2012 Surface Water Sampling Work Plan
Middle River Complex
2323 Eastern Boulevard
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

Tetra Tech, Inc.

July 2012

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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Section 1
Introduction

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared this *2012 Surface Water Monitoring Work Plan* for the Lockheed Martin Middle River Complex (MRC) in Middle River, Maryland (see Figure 1-1). This work plan addresses the 2012 surface water sampling at five transects in Dark Head Cove at Outfalls 5, 6, 7, 8, and 9 and in Cow Pen Creek near the location of the Western Plume along a transect centerline in the creek. The sampling objective is to provide additional surface water quality data to determine the concentrations and spatial distributions of chemicals of potential concern in Dark Head Cove and Cow Pen Creek that may be emanating from the Middle River Complex site.

This work plan is organized as follows:

Section 2—Site Background: Briefly describes the site and where detailed background information and reports of previous investigations can be found.

Section 3—Investigation Approach and Methodology: Presents the technical approach to surface water sampling and describes the field methodology to be employed.

Section 4—Project Deliverables: Describes requirements of the reports that will summarize the investigation findings.

Section 5—References: Cites references used to compile this work plan.

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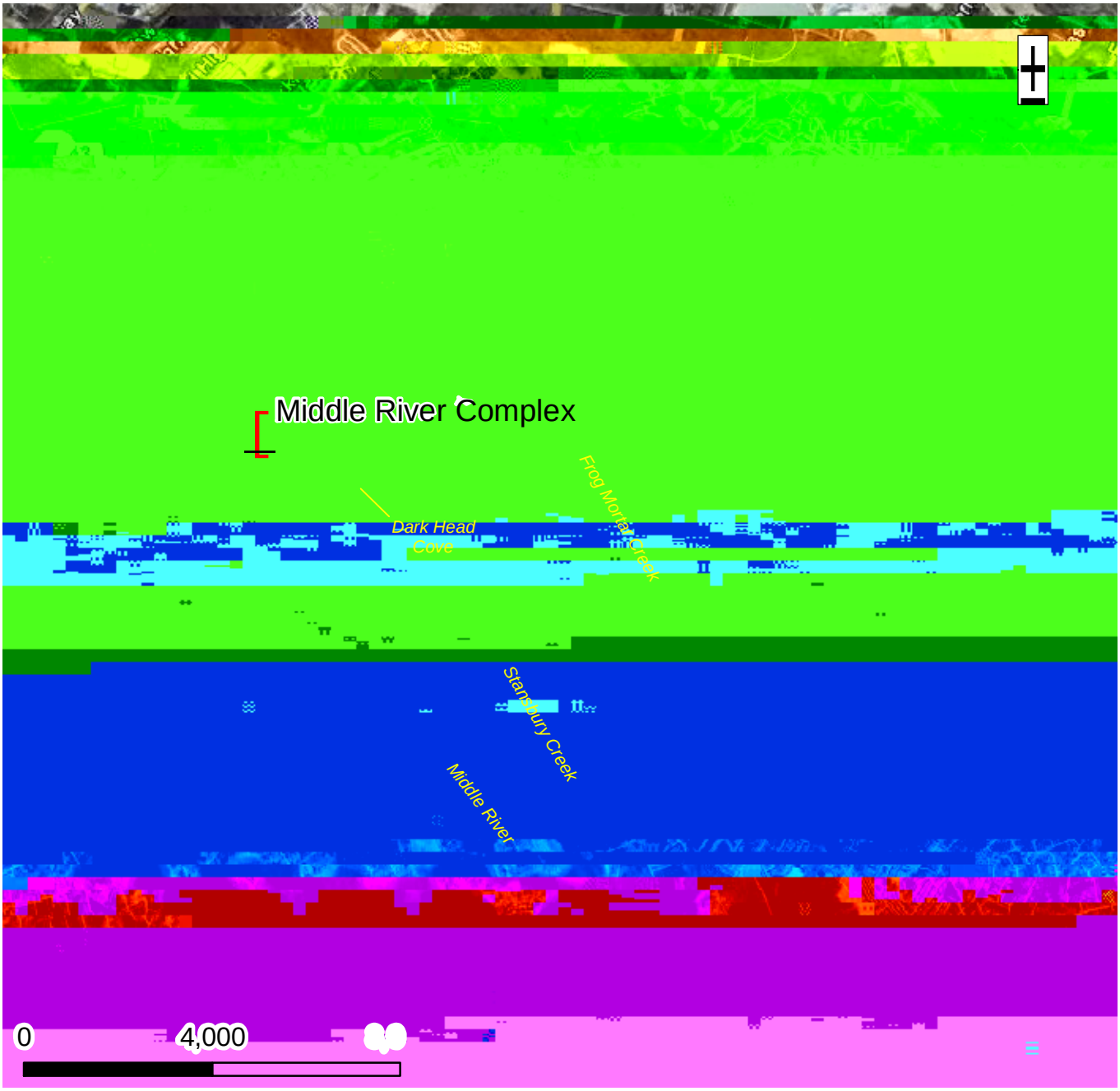

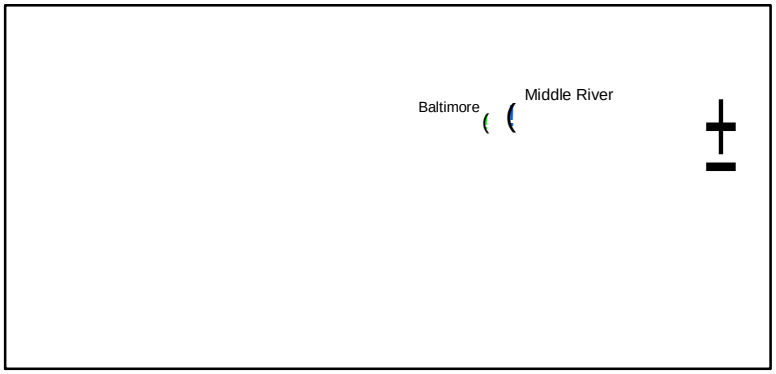

FIGURE 1-1

MIDDLE RIVER COMPLEX LOCATION MAP

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
9/3/10	MP

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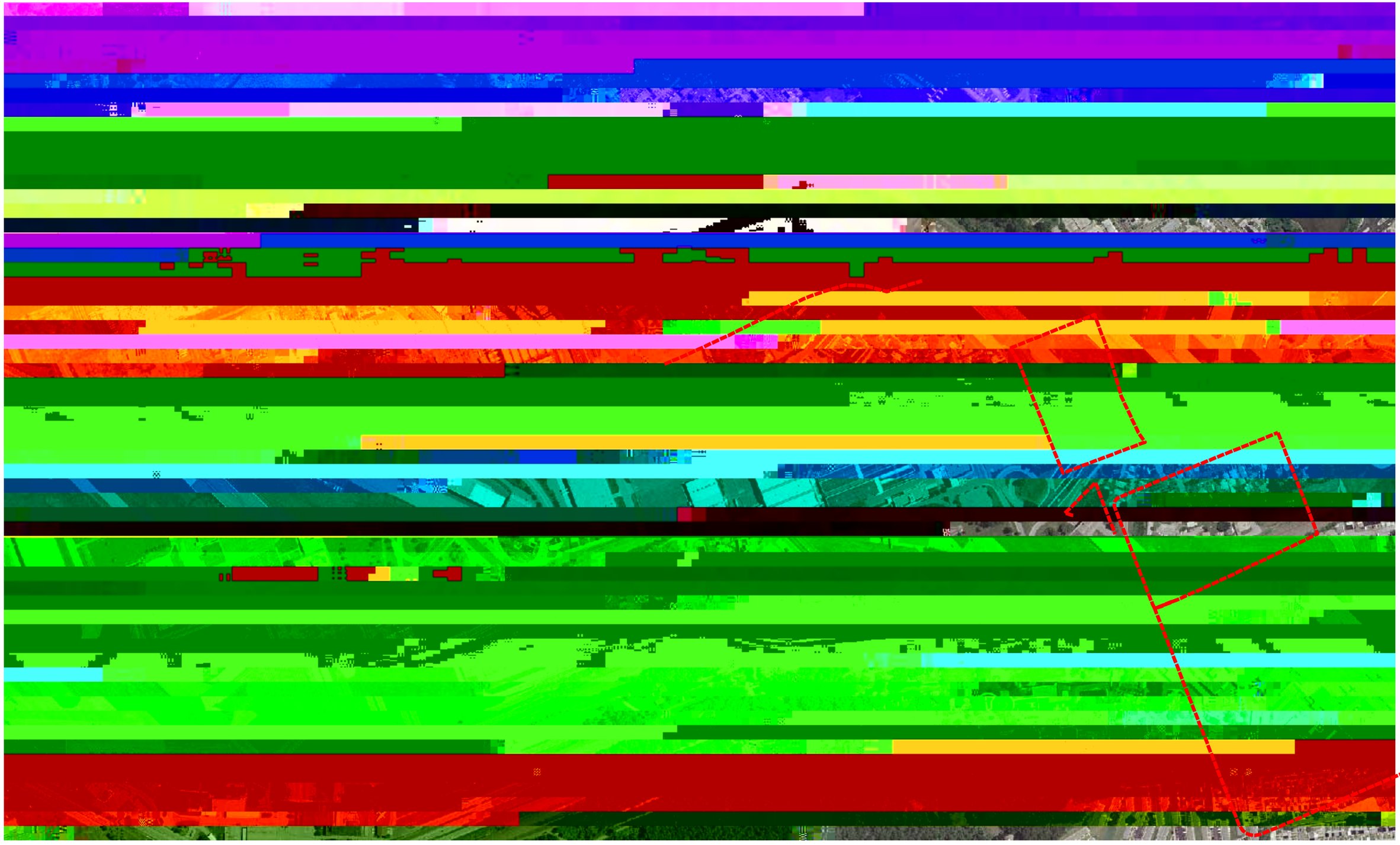

Section 3
Investigation Approach

Surface water sampling in Dark Head Cove will be collected along transects at Outfalls 5, 6, 7, 8, and 9. Two samples will be collected along the transect, one 10-feet offshore (A-sample) and one 50-feet offshore (B-sample). At Outfall 5, which has two outlets, samples will be collected 10-feet offshore from both outlets but only one sample will be collected 50-feet offshore on a line perpendicular to the bulkhead and halfway between the outlets.

