requirements of paragraph (f) of OSHA 29 CFR 1910.120. The physical examinations will be performed to ensure that personnel are medically qualified to perform hazardous waste site work using respiratory protection.

Documentation for medical clearances will be maintained at the job site and made available, as necessary. A letter from an officer of the company or a medical clearance authorized by the physician can be used as documentation. Documentation must indicate that clearance provided are in accordance with medical surveillance as determined by 29 CFR 1910.120 (f).

The SHSO shall be responsible for ensuring that personnel participating in this project provide documentation regarding their medical qualifications. Personnel associated with this project will maintain a current status regarding medical surveillance as determined by 29 CFR 1910.120 (f) or the prescribed interval as determined by the Licensed Occupational Health Care Provider. Documentation supporting medical surveillance compliance and status shall be made available, upon request.

8.3.1 Medical Data Sheet

Each field team member, including subcontractors and visitors, entering the exclusion zone(s) shall be required to complete and submit a copy of the Medical Data Sheet (see Attachment III). This shall be filled out and collected, reviewed and maintained by the SSO. 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 EXCEPTION

If through the execution of their contract elements the subcontractor will not enter the exclusion zone and there is no potential for exposure to site contaminants, subcontractor personnel may be exempt from the training and medical surveillance requirements with the exception of Section 8.2. Examples of subcontractors who may qualify as exempt from training and medical surveillance requirements may include surveyors who perform surveying activities in site perimeter areas or areas where there is no potential for exposure to site contaminants and support or restoration services. Use of this Subcontractor Exception is strictly limited to the authority of the TtNUS Health and Safety Manager.

9.0 SITE CONTROL

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

9.1 EXCLUSION ZONE

Exclusion Zone boundaries for groundwater sampling is 8 feet surrounding the well and discharge receptacle container. Personnel working inside these areas will adhere to the protective requirements indicated in Table 5-1, Safe Work Permits (Attachment IV) for that operation.

9.2 CONTAMINATION REDUCTION ZONE

The Contamination Reduction Zone will be divided into two separate functions. The first will be a control/supply point for supporting Exclusion Zone activities. The second is the decontamination of personnel and heavy equipment, which may take place a centralized location away from the Exclusion Zone,

- As samplers move from location to location during sampling activities, dedicated sampling devices and PPE will be flushed with clean water, separated, and bagged for disposal. Personnel will use hygienic wipes, such as Handy Wipes, as necessary to clean hands and face until they can access soap and water.

9.3 SUPPORT ZONE

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

9.4 SAFE WORK PERMITS

Exclusion zone work conducted in support of this project will be performed using Safe Work Permits to guide and direct field crews on a task-by-task and site-by-site basis. An example of the Safe Work Permit to be used is illustrated in Figure 9-1. Partially completed Permits for the work to be performed will be included as Attachment II of this HASP. The daily meetings conducted at the sites will further support these work permits. This will ensure the site-specific considerations and changing conditions are incorporated into the planning effort. The permits will require the signature of the FOL and SHSO.

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

9.5 SITE VISITORS

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

- Personnel invited to observe or participate in operations by TtNUS
- Regulatory personnel (DOD, OSHA, FDEP, etc.)
- NAVFAC Southeast personnel
- Other authorized visitors

It is not anticipated that this operation will result in a large number of site visitors. However, as some visitors can reasonably be expected, the following requirements will be enforced:

- Site visitors will be routed to the FOL, who will sign them in to the field logbook. Information to be recorded in the logbook will include the individual's name (proper identification required), who they represent, and purpose for the visit.
- Site visitors will be required to produce the necessary information supporting clearance onto the site. This includes information attesting to applicable training (40-hours of HAZWOPER training required for the NAVFAC Southeast personnel) and medical surveillance, as stipulated in Section 8 of this document. In addition, to enter the site's operational zones during planned activities, the visitors will be required to first go through site-specific training covering the topics stipulated in Section 8.2 of this document.

FIGURE 9-1

SAMPLE SAFE WORK PERMIT

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

SECTION I: General Job Scope

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

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

III. Field Crew: _____

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

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

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

Modifications/Exceptions: None anticipated

Table with 4 columns: VI. Chemicals of Concern, Hazard Monitoring, Action Level(s), Response Measures

Primary Route of Exposure/Hazard: _____

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

VII. Additional Safety Equipment/Procedures

- Hard-hat, Safety Glasses, Chemical/splash goggles, Splash Shield, Splash suits/coveralls, Impermeable apron, Steel toe Work shoes or boots, High Visibility vest, First Aid Kit, Safety Shower/Eyewash, Hearing Protection (Plugs/Muffs), Safety belt/harness, Radio/Cellular Phone, Barricades, Gloves (Type - _____), Work/rest regimen, Chemical Resistant Boot Covers, Tape up/use insect repellent, Fire Extinguisher, Other

Modifications/Exceptions: _____

VIII. Site Preparation

- Utility Locating and Excavation Clearance completed, Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place, Physical Hazards Identified and Isolated (Splash and containment barriers), Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc)

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

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

X. Special instructions, precautions: _____

Permit Issued by: _____ Permit Accepted by: _____

NOTE: Site visitors will be escorted while on site.