Surface water sampling will be conducted in Cow Pen Creek near the location of the Western Plume and will be located along a transect centerline in the creek. The samples will be collected 10-feet upstream and 10-feet downstream from the estimated Western Plume boundaries. Table 3-1 presents the surface water sampling locations and the amended sampling schedule for the 2012 monitoring program.

Surface water samples will be collected as grab samples using direct fill sampling techniques. All samples will be collected at a depth of approximately one foot below the water surface. The VOC samples will be collected using a stainless-steel, discrete interval sampler (Bacon Bomb Sampler). The sampler will be lowered to approximately one foot below the water surface, the check valve will be engaged to allow the sampler to fill, the sampler will be brought to the surface, and the water will be removed through a valve to fill three laboratory–cleaned, hydrochloric acid–preserved, 40-milliliter (mL) sample vials. The discreet interval sampler will be cleaned after each use by rinsing with distilled water. Equipment cleaning will take place after each sample is collected. No decontamination fluids will be containerized during this sampling event.

Samples will be analyzed via laboratory analysis for VOCs via Method 8260B. No duplicates will be collected during this investigation. One trip blank sample per sampling event (i.e., one per cooler) will be collected for VOC analysis for quality assurance/quality control. Water quality parameters, including temperature, pH, specific conductance, hardness, salinity, turbidity, dissolved oxygen, and oxidation reduction potential shall be measured at all surface water sample locations at the time of sampling. In addition, the depth of water at the sampling location and the tidal stage at the time of sampling shall be recorded. All information will be documented on a surface water sample form.

The surface water sampling locations will be surveyed using a hand held global positioning system receiver. Samplisystemg Sall be

3.1.4 Equipment Decontamination

Both dedicated and disposable equipment will be used for surface water sampling to minimize decontamination activities. The stainless steel bacon bomb sampler will be decontaminated before and after each use. Equipment decontamination will consist of a potable water rinse and air drying.

3.1.5 Waste Management

No investigation-derived waste (IDW) will be generated during the surface water sampling. General waste will be disposed of in the proper waste disposal containers at the facility. Decontamination of the stainless steel bacon bomb sampler with potable water will be done over the surface water body; therefore, no IDW will be generated during surface water sampling.

3.2 DATA MANAGEMENT

Data handling procedures to be followed by the laboratory will meet the requirements of the laboratory subcontract. All analytical and field data will be maintained in project files; files will include copies of the COC forms, sample log forms, sampling location maps, and documentation of quality assurance and data manipulation.

3.2.1 Data Tracking and Control

A cradle to grave sample tracking system will be used from the beginning to the end of the sampling event. Before field mobilization, the field operations leader will coordinate and initiate sample tracking. Sample jar labels will be handwritten in the field and reviewed to ensure that they are accurate and adhere to work plan requirements. The project manager (PM) will coordinate with the analytical laboratory to ensure that they are aware of the number and type of samples and analyses to expect. When field sampling is underway, the field operations leader will forward the COC forms to the PM (or designee) and the laboratory for each day that samples are collected. The PM (or designee) will confirm that the COC forms provide the information required by the work plan. This will allow for early detection of errors made in the field so that adjustments can be made while the field team is still mobilized.

After all requested analyses are co TD.0009 Tc0i0ra 5( )T laborJ19.82 2

analyses. Ideally, discrepancies will be noted early enough so that all samples can be analyzed within the prescribed holding times.

3.2.2 Sample Information

Data from field measurements will be recorded using appropriate log sheets and summarized in tabular form, as will raw instrument data from the laboratory. The field operations leader will verify field data daily; laboratory data will be verified by the group supervisor and then by the laboratory's quality control/documentation department.

3.2.3 Project Data Compilation

The analytical laboratory will generate an Adobe® portable document format (PDF) file of the analytical data packages, as well as electronic database deliverables. The electronic database will be checked against the PDF file from the laboratory and updated as required, based on data qualifier flags applied during data validation. All data, such as units of measure and chemical nomenclature, will be consistent with the project database.

3.2.4 Geographical Information System

Data management systems consist of a relational database and geographical information system (GIS) used to manage environmental information pertaining to MRC. .

surface water samples that will make it easier to understand the nature and extent of surface water contamination.

Table 3-1

Surface Water Sample Locations for the 2012 Monitoring Program
Middle River Complex, Middle River, Maryland

Sample Location	Sample Number	

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Section 4
Project Deliverables

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APPENDIX A—HEALTH AND SAFETY PLAN

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HEALTH AND SAFETY PLAN
FOR
LOCKHEED MARTIN CORPORATION

MULTIMEDIA CHARACTERIZATION

MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

TETRA TECH , INC.

20251 Century Boulevard Suite 200
Germantown, Maryland 20874-7114

JUNE 2012

TABLE OF CONTENTS (Continued)

SECTION **PAGE**

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF ATTACHMENTS

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2.0 EMERGENCY ACTION PLAN

2.1 INTRODUCTION

This section has been developed as part of a planning effort to direct and guide field personnel in the event of an emergency. In the event of an emergency, the field team will primarily evacuate and assemble to an area unaffected by the emergency and notify the appropriate local emergency response personnel/agencies. Workers who are ill or who have suffered a non-serious injury may be transported by site personnel to nearby medical facilities, provided that such transport does not aggravate or further endanger the welfare of the injured/ill person. The emergency response agencies listed in this plan are capable of providing the most effective response, and as such, will be designated as the primary responders. These agencies are located within a reasonable distance from the area of site operations, which ensures adequate emergency response time.

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

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

2.2 EMERGENCY PLANNING

Onsite personnel medical records (Medical Data Sheets).

A log book identifying personnel onsite each day.

Hospital route maps with directions (these should also be placed in each site vehicle).

Emergency Notification - phone numbers.

The Tetra Tech 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

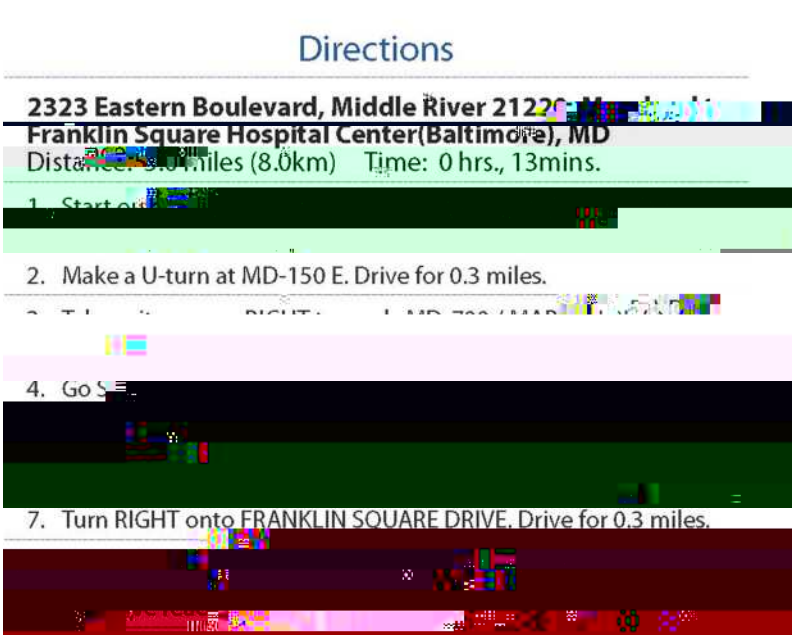
TABLE 2-1

EMERGENCY CONTACTS
LOCKHEED MARTIN MIDDLE RIVER COMPLEX, MARYLAND

AGENCY	TELEPHONE

2.6 EMERGENCY ROUTE TO HOSPITAL

FIGURE 2-1
ROUTE TO HOSPITAL



2.7 EMERGENCY ALERTING AND ACTION/RESPONSE PROCEDURES

Tetra Tech personnel will be working in close proximity to each other at Lockheed Martin Middle River

Appropriate MSHA/NIOSH-approved respiratory protective devices must be worn when applicable state and/or federal action levels or OSHA permissible exposure levels are exceeded. Appropriate air monitoring and respiratory protection equipment will be supplied and maintained if inhalation hazards are anticipated and a respiratory protection adhering to all state and federal regulations implemented.

Hearing protection must be worn in all areas posted to indicate high noise level or where employees are exposed to noise levels in excess of the OSHA action level (85 dBA over an 8-hour time-weighted average or a dose of fifty percent).

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

Tetra Tech personnel will perform rescue operations from emergency situations and may provide initial

TOTAL looks like the incident reporting form in Attachment II. TOTAL is an intuitive system that will guide you through the necessary steps to report an incident within 24 hours of its occurrence. Behind the

FIGURE 3-1

SITE MAP

4.0 SCOPE OF WORK

For more detailed description of the planned tasks associated with LMC MRC, refer to the 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. All requested modifications to this document will be submitted to the HSM by the PM or a designated representative.

No other activities are anticipated to be necessary. If it becomes apparent that additional or modified tasks must be performed beyond those .3(o)1.8(r)-4.3(e)-4199.8(o)1.8(s61.8(e)-2b)1.8(m(n)1.8(s)-5.2b)1.8(m(n)1.8in 590

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

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

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

Buddies should maintain visual contact with each other and with other on-site team members by remaining in close proximity to assist each other in case of emergency.

Only qualified operators and knowledgeable ground crew personnel will participate in the operation of the drill rig.