Following this, the site visitor will be permitted to enter the site and applicable operational areas. Visitors are required to observe the protective equipment and site restrictions in effect at the area of their visit.

Visitors not meeting the requirements for site clearance will not be permitted to enter the site operational zones during planned activities. Any incidence of unauthorized site visitation will cause the onsite 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 Navy On-site Representative will be notified of any unauthorized visitors.

9.6 SITE SECURITY

Site security will be accomplished using TtNUS field personnel. TtNUS will retain complete control over active operational areas. As this activity takes place at Navy facilities open to public access, and along public highways, the first line of security will take place using traffic permit restrictions, Exclusion Zone barriers, and any existing barriers at the sites to restrict the general public. The second line of security will take place at the work site referring interested parties to the FOL or designee. The FOL will serve as a focal point for non-project interested parties, and serve as the final line of security and the primary enforcement contact.

9.7 BUDDY SYSTEM

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

9.8 CHEMICAL INVENTORY/MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS

The FOL and/or the SHSO will develop a chemical inventory list of the chemicals used on site. A sample is provided in the HSGM. For each chemical listed on the inventory list, TtNUS and subcontractor personnel will provide MSDSs for the chemicals brought on the sites. The contents of these documents will be reviewed by the SHSO to insure these documents are complete, accurate, and current. Users of the chemical substances will be required to review the MSDSs prior to any actual use or application of the substances on site, if they are unfamiliar with the hazards of the chemical substances and/or the recommended control measures. The MSDSs will then be maintained in a central location (i.e., temporary office) and will be available for anyone to review upon request.

9.9 COMMUNICATION

External communication will be accomplished by using cellular phones.

10.0 SPILL CONTAINMENT PROGRAM

10.1 SCOPE AND APPLICATION

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

10.2 POTENTIAL SPILL AREAS

Potential spill areas will be periodically monitored in an ongoing attempt to prevent and control further potential contamination of the environment.

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

10.3 LEAK AND SPILL DETECTION

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

It is not anticipated that any cylinders or containers will be unearthed during site activities. Should a cylinder or container be uncovered, however, work will immediately be stopped and personnel will retreat to a safe area until directed by the FOL or SSO.

10.4 PERSONNEL TRAINING AND SPILL PREVENTION

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

10.5 SPILL PREVENTION AND CONTAINMENT EQUIPMENT

The following represents the minimum equipment that may be maintained (depending on anticipated need) at the staging areas for the purpose of supporting this Spill Prevention/Containment Program.

- Sand; clean fill, vermiculite, or other non-combustible absorbent (Oil-dry)
- Drums (55-gallon U.S. DOT 17-E or 17-H)
- Shovels, rakes, and brooms
- Absorbent Socks (for water containment during coring operations)

10.6 SPILL CONTROL PLAN

This section describes the procedures the TtNUS field crewmembers will use upon the detection of a spill or leak.

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

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

11.0 CONFINED-SPACE ENTRY

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

A confined space means a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work, and
- 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); and
- Is not designed for continuous employee occupancy.

A Permit-Required Confined Space means a confined space that has one or more of the following characteristics:

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

For further information on confined space, consult the Health and Safety Guidance Manual (Section 8.0) 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 the chemicals brought on-site, including decon solution, fuels, sample preservations, calibration gases, etc.
- A full size OSHA Job Safety and Health Poster
- Tetra Tech NUS, Inc. Health and Safety Policy
- Training/Medical Surveillance Documentation Form (blank)
- Emergency Reference Form (Section 2.0, extra copy for posting)

12.1 MATERIALS TO BE POSTED OR MAINTAINED AT THE SITE

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

Chemical Inventory Listing (maintained/posted) - This list represents the chemicals brought on-site, including decontamination solutions, sample preservations, fuel, etc... This list should be posted in a central area.

Material Safety Data Sheets (MSDS) (maintained) - The MSDSs should also be in a central area accessible to site personnel. These documents should match the listings on the chemical inventory list for the substances employed on-site. It is acceptable to have these documents within a central folder and the chemical inventory as the table of contents.

The OSHA Job Safety & Health Protection Poster (posted) - this poster, 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. See Attachment II of this HASP,

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

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

Medical Data Sheets (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 may be given to site personnel to be carried on their person.

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

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

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

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

13.0 ACRONYMS/ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
CFR	Code of Federal Regulations
CNS	Central Nervous System
CRZ	Contamination Reduction Zone
DOD	Department of Defense
DOT	Department of Transportation
DPT	Direct Push Technology
EPA	Environmental Protection Agency
eV	electron Volts
FOL	Field Operations Leader
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSM	Health and Safety Manager
N/A	Not Available
NIOSH	National Institute Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
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
SHSO	Site Health and Safety Officer
STEL	Short Term Exposure Limit
TOM	Task Order Manager
VOCs	Volatile Organic Compounds

ATTACHMENT I

**INJURY/ILLNESS PROCEDURE
AND REPORT FORM**

TETRA TECHNUS, 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:

- Stop work as needed to ensure no further harm is done.
- 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. Check with your office location or project health and safety plan for specific instructions.
- If incident involves an injury, illness, or 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 of the injury. You will be required to complete an [Injury/Illness Report](#). You may also be required to participate in a more detailed investigation with the Health Sciences Department.
- In the event of a serious near-miss incident, a "Serious Near Miss Report" (Form AR-2, available online at <https://go2.tetratech.com> under "Departments", "Health and Safety", "Accident Reporting Procedures", hyperlink for "Serious Near Miss Report") must be completed and faxed to the Corporate Health and Safety Manager within 48 hours.
- If further medical treatment is needed, our insurance carrier, ACE, will provide information on the authorized providers customized to the location of the injured employee. You can find this information by accessing the website of ACE's claims handler, ESIS, at : www.esis.com. These providers are to be used for treatment of Worker's Compensation injuries subject to the laws of the state in which you work.

ADDITIONAL QUESTIONS REGARDING WORKER'S COMPENSATION:

Contact your local Human Resources representative (Marilyn Duffy), Corporate Health and Safety Manager (Matt Soltis), 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 pay premiums on behalf of their employees. This program is based on a no-fault system, and benefits are provided for covered events as an exclusive remedy to the injured employee regardless of fault. The types 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.

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 from the first day of work. All employees must follow the above injury/illness reporting procedures. If you are working out-of-state and away from your home office, you are still eligible for worker's compensation benefits.

Consultants, independent contractors, and employees of subcontractors and employees from temporary employment agencies 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.



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

SAFE WORK PERMITS

**SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA**

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

- I. Work limited to the following (description, area, equipment used):** Mob/Demob
- II. Primary Hazards:** lifting; pinches and compressions; slip, trip and falls; vehicular and foot traffic; ambient temperature extremes; insect and animal bites, and inclement weather
- III. Field Crew:** _____
- IV. On-site Inspection conducted** Yes No Initials of Inspector _____ TtNUS
Equipment Inspection required Yes No Initials of Inspector _____ TtNUS

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

Modifications/Exceptions: _____

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

Primary Route(s) of Exposure/Hazard: NA

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

VII. Additional Safety Equipment/Procedures

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

VIII. Site Preparation

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

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

- X. Special instructions, precautions:** Use safe lifting/carrying techniques. Use additional PPE based on the hazards that are associated with each task. Use work gloves when cutting boxes or handling sharp tools/cutting devices. Safety glasses will be required whenever eye hazards are present. Reflective vests will be used when working near roadways or areas of operating vehicles/equipment. Identify/remove potential physical hazards and mark areas or hazards that cannot be removed. Keep work area free of ground clutter.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
GROUNDWATER SAMPLING
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA**

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

- I. Work limited to the following (description, area, equipment used):** Groundwater sampling in the Ocala National Forest
- II. Primary Hazards:** Potential hazards associated with this task: chemicals; transfer of contamination; slips, trips and falls; lifting; strains and muscle pulls from manual lifting; animal and insect bites, and inclement weather
- III. Field Crew:** _____
- IV. On-site Inspection conducted** Yes No Initials of Inspector _____ TtNUS
Equipment Inspection required Yes No Initials of Inspector _____ TtNUS

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

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
<u>VOCs (BETX)</u>	<u>PID w/ 10.6 eV lamp or</u>	<u>sustained readings(> 1 minute)</u>	<u>evacuate area until</u>
<u>and SVOC naphthalene</u>	<u>FID</u>	<u>above 10 ppm</u>	<u>readings return to</u>
<u>jet fuel</u>	_____	_____	<u>background</u>
_____	_____	_____	_____