During maintenance, use only manufacturer provided/approved equipment (i.e. auger flight connectors, etc.)

In order to minimize contact with potentially contaminated tooling and media and to minimize lifting

Use wetting techniques to minimize dust and friction.

When applying water to the core bit the operator should apply water until the slurry begins to look like heavily creamed coffee.

Wear the well-fitting nitrile gloves (rather than cotton or leather gloves) when in coring.

Wash and dry hands before putting on gloves and every time that you remove your gloves.

Replace grossly contaminated or worn-out gloves.

Make sure the coring machine is properly anchored.

Standing on the machine may cause the bit to bind up in the hole

Use the manufacturers recommended speed (revolutth5ETQqBT5ET0.2(m)-22.3(tc)-5.9(tu)2.781.3(w)11.2(a)1.8(.2(m)

The U.S.C.G. requires boats to have the following equipment on board:

One personal flotation device per person
A sound producing device such as an air horn or whistle which can be heard one half mile.

Speed Limits

Any motorboat or vessel operated within a harbor or inlet or any pond of other confined body of water shall not exceed 45 mph from sunrise to sunset and 25 mph during periods of darkness or restricted visibility. Lower speed limits may be regulated in certain areas.

Reckless and Negligent Operation

Negligent or grossly negligent operation of a vessel which endangers lives and/or property is prohibited by law. A civil penalty may be imposed by the Coast Guard for this offense under federal laws. An operator may be subjected to a fine of up to $5,000 and or imprisonment for up to one year, or both. The Maryland penalty is a fine of up to $500 for the first offense.

Some examples of actions that may constitute negligent or grossly negligent operation include but are not limited to:

Operating in a swimming area
Operating under the influence of alcohol or drugs.
Excessive speed in the vicinity of other boats or in dangerous waters.
Hazardous water skiing practices
Bow riding, also riding on seatback, gunwale or transom.

Termination of Use

A Maryland Natural Resources Police Officer who observes a boat being operated in an unsafe condition and who determines that an especially hazardous condition exists may direct the operator to take immediate steps to correct the condition, including returning to port. Termination for unsafe use may be imposed for, but is not limited to:

Insufficient number of USCG approved Personal Flotation Devices.
Insufficient fire extinguishers.
Overloading beyond manufacturer's recommended safe loading capacity.
Improper navigation light display.

Ventilation requirements for tank and engine spaces not met.

Fuel leakage.

Fuel in bilges.

Improper backfire flame control.

Boating Accident Reports

The operator of any boat involved in an accident must stop, render assistance, and offer identification. An accident report must be made to the Department within 48 hours if:

A person dies within 24 hours;

A person loses consciousness or receives medical treatment beyond first aid or is disabled more than 24 hours;

A person disappears from the vessel under circumstances that indicate death or injury.

Accidents must be reported within 10 days if damage to all vessels and other property totals more than $500.00 or an earlier report is not required. Running aground or hitting a fixed or floating object is considered a boating accident. Boating accident report forms (DNR-149) are obtainable from the Natural Resources Police. They must be submitted to the Natural Resources Police by the operator of the vessel or vessels involved. Accident reports are required by federal law and furnish information for use in accident prevention. Information from individual reports will not be publicly disclosed nor may the information be used in court.

Rendering Assistance

Federal law requires the operator of a vessel to provide assistance that can be safely provided to any individual in danger on the water. Persons who fail to provide assistance may be subject to fine or imprisonment.

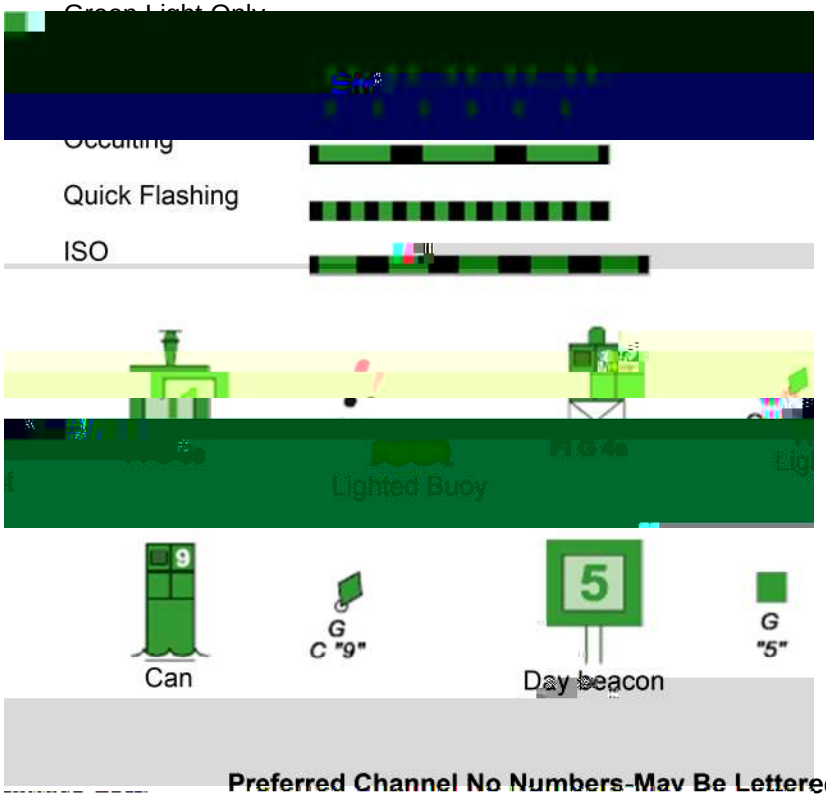
Vessels Required to be Registered in Maryland

All vessels, whether commercial or recreational, must be registered in Maryland if it is equipped with any kind of primary or auxiliary mechanical propulsion; if it is not currently documented with the U. S. Coast Guard; and if it is being used principally in Maryland. An owner of a federally documented vessel, though exempt from state numbering requirements, shall apply to the Maryland Department of Natural Resources for documented use decals, and is subject to the state excise tax requirements.

5.3.3 Uniform State Waterway Marking System (USWMS)

Lateral System (As Seen Entering From Seaward)

Port Side Odd Numbered Aids



Preferred Channel No Numbers-May Be Lettered

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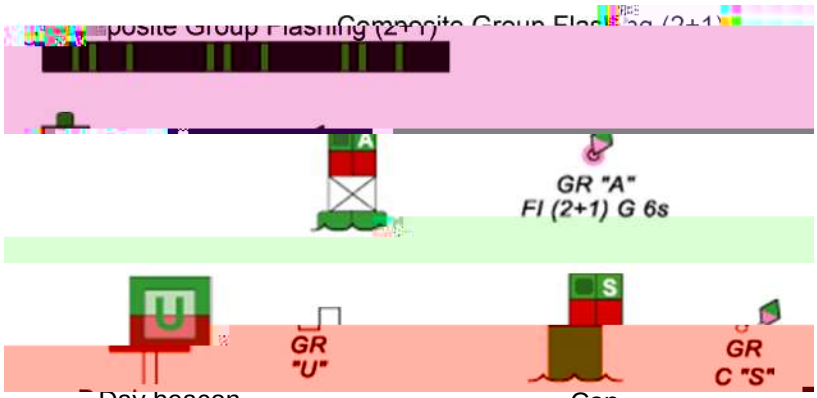
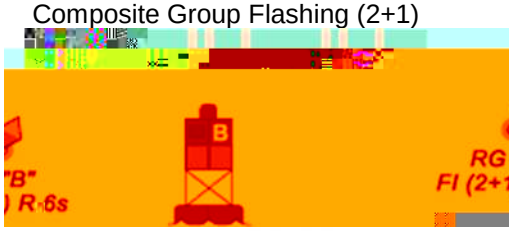


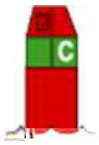
Preferred Channel No Numbers-May Be Lettered

Preferred Channel To Port Topmost Band Red

Red Light Only

Composite Group Flashing (2+1)





Nun

Red Light Only

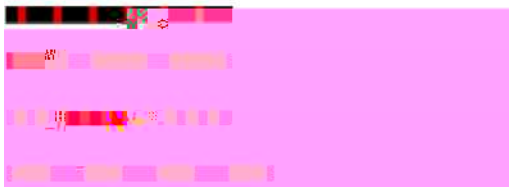
Flashing (2)

Flashing

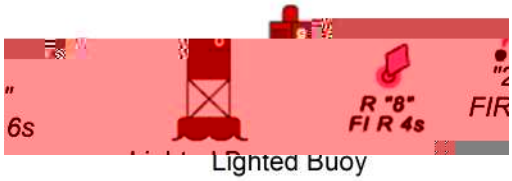
Occulting

Quick Flashing

ISO



Light



Lighted Buoy

Nun

Day beacon

Lateral Aids to Navigation generally indicates which side of an aid to navigation a vessel should pass when channels are entered from seaward. In the absence of a route leading from seaward, the conventional direction of buoyage, generally follows a clockwise direction around landmasses. The most important characteristic of an aid is its color. The "3R" rule "Red Right Returning" is the essential rule of thumb for using the lateral system. This means that when entering one body of water from a larger body of water (i.e. returning to a harbor from a bay or sound), keep the red aids to starboard (right) side and green aids to port (left) side. In addition, each aid is numbered, and these numbers increase as entering from seaward.

Preferred Channel Marks are found at junctions of navigable channels and often mark wrecks or obstructions. A vessel may normally pass this aid on either side, but the top color band indicates the preferred channel. If the top band of the aid is red, it is treated as a red mark and kept to starboard as the vessel passes it while returning from sea. Caution: It may not always be possible to pass on either side of preferred channel aids to navigation. The appropriate nautical chart should always be consulted.