Primary Route(s) of Exposure/Hazard: absorption

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

- VII. Additional Safety Equipment/Procedures**
- | | | | |
|-------------------------------------|---|--|---|
| Hard-hat | <input type="checkbox"/> Yes <input type="checkbox"/> No | Hearing Protection (Plugs/Muffs) | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Glasses | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Safety Belt/Harness | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Chemical/Splash Goggles | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Radio/Cellular Phone | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Shield | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Barricades | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Splash Suits/Coveralls | <input type="checkbox"/> Yes <input type="checkbox"/> No | Gloves (Type – Nitrile) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Impermeable Apron | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Work/rest regimen | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Steel Toe Work Shoes or Boots | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Chemical Resistant Boot Covers | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| High Visibility Vest | <input type="checkbox"/> Yes <input type="checkbox"/> No | Tape/Insect Repellent | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Aid Kit | <input type="checkbox"/> Yes <input type="checkbox"/> No | Fire Extinguisher | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Safety Shower/Eyewash | <input type="checkbox"/> Yes <input type="checkbox"/> No | Other | <input type="checkbox"/> Yes <input type="checkbox"/> No |
- Modifications/Exceptions: _____

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

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

- X. Special instructions, precautions:** Use safe lifting/carrying techniques. Assume all media is contaminated and avoid contact through the use of safe work practices, PPE and decontamination.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
DECONTAMINATION
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA**

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

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

II. Primary Hazards: Potential hazards associated with this task: chemical exposure including decon fluids; lifting; noise; flying projectiles; vehicle and foot traffic; falling hazards; slip, trip and fall; and inclement weather

III. Field Crew: _____

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

Equipment Inspection required Yes No Initials of Inspector _____ TtNUS

V. Protective equipment required

Level D Level B

Level C Level A

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse

No

VI. Chemicals of Concern

VOCs (BETX) from waste oils
TPH and metals

Hazard Monitoring

PID w/ 10.6 eV lamp or
FID

Action Level(s)

any readings(> 1 minute)
above background

Response Measures

re-decon the item
until background level
achieved

Primary Route(s) of Exposure/Hazard: absorption

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

VII. Additional Safety Equipment/Procedures

Hard-Hat Yes No

Safety Glasses Yes No

Chemical/Splash Goggles Yes No

Splash Shield Yes No

Splash Suits/Coveralls Yes No

Impermeable apron Yes No

Steel Toe Work Shoes or Boots Yes No

High Visibility Vest Yes No

First Aid Kit Yes No

Safety Shower/Eyewash Yes No

Modifications/Exceptions: _____

Hearing Protection (Plugs/Muffs) Yes No

Safety Belt/Harness Yes No

Radio/Cellular Phone Yes No

Barricades Yes No

Gloves (Type – Nitrile) Yes No

Work/rest Regimen Yes No

Chemical Resistant Boot Covers Yes No

Tape/Insect Repellent Yes No

Fire Extinguisher Yes No

Other Yes No

VIII. Site Preparation

Utility Locating and Excavation Clearance completed Yes No NA

Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place Yes No NA

Physical Hazards Identified and Isolated (Splash and containment barriers) Yes No NA

Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc) Yes No NA

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

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

X. Special instructions, precautions: Review and follow the instructions on the MSDS for the decontamination fluids.

Follow guidance in Table 5-1 for PPE for different decontamination tasks.

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
GEOGRAPHIC SURVEYING
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA**

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

- I. Work limited to the following (description, area, equipment used):** Geographic Land Survey
- II. Primary Hazards:** Potential hazards associated with this task: slip, trip and fall; vehicular and foot traffic hazards inclement weather; insect /animal bites or stings, poisonous plants, etc.
- III. Field Crew:** _____
- IV. On-site Inspection conducted** Yes No Initials of Inspector TtNUS
Equipment Inspection required Yes No Initials of Inspector TtNUS

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

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

Primary Route(s) of Exposure/Hazard: NA

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

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

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

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

X. Special instructions, precautions: _____

Permit Issued by: _____ Permit Accepted by: _____

**SAFE WORK PERMIT
IDW MANAGEMENT
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA**

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

I. Work limited to the following (description, area, equipment used): IDW management, moving and storage

II. Primary Hazards: Potential hazards associated with this task: slip, trip and fall; vehicular and foot traffic; insect/ animal bites or stings, poisonous plants; and inclement weather.

III. Field Crew: _____

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

V. Protective equipment required

Level D Level B
 Level C Level A

Modifications/Exceptions: _____

Respiratory equipment required

Yes Specify on the reverse
 No

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

Primary Route(s) of Exposure/Hazard: NA

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

VII. Additional Safety Equipment/Procedures

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

Modifications/Exceptions: _____

VIII. Site Preparation

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

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

X. Special instructions, precautions: Inspect roll off boxes and drums used to store IDW prior to use. Cover IDW containers and roll off boxes to prevent unauthorized entry and filling with rain water. Do not over load. Disperse IDW evenly. Use proper lifting practices and obtain assistance when handling heavy drums.

Permit Issued by: _____ Permit Accepted by: _____

ATTACHMENT III
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