Lateral System

May show green reflector or light

May show red reflector or light

Usually found in pairs pass between these buoys

_ Looking upstream _

Port Side

Solid Black Buoy
(Being replaced by Green Can Buoy)

Starboard Side

Solid Red Buoy
(Being replaced by Red Nun Buoy)

Cardinal System

May show white reflector or light

Red striped white buoy

Do not pass between buoy and nearest shore

Black topped white buoy

Pass to north or east of buoy

Red topped white buoy

Pass to south or west of buoy

5.4 oastots toL0 rg/F5(o)1.8(u)-10.2(th)-274.3(o)1afcs toL0 rg/-415.5(p)1.8(288. (f)-288.2q 1 105.8(a)1.8p)4.4INGar

6. After a test pit has been created, and after the excavator has been either removed or completely neutralized or shut down, Tetra Tech personnel may approach to perform the visual inspection activities. Tetra Tech personnel will not be permitted to enter any open excavation or approach closer than 2 feet from the edge of an open excavation.

Hazards associated with these activities may include:

Being struck by the excavator or being trapped between an immovable object and the excavator.

5.7 HOUSEKEEPING / CLEANUP SAFE WORK PRACTICES

Housekeeping procedures described in Section 5 of the LM Handbook (Attachment I) will be addressed and the following housekeeping practices will be employed during this field effort:

Ensure discharge permits and/or Stormwater Pollution Prevention Plans (if applicable) are available at the project job site.

Tetra Tech and/or subcontractor personnel will clean up its respective work area(s) and maintain work areas free from all slip, trip, and fall hazards at all times.

Debris shall be kept cleared from work areas, passageways, stairs, and in and around buildings or other structures. The work area must be left free from accumulation of waste and rubbish at the end of each work shift.

Combustible scrap and debris shall be removed at regular intervals during the course of work. Safe means shall be provided to facilitate such removal.

At the end of each working day and/or the conclusion of work being performed, the work area will be restored to the same degree of neatness as when work commenced.

Tetra Tech and/or subcontractor will furnish necessary equipment and/or receptacles to remove waste and rubbish from the job site unless otherwise specified by Lockheed Martin.

6.0 HAZARD ASSESSMENT AND CONTROLS

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

6.1 CHEMICAL HAZARDS

The areas in this investigation have been characterized. Based on historical data from past use and previous sampling events the following contaminants were found to exist at the site:

VOCs
SVOCs
Metals
PCBs

Although the above chemicals are identified as site contaminants, the latest sampling data indicates that the chemicals in Table 6-1 are the primary contaminants of concern to site personnel performing intrusive work. Although all the chemical contaminants listed above may be present, not all are approaching levels of concern from a human health aspect. The chemicals of concern (COCs) listed below could approach airborne concentrations reaching current occupational exposure limits (OEL). Table 6-1 below shows these and/or common types of these constituents, and a comparison of potential worst case air concentrations (when available) with current Occupational Exposure Limits (OELs).

TABLE 6-1
COMPARISON OF COPCs, AVAILABLE WORST-CASE AIR CONCENTRATIONS, AND CURRENT OCCUPATIONAL EXPOSURE LIMITS

Contaminant of Concern (in soil)	Maximum Concentration In Soil	Worst-Case Air Concentration That Could Be Encountered	Current OSHA PEL or ACGIH TLV
Block D			
Benzene	0.02 mg/kg in soil	1.25 ppm	ACGIH: 0.5 ppm TWA_8 1 ppm STEL
Carbon Disulfide	0.035 mg/kg in soil	5.85 ppm	OSHA: 4 ppm
Methylene Chloride	0.12 mg/kg in soil	31.49 ppm	OSHA: 25 ppm

TABLE 6-1
COMPARISON OF COPCs, AVAILABLE WORST-CASE AIR CONCENTRATIONS, AND CURRENT OCCUPATIONAL EXPOSURE LIMITS

	Block E
Contaminant of Concern (in soil)	

Of particular concern are exposures that occur as a result of inhalation of radium dusts or radium contaminated particles. However, site activities are unlikely to generate airborne dusts that can be inhaled. Rather the greatest potential for exposure is anticipated to be via ingestion of contaminated soils as a result of hand to mouth activities (eating, drinking, smoking, etc.). As a result, minimizing contact with potentially contaminated soils through the use of avoidance and ppe use as well as the

7.0 AIR AND RADIATION MONITORING

The COCs outlined in Section 6 have the potential to be present in concentrations that could present an inhalation hazard during planned site activities at the individual blocks. To assure that such exposures are avoided and documented, a direct reading instrument will be used to monitor worker exposures to chemical hazards present at the various blocks. A Photoionization Detector (PID) using a lamp energy of 11.7 eV will be used to monitor the air when conducting site activities. For Block I only a Flame Ionization Detector (FID) will be used to detect the presence of 1,1 Dichloroethane which is not detected by the PID. A Draeger Tube 0.5/a will be used when the presence of VOCs is confirmed. The PID will be used for most onsite activities to screen source areas (sample locations, monitoring wells, etc.) and worker breathing zones for volatile and detectable site contaminants. The presence of elevated airborne concentrations of volatile organic compounds will suggest an increased exposure threat to site personnel and will require site activities to be suspended until readings return to background levels. The use of

Only when levels are below the PEL standard in BZ areas will work be permitted to resume.

If background levels are not regained, the SSO will contact the HSM for additional direction.

There is a sampling task where the use of DRIs will not be required that is for the marine operations (surface water and sediment sampling tasks from a small water vessel/boat and drilling soil borings from a barge). An evaluation of available data from previous investigations at the intended sampling areas did not identify any volatile substances (only low concentrations of metals, PCBs, and PAHs. Furthermore, these types of substances only represent an inhalation concern if they are either present in inhalable air

The SSO shall allow at least 5 minutes to pass so that the work area can ventilate, and will then re-

compound to determine potential exposure concerns. Conservative action levels for carbon monoxide have been established to prevent potential exposures to other exhaust gas compounds including oxides nitrogen and sulfur.

As a precautionary measure, colorimetric tubes for nitrogen dioxide (NO_2) will also be available for use and will be required whenever elevated CO readings are observed. To evaluate NO2 concentrations a Nitrogen Dioxide Draeger tube (0.5/c) will be used. These tubes detected NO2 at concentrations ranging from 0.5 to 10 ppm or 5 to 25 ppm depending on the number of pump strokes that are used. For the purpose of determining exposure concerns, the lower range will be used which will require 5 strokes of the hand pump. A color change from pale grey to blue grey indicates the presence of NO_2.

7.1.2 Radiation Survey Instrument

Radiological instruments will be used for field survey and sampling as described below. Radiological surveys will be performed in accordance with the guidance provided in the Tt RPOP.

Instrument	Detector	Type of Activity Detected	Survey Type
Ludlum Model 2350 Digital Data Logger	Phoswhich Probe	Alpha/Beta	Contamination Surveys (counts per minute [cpm])
Ludlum Model 2241 Scaler/Ratemeter	2” x 2” Ludlum Model 44-10 NaI Scintillation Probe	Gamma	Dose Rate Surveys (cpm)
Ludlum Model 19 Survey Meter	1” x 1” Sodium Iodide (NaI)Tl scintillator	Low-Level Gamma	Dose Rate (micro Röntgen per hour [µR/hr])

7.2 INSTRUMENT MAINTENANCE AND CALIBRATION

Hazard monitoring instruments will be maintained and pre-field calibrated by the equipment provider (i.e., rental agency used). Operational checks and field calibration will be performed on site instruments each day prior to their use. Field calibration will be performed on instruments according to manufacturer’s recommendations. These operational checks and calibration efforts will be performed in a manner that complies with the employees health and safety training, the manufacturer's recommendations, and with

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

Radiological instruments will be calibrated with known source before field use. Pre-operational checks will be performed on the instruments each day before use in accordance with the guidance provided in the Tt RPOP.

7.3 DOCUMENTING INSTRUMENT READINGS

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

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

Radiological surveys and instrument pre-operational checks will be documented in accordance with the Tt RPOP.

FIGURE 7-1

DOCUMENTATION OF FIELD CALIBRATION

Site visitors will be directed to the FOL/SSO, who will sign them into the field logbook. Information to

FIGURE 8-1

SITE-SPECIFIC TRAINING DOCUMENTATION

My signature below indicates that I am aware of the potential hazardous nature of performing field activities at LCM MRC and that I have received site-specific training which included the elements presented below:

Names of designated personnel and alternates responsible for site safety and health
Safety, health, and other hazards present on site
Use of personal protective equipment
Safe use of engineering controls and equipment
Medical surveillance requirements
Signs and symptoms of overexposure

9.0 SITE CONTROL

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

9.3 SUPPORT ZONE

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

9.4 SAFE WORK PERMITS

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

9.5 SITE SECURITY

As this activity will take place at an active facility, the first line of security will be provided by the facility entrance/gate restricting the general public. The second line of security will take place at the work site referring interested parties to the FOL and LMC Contact.

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

The site contact will serve as the focal point for facility personnel and interested parties and will serve as the primary enforcement contact.

9.6 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 Tetra Tech
Regulatory personnel (i.e. EPA, MDEP, OSHA)
Property Owners
Authorized Personnel
Other authorized visitors

Non Tetra Tech personnel working on this project are required to gain initial access to the facility by coordinating with the Tetra Tech FOL or designee and following established facility access procedures.

Once access to the base is obtained, personnel who require site access into areas of ongoing operations will be required to obtain permission from the PM. In addition, site visito.0(wh)1.0(gT0.2(wi)4.3(s)-5.9(h)-10.2(i)5.1(n)-10.2

requiremen(s)-252.3(d)1.8(i)5.1(s)-5.9(c)-5.9uessedelow

until the unauthorized visitor is removed from the premises. Removal of unauthorized visitors will be accomplished with support from local law enforcement personnel.

9.7 SITE MAP

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

9.8 BUDDY SYSTEM

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

9.9 COMMUNICATION

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

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

9.10 SELF-AUDITS

The procedures outlined in Section 7 of the LM Handbook (Attachment I) addressing self-audits will be adhered to.

The documentation related to the audits and inspections shall be submitted electronically to the Lockheed Martin Project Lead.

FIGURE 9-1
SAFE WORK PERMIT

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

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

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

III. **Field Crew:** _____

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____Tetra Tech

V. **Protective equipment required**

Level D ☐ Level B ☐
Level C ☐ Level A ☐

Respiratory equipment required

Yes ☐ Specify on the reverse
No ☐

10.0 SPILL CONTAINMENT PROGRAM AND WASTE MANAGEMENT PLAN

10.1 SCOPE AND APPLICATION

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

Re-containerize spills, including 2-inch of top cover impacted by the spill. Await test results for treatment or disposal options.

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

As mentioned above, in the event of a spill or release of hazardous chemicals, Tetra Tech will immediately notify the LMC personnel in the order presented in Table 2-1, and/or if the severity of the spill

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.

12.0 HOT WORK

No hot work activities are being conducted as part of this field effort. Should hot work be required, this HASP will be amended/updated as necessary to include the requirements stipulated in Section 3.4 of the LM Handbook (Attachment I).

13.0 USE OF LOCKHEED MARTIN MATERIALS AND EQUIPMENT

No Lockheed Martin materials, tools, equipment, PPE shall be used until authorized by Lockheed Martin.

No Tetra Tech personnel will start, stop, relocate, or adjust any Lockheed Martin process or production equipment without approval of the Lockheed Martin Project Lead. Details of these requirements are described in Section 3.6 of the LM Handbook.

14.0 ELEVATED LOCATIONS / LADDERS / SCAFFOLDS

No elevated location work, ladder work, or scaffolding activities are being conducted as part of this field effort. Should any of these activities be required, this HASP will be amended/updated as necessary to include the requirements stipulated in Sections 3.10, 3.11, and 3.12 of the LM Handbook (Attachment I).

15.0 DANGEROUS OPERATIONS

Tetra Tech and subcontractor personnel will isolate their work areas from Lockheed Martin operations, employees, and the public. Barricades, signs, and signals will be employed as necessary and will be visible at all times where hazards exist.

Tetra Tech and subcontractors will effectively barricade excavations, floor openings, etc. as required by OSHA regulations.

Prior to beginning work, Tetra Tech and subcontractors must inform the Lockheed Martin Project Lead of any potentially dangerous operations.

All requirements addressing dangerous operations are detailed in Section 3.7 of the LM Handbook and will be adhered to.

16.0 EXCAVATIONS, TRENCHES, AND EARTHWORK

Excavation, trench work, or earthwork is being conducted as part of this field effort. The excavation, test pit work, required, in this HASP will include the requirements stipulated in Section 3.8 of the LM

17.0 ASBESTOS

Asbestos abatement work may be conducted as part of this field effort. This HASP includes the

18.0 NANOTECHNOLOGY

No nanotechnology work is being conducted as part of this field effort. Should it be required, this HASP will be amended/updated as necessary to include the requirements stipulated in Section 3.21 of the LM Handbook (Attachment I).

19.0 WORK INVOLVING AIR EMISSIONS

No work involving air emissions is being conducted as part of this field effort. Should it be required, this HASP will be amended/updated as necessary to include the requirements stipulated in Section 4.3 of the LM Handbook (Attachment I).

20.0 WORK INVOLVING WATER DISCHARGES

No work involving water discharges is being conducted as part of this field effort. Should it be required, this HASP will be amended/updated as necessary to include the requirements stipulated in Section 4.4 of the LM Handbook (Attachment I).

Site Clearance (maintained) - This list is found within the training section of the HASP (Figure 8-1).

containers effectively closed. Spill equipment/supplied shall be readily available to contain and/or mitigate accidental spills of hazardous materials.

22.0 ACRONYMS / ABBREVIATIONS

CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
DRI	Direct Reading Instrument
FOL	Field Operations Leader
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSM	Health and Safety Manager
IDW	Investigation Derived Waste
MDEP	Maryland Department of Environmental Protection
N/A	Not Available
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)
PHP	Project Health Physicist
PHSO	Project Health and Safety Officer
PID	Photoionization Detector
PM	Project Manager
PPE	Personal Protective Equipment
SSO	Site Safety Officer
TBD	To be determined
TCE	Trichloroethene
Tetra Tech	Tetra Tech, Inc.
Tt RPOP	Tetra Tech Radiological Protection Operating Procedures
VC	Vinyl Chloride
VOCs	Volatile Organic Compounds

ATTACHMENT I

LOCKHEED MARTIN'S

REMEDIATION CONTRACTOR'S ESH

HANDBOOK

REMEDIATION CONTRACTOR'S ESH HANDBOOK

A COPY OF THE JOB SPECIFIC HASP SHALL BE AVAILABE AT THE JOB SITE FOR THE DURATION OF THE PROJECT

REVISION STATUS

REVISION	DATE	COMMENTS

CONTRACTOR'S ESH HANDBOOK

GENERAL

Lockheed Martin Corporation management at all levels is committed to conducting operations and activities in a manner that provides and maintains safe and healthful working conditions, protects the environment, and conserves natural resources.

This *Contractor's ESH Handbook* has been prepared to assist each project jobsite employer/contractor in satisfying its' contractual and legal accident prevention responsibilities, in such a manner that a safe, efficient operation is assured. All applicable requirements outlined in this handbook shall be incorporated into the contractor's site specific Safety and Health Plan The site specific Safety and Health plan shall be submitted to the Lockheed Martin Project Lead at least two weeks prior to starting work on any Lockheed Martin remediation projects.

This material must not be considered to be all inclusive as to the hazards that might be encountered, safe practices that should be performed, or safe conditions that should be maintained during the course of any project. Moreover, this handbook does not replace the contractor's legal obligation to its employees under all relevant environmental, safety and health requirements and laws. All legal standards not specifically referenced in this handbook shall apply when applicable.

1 CONTRACT RESPONSIBILITIES

The Contractor agrees to comply with all rules and procedures contained in this document, known as the *Remediation Contractor's ESH Handbook*, unless Lockheed Martin specifically agrees, in writing, to a modification or exemption. In addition, the Contractor and subcontractors, at any tier, shall:

1.13 Lockheed Martin is not responsible for training or supervising Contractor employees or abating workplace hazards created by the Contractor or to which the Contractor's employees are exposed.

1.14 Contractor agrees to maintain copies of all pertinent ESH records at the job site. Pertinent records include, but is not limited to, personnel training documentation, evidence of enrollment in a medical surveillance program, accident/injury reporting, work area inspections, periodic safety meetings, MSDS's, air monitoring data, waste container inspections, etc. These records shall also be provided electronically to the Lockheed Martin Project Lead.

1.15 Contractor shall contact the Lockheed Martin Project Lead immediately in the event of a fatal or serious injury, an unpermitted environmental release, or any ESH incident that is likely to generate significant publicity or an adverse situation for Lockheed Martin (e.g., alleged releases of contaminants beyond property boundaries, purported fish or wildlife impacts, allegations of adverse community health or property impacts, etc.)

2 DEFINITION

2.1 Contractor: any agent/agency engaged by Lockheed Martin through written contract (or other written agreement) to perform work on Lockheed Martin Remediation Sites. For the purposes of this *Remediation Contractor's ESH Handbook*, "Contractor" shall also include Contractor's subcontractors at any tier.

2.2 EPA: the Environmental Protection Agency.

2.3 Fed/OSHA: the Federal Occupational Safety and Health Administration

2.4 Hazard Communication Program: a written program meeting the requirements of Title 29, Code of Federal Regulations, Section 1910.1200 - Hazard Communication.

3 SAFETY & HEALTH

Contractor shall comply with applicable provisions of Federal, State, municipal, local, and any other applicable occupational safety and health statutes, rules, ordinances, regulations and requirements. Contractor shall take all precautions for the protection of the safety and health of Contractor employees, subcontractor employees, and Lockheed Martin employees to prevent accidents or injury to them or to other persons on, about, or adjacent to site of work performance. Notwithstanding this handbook, Contractor will hold harmless Lockheed Martin for any incident, violation, regulatory agency inspection resulting in a finding, or any other ESH issue that occurs to a Contractor employee.

Within Section 3.0, Lockheed Martin is identifying specific requirements within the Federal regulations that need extra attention. These are not all encompassing and adherence to the all rules and regulations must be followed.

3.1 PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

1926 Subpart E or 1910 Subpart I
1910.139 / 1926.103
ANSI Z87.1
ANSI Z41 Standard
ANSI Z89.1 Standard

3.1.1 Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

Eye Protection. Safety eyewear meeting ANSI Z87.1 shall be worn in areas designated as "Eye Protection Required" and on all jobs where a potential injury to the eyes is possible whether or not the area is posted.

Foot Protection. Affected employee(s) shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards. Safety shoes and boots which meet the ANSI Z41 Standard shall be provided when impact and/or compression hazards exist. Soft-shoes, including but not limited to, tennis shoes, athletic shoes, moccasins, sandals, and open-toed or open-heeled shoes shall not be worn.

Respiratory Protection Devices. Appropriate, MSHA/NIOSH-approved respiratory protective devices must be worn when applicable state and/or federal action levels or OSHA permissible exposure levels (PELs) are exceeded. Contractor must have fully implemented a respiratory protection program meeting the requirements of *Title 29, Code of Federal Regulations, Section 1910.139 / 1926.103* or applicable state OSHA regulations prior to issuing and using respiratory equipment. Contractor shall supply and maintain

appropriate air monitoring and respirat

Lockheed Martin operations, if applicable. The Lockheed Martin Project Lead shall provide the following information:

Where to obtain information concerning any hazardous substances used in Lockheed Martin operations that the Contractor's employees may come in contact with while performing their work;

If Lockheed Martin owns or uses chemicals on a remediation site for any process where contractors could be exposed, Lockheed Martin shall make available to the Contractor Material Safety Data Sheets (MSDS) and sufficient information to permit the Contractor to train its employees on the hazards of the chemical Appropriate protective measure Contractor employees may take to protect themselves from exposure to known hazards from Lockheed Martin operations; and

Appropriate work practice procedures (safety rules) for the location where work is to be performed.

3.2.7 Contractor shall ensure its employees are trained in the safe handling and use of hazardous materials in accordance with *29 CFR 1910.1200 - Hazard Communication* or the applicable state-OSHA hazard communication standard.

3.2.8 Contractor shall ensure that all applicable employees are medically qualified (as defined by OSHA) to perform the work assigned.

3.2.9 Hazardous materials shall be stored in designated areas and all containers effectively closed. Spill equipment/supplies shall be readily available to contain and/or mitigate accidental spills of hazardous materials.

3.3

3.3.4 To ensure the safety of Contractor personnel during entry into confined spaces, the Contractor shall have a written confined space entry program.

3.4 HOT WORK REQUIREMENTS (i.e., welding, torch cutting, brazing, etc.)

Title 29, Code of Federal Regulations, Section 1910 Subpart Q
Title 29, Code of Federal Regulations, Section 1926 Subpart J

3.4.1 All hot work activities shall be conducted in accordance with the hot work permit requirements outlined in the site specific HASP (i.e., fire suppression equipment availability, removal of combustibles, fire watch, etc.).

3.4.2 Contractor personnel must secure all oxygen and acetylene cylinders in a manner that will prevent them from falling or tipping over. Oxygen and acetylene cylinders must be stored separately. Oxygen cylinders in storage must be separated from fuel gas cylinders a distance of 20 feet or by a noncombustible barrier 5 feet high. Acetylene cylinders shall not be stored horizontally, lying on their side.

3.4.3 When welding, Contractor personnel shall use welding curtains and/or suitable protective devices to protect persons from indirect exposure to welding flashes.

3.5 LOCKOUT / TAGOUT - Control of Hazardous Energy

Title 29, Code of Federal Regulations, Section 1910.147

3.5.1 Contractors are required to establish a written program and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start-up or release of stored energy in order to prevent injury to employee.

3.5.2 Contractor shall not service and/or maintain machines and equipment in which the unexpected energization or start up of the machines or equipment, or release of stored energy could cause injury to employees. Servicing and/or maintaining such equipment shall not be conducted until appropriate energy control methods have been initiated.

Lead and/or on-site facility operator (if applicable) so power can be resumed to tg4ROv-TJ0.0

3.8.2 If workers are to enter excavations, a competent person must be designated and trained in soil classification and the recognition of trenching and excavation hazards.

3.8.3 Excavations and trenches shall be inspected by a competent person daily and after every rainstorm, earthquake, or other hazard-increasing occurrence.

3.8.4 Inspect the face, banks, and top daily when workers are exposed to falling or rolling materials.

3.8.5 Shore, bench, slope, or use equivalent methods to protect workers in excavations four feet deep or more.

3.8.6 Locate soil at least two feet from the edge of the excavation, or one foot from the edge when the excavation is less than five feet deep.

3.8.7 Ladders or steps shall be provided and secured in all trenches four feet or more in depth. Ladders shall be located to require no more than twenty-five feet of lateral travel before having access or egress and shall extend three feet above the top of the trench bank.

3.8.8 Install crossings with standard guardrails and toeboards when the excavation is more than 7½ feet deep.

3.8.9 All open trenches and other excavations shall be provided with suitable barriers,

The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment.

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including offices, tool rooms, and storage areas 24 hours per day, seven days per week through the duration of this Contract. Approved fire-fighting equipment, in adequate quantities, must be provided.

3.15.2 Contractor shall familiarize Contractor's employees with the locations of fire extinguishers in their respective work areas and ensure they are prepared to use them safely if necessary. In certain remote field locations or within abandoned (discontinued) facilities where fire extinguishers may not exist in the immediate work area, contractor shall provide and locate fire extinguisher(s) in close proximity to the active work area(s).

3.15.3 In case of fire, Contractor shall call 9-1-1. Contractor shall also inform all Contractor and Lockheed Martin employees in the area to evacuate to a safe place and direct arriving fire response personnel to the fire. Notify the Lockheed Martin Project Lead as soon as reasonably possible.

3.15.4 Contractor employees shall only attempt to put out a fire when such action can be performed safely.

3.15.5 If a Contractor employee uses a Lockheed Martin fire extinguisher, Contractor shall report its use to the Lockheed Martin Project Lead.

3.15.6 Contractor shall report all fires extinguish

3.16.3 Pneumatic power tools shall be secured to the hose or whip by some positive means.

3.16.4 Only properly trained Contractor employees shall operate power-actuated tools.

3.16.5 All grinding machines shall conform to OSHA and ANSI requirements.

3.17 COMPRESSED GAS CYLINDERS

Title 29, Code of Federal Regulations, Section 1910.101 – Compressed Gases
Title 29, Code of Federal Regulations, Section 1926.350 – Gas Welding and Cutting

3.17.1 Compressed gas cylinders shall be secured in an upright position at all times.

3.17.2 When transporting, moving and storing cylinders, valve protection caps shall be in place and secured.

3.17.3 Compressed gas cylinders shall be kept away from excessive heat, shall not be stored where they might be damaged or knocked over by passing or falling objects, and shall be stored at least 20 feet away from highly combustible materials.

3.17.4 Cylinders shall be labeled as to the nature of their contents.

3.17.5 Oxygen cylinders in storage shall be separated from fuel gas cylinders or combustible materials a minimum of 20 feet or by a noncombustible barrier at least five feet high having a fire-resistant rating of at least one-half hour.

3.17.6 Acetylene cylinders shall be stored and used in a vertical, valve-end-up position only.

3.17.7 Anti-flashback arrestors shall be installed on all oxygen and acetylene cylinders.

3.18 INCIDENTAL CONTACT WITH ASBESTOS

3.18.1 This section applies to all contractors who incidentally disrupt the matrix of asbestos containing material (ACM) or presumed asbestos containing material (PACM); i.e., contractors who have not been specifically hired to perform ACM abatement.

3.18.2 Contractor shall immediately report to the Lockheed Martin Project Lead and to other employers of employees working at the job site any discovery, disturbance, and/or spill of ACM and/or PACM. Contractor(s) is to cease all operations in the immediate area of the suspect ACM and/or PACM and demarcate the area. The approval of the Lockheed Martin Project Lead is required before resuming operations.

3.18.3 Contractor shall not disturb any pipe insulation, boiler insulation, or any other material reasonably suspected of containing asbestos until the Contractor notifies the Lockheed Martin Project Lead. Lockheed Martin approval is required before operations may commence.

3.18.4 Abatement of asbestos can be performed only by persons properly trained and licensed to perform such activities

3.19 ASBESTOS ABATEMENT CONTRACTORS

3.19.1 This section applies to Contractors performing maintenance, construction, repair, renovation, demolition, salvage, or any other operation in which any material containing more than 1% asbestos is sanded, abrasive blasted, sawed, shoveled, removed, or otherwise handled in a manner that would generate airborne asbestos fibers. These requirements are in addition to any requirements contained in Contractor's scope of work.

3.19.2 All Contractors working with asbestos shall comply with applicable federal and state OSHA, EPA, local air district, and other applicable Federal, State, municipal, and local statutes, regulations, rules, and ordinances; and specific contract terms and conditions regarding the handling of, use of, and work involving asbestos.

3.19.3 The contractor shall ensure that a competent person, as defined by OSHA supervises all asbestos work performed within regulated areas.

3.19.4 Before commencing work, all asbestos abatement contractors shall supply to Lockheed Martin proof of:

Asbestos abatement contractor certification by the state Contractor's License Board

Liability insurance for Contractor employees engaged in asbestos work operations

Copies of asbestos work notification letters to state OSHA

Local air district Asbestos Demolition/Renovation Notification

3.19.5 Contractors shall minimize the creation and spread of airborne asbestos fibers by

and take necessary protective steps before entering the area marked by the signs. Warning signs shall bear the following information:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

3.19.7 On multiple employer worksites requiring the establishment of a regulated area, the asbestos Contractor shall inform other employers on the site of the nature of the work with asbestos and/or PACM, of the existence of and requirements pertaining to regulated areas, and the measures taken to ensure that employees of such other employers are not exposed to asbestos.

3.19.8 Contractors shall package and label asbestos waste in accordance with federal and or applicable state OSHA requirements and federal or applicable state hazardous waste regulations. Labels shall be affixed to all products containing asbestos and to all containers containing such products, including waste containers. Labels shall be printed in large, bold letters on a contrasting background and shall contain the following information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

3.19.9 Contractors shall properly dispose of all asbestos waste. Proper disposal includes the use of hazardous waste manifests and Lockheed Martin approved and licensed waste haulers, and disposal facilities according to federal RCRA law and applicable state hazardous waste regulations. Contractor shall contact the Lockheed Martin Project Lead before transporting or disposing of any hazardous waste. Lockheed Martin must review all hazardous waste manifests prior to shipment.

3.19.10 Contractors shall ensure that employee exposure air monitoring is conducted as required by federal or applicable state OSHA regulations. All other air monitoring (i.e. clearance sampling) shall be conduc

3.20 HAZARDOUS WASTE OPERATIONS and EMERGENCY RESPONSE (HAZWOPER)

Title 29, Code of Federal Regulations, Section 1910.120 - Hazardous Waste Operations and Emergency Response

Title 29, Code of Federal Regulations, Section 1926.65 – Hazardous Waste Operations and Emergency Response

This section applies to Contractors performing hazardous waste-type activities. This includes operations that pose a potential or reasonable possibility for employee exposure to hazardous waste/chemical contaminants during site investigations, clean-up operations, abatement, or hazardous substance removal work (remedial actions). These requirements are in addition to any requirements contained in Contractor's scope of work.

3.20.1 Contractor shall provide a **site-specific safety and health plan** at least two (2) weeks prior to field mobilization to the Lockheed Martin Project Lead (global statement – move to the beginning).

Contractor shall provide a **safety and health plan** in accordance with *Title 29, Code of Federal Regulations, Section 1910.120 - Hazardous Waste Operations and Emergency Response* or the applicable state OSHA standard and, at a minimum, shall contain the following elements:

- Safety and health risk or hazard analysis for each anticipated site task
- Employee training requirements
- Personal protective equipment to be used by employees for each of the site tasks and operations
- Medical surveillance requirements
- Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used
- Site control measures
- Decontamination requirements and procedures
- Emergency response plan
- Confined space procedures (if applicable)
- Emergency response plan
- Confined space procedures (if applicable)
- Spill containment program
- Periodic documented safety meetings
- Periodic documented work area safety inspections and corrective actions

3.20.2 Contractors performing hazardous waste-type operations shall adhere to the requirements specified in *29 CFR 1910.120 - Hazardous Waste Operations and Emergency Response* or the applicable state OSHA standard.

3.20.3 Training: All Contractor and subcontractor employees working on site who are potentially exposed to hazardous substances shall receive initial and annual

refresher training in accordance with *29 CFR 1910.120(e) – Hazardous Waste Operations and Emergency Response* or the applicable state OSHA standard. Lockheed Martin shall be provided with electronic copies of the training certificates.

3.20.4 Medical Surveillance: Contractor employees must be enrolled in a medical surveillance program prior to performing hazardous waste operations. Upon Lockheed Martin request, Contractor shall provide evidence of employee enrollment in a medical surveillance program. Lockheed Martin does not provide medical surveillance examinations to Contractor employees.

3.20.5 Periodic work area inspections: Contractor agrees to perform periodic work area inspections to determine the effectiveness of the site safety and health plan and to identify and correct unsafe conditions in contractor's responsible work area. These inspections shall be documented and available to Lockheed Martin upon request for review.

3.21 MANAGEMENT OF NANOTECHNOLOGY

3.21.1 The Lockheed Martin Project Lead shall work with the designated contractor responsible for nanotechnology to implement this procedure and ensure areas where nanomaterials (materials incorporating engineered nanoparticles or nanoscale features that exhibit unique physical and chemical properties as a result of the nanoparticles or nanoscale features) will be used meet engineering control requirements of this procedure.

3.21.2 The contractor shall ensure that the safety and environmental hazards of nanomaterials are managed as described in the requirements of this section.

3.21.3 A plan must be developed and executed that addresses the following requirements:

3.21.3.1 **Hazard Analysis:** Identify potential adverse health effects and environmental impacts that could result from the chemical and physical properties exhibited by the nanomaterials and/or nanoparticles in use, to be used, under development, or to be developed at the site.

3.21.3.2 **Exposure Assessment**: Evaluate all tasks involving nanomaterials and identify where exposures could occur. The evaluation must include at a minimum, an evaluation of materials; chemical intermediates; by-products; end-products; waste products; processes; process equipment; the amount of material used; material form; degree of containment; duration of use; and work space including laboratory and manufacturing space.

3.21.3.3 **Exposure Control**

Implement appropriate controls to mitigate worker exposure and environmental emissions identified in sections 3.21.2.1 and 3.21.2.2 of this procedure.

Appendix B. Lockheed Martin shall approve the Waste Management Plan prior to work commencement.

4.1.2 Contractor must segregate hazardous from non-hazardous waste; all hazardous waste generated by its operations must be labeled in accordance with all governmental regulations.

4.1.3 Contractor shall dispose of all hazardous waste within the time frame stipulated by local, state, or federal regulations. Contractor shall not leave behind on Lockheed Martin remediation sites any containers of hazardous materials or waste (including drums, roll-offs, maintenance chemicals, etc.), empty or not, after the termination of operations.

4.1.4 In case of a spill or release of hazardous materials or waste, Contractor shall immediately notify the Lockheed Martin Project Lead and if the severity of the spill warrants, notify the local fire department (Call 9-1-1). The Contractor shall be liable for the costs of any spill resulting from Contractor's actions, including, but not limited to, costs of containment, cleanup, and disposal.

4.2 NON-HAZARDOUS WASTE DISPOSAL

4.2.1 Contractor shall develop a Waste Management Plan in accordance with the requirements outlined in the LMC Remediation Waste Management Procedure in Appendix B. This plan must be approved by the Lockheed Martin Project Lead.

4.3 WORK INVOLVING AIR EMISSIONS

4.4.1 At no time is an unauthorized, unpermitted release allowed. Contractor shall notify the Lockheed Martin Project Lead in the event of a release and obtain the approval of Lockheed Martin before discharging any material into storm drains or sewers.

4.4.2 Contractor shall work with the Lockheed Martin Project Lead to identify applicable National Pollutant Discharge Elimination System (NPDES), Stormwater Pollution Prevention Plans (SWPPP), and POTW requirements associated with the anticipated project.

4.4.3 Contractor shall submit permit applications and/or Notice of Intent forms to the Lockheed Martin Project Lead for review prior to submittal to the applicable regulatory agency.

4.4.4 Contractor shall abide by the requirements of the discharge permit(s) and maintain discharge monitoring information and inspection data to document compliance. This documentation shall be electronically provided to the Lockheed Martin Project Lead.

4.4.5 Contractor shall immediately contact the Lockheed Martin Project Lead in the event permit conditions are not met.

5 HOUSEKEEPING / CLEANUP

5.1 Ensure discharge permits and/or SWPPP p996 ( )TjE720.0307 Tc 0.3007 Te applicab(s)suravailicab

If deviations are encountered from the field wo

CONTRACTOR'S ESH HANDBOOK

COMPLIANCE AGREEMENT

The Key National Contractor Program Manager has read and understands the contents of the *Contractor's ESH Handbook*. Contractor agrees while performing work on Lockheed Martin-owned or Lockheed Martin-controlled premises, that the Contractor shall require its employees and subcontractors at any tier to comply with the contents of this *Contractor's ESH Handbook* and the job specific HASP. A copy of the HASP shall be maintained at the job site and made readily available to contractor and subcontractor employees for their information. All contractor employees and subcontractors shall read and certify that they have read and understand the job specific health and safety plan (HASP). The certification forms shall be electronically sent to the Lockheed Martin Project Lead.

I further understand that this handbook and the rules and regulations it contains do not in any way relieve the Contractor (employer) of its responsibility to comply with the applicable environmental safety and health (ESH) regulations and its obligation to implement and enforce its own written ESH programs while working on this project.

Company: _____

Name: _____

Signature: _____

Title: _____

Date: _____

ATTACHMENT II

INCIDENT REPORT FORM


TETRA TECH, INC.
Safety Excellence

CORRECTIVE ACTIONS

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

_____

_____

_____

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

_____

_____

_____

ROOT CAUSE ANALYSIS LEVEL REQUIRED

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

Root Cause Analysis Level Definitions

Level - 1	**Definition:** A Level 1 RCA is conducted by an individual(s) with experience or training in root cause analysis techniques and will conduct or direct documentation reviews, site investigation, witness and affected employee

TETRA TECH, INC.
INCIDENT FORM IR-A

INSTRUCTIONS:

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

TETRA TECH, INC.
INCIDENT FORM IR-B

INSTRUCTIONS:

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

Incident Report Number: (From the IR Form)	

TYPE OF INCIDENT (Check all that apply)

Property Damage ☐ Equipment Damage ☐ Fire or Explosion ☐ Spill or Release ☐

INCIDENT DETAILS

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

_____

_____

_____

Response Actions Taken:

_____

_____

_____

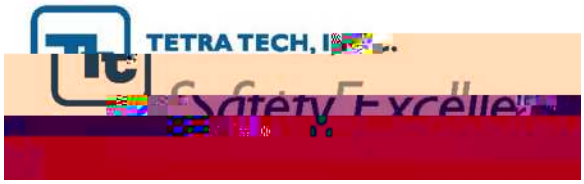
Responding Agency(s) (i.e. police, fire department, etc.)	**Agency(s) Contact Name(s)**

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

Item:	**Extent of damage:**	**Estimated repair cost**

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

Substance	**Estimated quantity and duration**	**Specify Reportable Quantity (RQ)**
		_____ Exceeded? Yes ☐ No ☐ NA ☐



TETRA TECH, INC.
INCIDENT FORM IR-C

INSTRUCTIONS:

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

COMPLETE AND SUBMIT DIAGRAM DEPICTING WHAT HAPPENED

ATTACHMENT III

MEDICAL DATA SHEET

MEDICAL DATA SHEET

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

Project _____

Name _____ Home Telephone _____

Address _____

Age _____ Height _____ Weight _____

Person to notify in the event of an emergency: Name: _____

Phone: _____

Drug or other Allergies: _____

Particular Sensitivities : _____

Do You Wear Contacts?_____

ATTACHMENT IV

SAFE WORK PERMITS

SAFE WORK PERMIT
SITE MOBILIZATION AND DEMOBILIZATION ACTIVITIES
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

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

II. Primary Hazards: Lifting; slips, trips and falls; vehicular and foot traffic; insect/animal bites and stings; poisonous plants; inclement weather.

III. Field Crew: _____

IV. On-site Inspection conducted ☐ Yes ☐ No Initials of Inspector _____Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____Tetra Tech

V. Protective equipment required
Level D ☒ Level B ☐
Level C ☐ Level A ☐

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, or coveralls, safety, glasses and safety footwear. Hard hats and hearing protection will be worn when working near operating equipment.

VI.

Chemicals of Concern	**Hazard Monitoring / Action Level(s)**	**Response Measures**
None anticipated	None	None

Primary Route(s) of Exposure/Hazard: NA

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

VII. Additional Safety Equipment/Procedures

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

Modifications/Exceptions: Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET and tape up in such areas. Follow manufacturer's recommendations for proper application and reapplication. Hard hat when overhead hazards exist. Safety glasses when near eye hazards. Hearing protection when in high noise areas.

VIII. Site Preparation

	Yes	No	NA
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 ☐

SAFE WORK PERMIT
SITE CONCRETE CORING OPERATIONS
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

I. **Work limited to the following (description, area, equipment used):** Concrete coring will take place in some areas of the complex. This activity will employ an electrical coring machine with water supplied cooling and dust suppression. This activity will also include: Installation of soil gas monitoring points, coring borehole restoration and protective casing installation.

II. **Primary Hazards:** Potential hazards associated with this task: heavy equipment hazards; elevated noise; energized systems/utilities; electrical shock; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; flying projectiles.

III. **Field Crew:** _____

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____Tetra Tech

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
Dust (Concrete)	Visual –Visible dust	>2 mg/m3	Employ dust suppression –Wet it down

SAFE WORK PERMIT
SITE GEOPHYSICAL/GEOGRAPHIC LAND SURVEYING
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

I. Work limited to the following (description, area, equipment used): Surveying activities both geophysical and

SAFE WORK PERMIT
BLOCK D SOIL BORING AND MONITORING/DEEP WELL INSTALLATION
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

I. **Work limited to the following (description, area, equipment used):** Soil boring and monitoring well installation. Soil boring will generally be performed using DPT and HSA Rigs, while the monitoring wells will be installed via HSA. This task includes well development and the installation of vapor monitoring points and installation of membrane interface probes.

II. **Primary Hazards:** Contact and transfer of site contaminants; heavy equipment hazards; elevated noise; energized systems/utilities; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; ambient temperature extremes; flying projectiles; insect/animal bites and stings, poisonous plants, inclement weather, drowning.

III. **Field Crew:** _____

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____Tetra Tech

V. **Protective equipment required** **Respiratory equipment required**
Level D ☐

SAFE WORK PERMIT

SAFE WORK PERMIT
BLOCK F SOIL BORING AND MONITORING/DEEP WELL INSTALLATION
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

I. Work limited to the following (description, area, equipment used): Soil boring and monitoring well installation. Soil boring will generally be performed using DPT and HSA Rigs, while the monitoring wells will be installed via HSA. This task includes well development and the installation of vapor monitoring points and installation of membrane interface probes.

II. Primary Hazards: Contact and transfer of site contaminants; heavy equipment hazards; elevated noise; energized systems/utilities; heavy lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; ambient temperature extremes; flying projectiles; insect/animal bites and stings, poisonous plants, inclement weather, drowning.

III. Field Crew: _____

IV. On-site Inspection conducted ☐ Yes ☐ No Initials of Inspector _____Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____Tetra Tech

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 (COCs) and Actions

COCs	Hazard Monitoring	Action Level(s)	Response Measures
VOCs	PID (except on boat/barge)	>1,000 ppm in BZ sustained 4 exp of 5 minutes	Screen BZ with Draeger tubes
Benzene	Draeger Tube 0.5/a	Up to 5 ppm/sustained 10 minutes/4 times/day	Evacuate site till background levels return
Dust	Visual –Visible dust	>2 mg/m3	Employ dust suppression –Wet it down

Primary Route(s) of Exposure/Hazard: Inhalation, ingestion and skin contact. Controls include monitoring instrument use, dust control, use of PPE, and following safe work practices. VOCs – irritating at all points of contact; CNS effects (blurred vision, narcotic effects, dizziness); Extremely high concentrations may result in Irregular heartbeats, possible cardiac arrest. Sand, bentonite, grout may cause mechanical irritation (eyes) as well as potential alkali burns; respiratory, eye, and mucous membrane irritation.

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	Hearing Protection (Plugs/Muffs)	☒ Yes ☐ No
Safety Glasses	☒ Yes ☐ No	Safety belt/harness	☐ Yes ☒ No
Chemical/splash goggles	☐ Yes ☒ No	Radio/Cellular Phone	☐ Yes ☐ No
Splash shield	☐ Yes ☒ No	Barricades	☐ Yes ☐ No
Splash suits/coveralls	☐ Yes ☐ No	Gloves (Type – nitrile/work)	☒ Yes ☐ No
Impermeable apron	☐ Yes ☒ No	Work/rest regimen	☐ Yes ☐ No
Steel toe work shoes or boots	☒Yes ☐ No	Chemical resistant boot covers	☐ Yes ☐ No
High visibility vest	☐Yes ☐ No	Tape up/use insect repellent	☐ Yes ☐ No
First Aid Kit	☐Yes ☐ No	Fire extinguisher	☐ Yes ☐ No
Safety Shower/Eyewash	☐Yes ☒ No	Other	☐ Yes ☐ No

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

VIII. Site Preparation

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
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).	☐	☐	☐

SAFE WORK PERMIT
MARINE OPERATIONS (FROM WATER VESSEL)
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

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

SAFE WORK PERMIT

SAFE WORK PERMIT
BLOCK F MULTI MEDIA SAMPLING AND WELL DEVELOPMENT
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

I. **Work limited to the following (description, area, equipment used):** Multimedia sampling including surface and subsurface soils, groundwater, storm water, IDW. This task also includes soil vapor sampling and indoor air quality sampling.

II. **Primary Hazards:**

SAFE WORK PERMIT
BLOCK H MULTI MEDIA SAMPLING AND WELL DEVELOPMENT
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

SAFE WORK PERMIT

SAFE WORK PERMIT
SITE DECONTAMINATION ACTIVITIES
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

SAFE WORK PERMIT FOR
BLOCK E FORMER BUILDING D MULTI-MEDIA SAMPLING / RADIOLOGICAL SURVEYING
LOCKHEED MARTIN MIDDLE RIVER COMPLEX
MIDDLE RIVER, MARYLAND

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

SECTION I: General Job Scope

I. Work limited to the following (description, area, equipment used): Radiological survey activities and soil sampling at Sites 10 and 14.

II. Required Monitoring Instrument(s): beta/gamma detectors (Micro R meter and frisker such as the Ludlum Model 19)

III. Field Crew: _____

IV. On-site Inspection conducted ☐ Yes ☐ No Initials of Inspector _____ Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ Tetra Tech

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

V. Protective equipment required

Level D ☒ Level B ☐
Level C ☐ Level A ☐
Detailed on Reverse

Respiratory equipment required

Full face APR	☐	Escape Pack	☐
Half face APR	☐	SCBA	☐
PAPR	☐	Bottle Trailer	☐
Skid Rig	☐	None	☒

Modifications/Exceptions: None anticipated

VI. Chemicals of Concern **Action Level(s)** **Response Measures**

ATTACHMENT V
EQUIPMENT INSPECTION CHECKLIST
FOR DRILL/DPT RIGS

Equipment Inspection Checklist for Drill/DPT Rigs

Company: _____ **Unit/Serial No#:** _____

Inspection Date: ____/____/____ **Time:** _____:_____ **Equipment Type:** _____
(e.g., Drill Rigs Hollow Stem, Mud Rotary, Direct Push, HDD)

Project Name: _____ **Project No#:** _____

Yes	No	NA	Requirement	Comments
☐	☐	☐		
☐	☐	☐		
☐	☐	☐		
☐	☐	☐		
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☐	☐	☐		
☐	☐	☐		

Unit/Serial No#:_____ **Inspection Date:** ____/____/____

Yes	No	NA	Requirement	Comments
☐	☐	☐		
☐	☐	☐		
☐	☐	☐		
☐	☐	☐		
☐	☐	☐		
☐	☐	☐		

Unit/Serial No#:_____ **Inspection Date:** ____/____/____

Yes	No	NA	Requirement	Comments
☐	☐	☐	π	
☐	☐	☐		
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ATTACHMENT VI

TETRA TECH SWP 5-6 SAFE WORKING PRACTICES FOR WORKING OVER OR NEAR WATER

Revision Date: 10/1/2008	
Document Control Number:	
SWP 5-6	

ATTACHMENT VII

TETRA TECH, INC.

SAFE BOATING CHECKLIST

Owner/Operator Name:_____

Registration Number_____

Location _____ County: _____State: _____HIN:_____

Length of Boat: <16 Ç 16-25 Ç 26-39 Ç 40-65 Ç > 65 Ç

Area of Operations: Inland Ç Coastal Ç

Powered by: Gas Ç Diesel Ç Sail Ç Other Ç

Type: PWC Ç Open Ç Cabin Ç Other Ç

VESSEL SAFETY CHECK REQUIREMENTS					**RECOMMENDED AND DISCUSSION ITEMS**			
Item	Yes	No	NA		*Item*	Yes	No	NA
1. Display of Numbers					**(While encouraged, items below are not requirements)**			
2. Registration / Documentation					**I.** Marine Radio			
3. Personal Flotation Devices (PFD)					**II.** Dewatering Device & Backup			
4. Visual Distress Signals (VDS)					**III.** Mounted Fire Extinguishers			
5. Fire Extinguishers					**IV.** Anchor & Line for Area			
6. Ventilation					**V.** First Aid and PIW Kits (**over)			

meet requirements by displaying a “certificate of compliance.” Boats built before that date must have either natural or powered ventilation in the fuel tank compartment.

Ç **7. BACKFIRE FLAME ARRESTER:** Gasoline powered inboard/outboard or inboard motor boats must be equipped with an approved backfire flame control device.

Ç **8. SOUND PRODUCING DEVICES:** To comply with Navigation Rules and for distress signaling purposes boats must carry a sound producing device (whistle, horn, siren, etc.) capable of a 4-

ATTACHMENT VIII

TETRA TECH SWP 5-15 HEAT STRESS AND 5-26 PREVENTION OF SUN EXPOSURE

		Revision Date: 10/1/2008
		Document Control Number:
		SWP 5-15

		Revision Date: 10/1/2008
		Document Control Number:
		SWP 5-15

		Revision Date: 10/1/2008
		Document Control Number:
		SWP 5-15

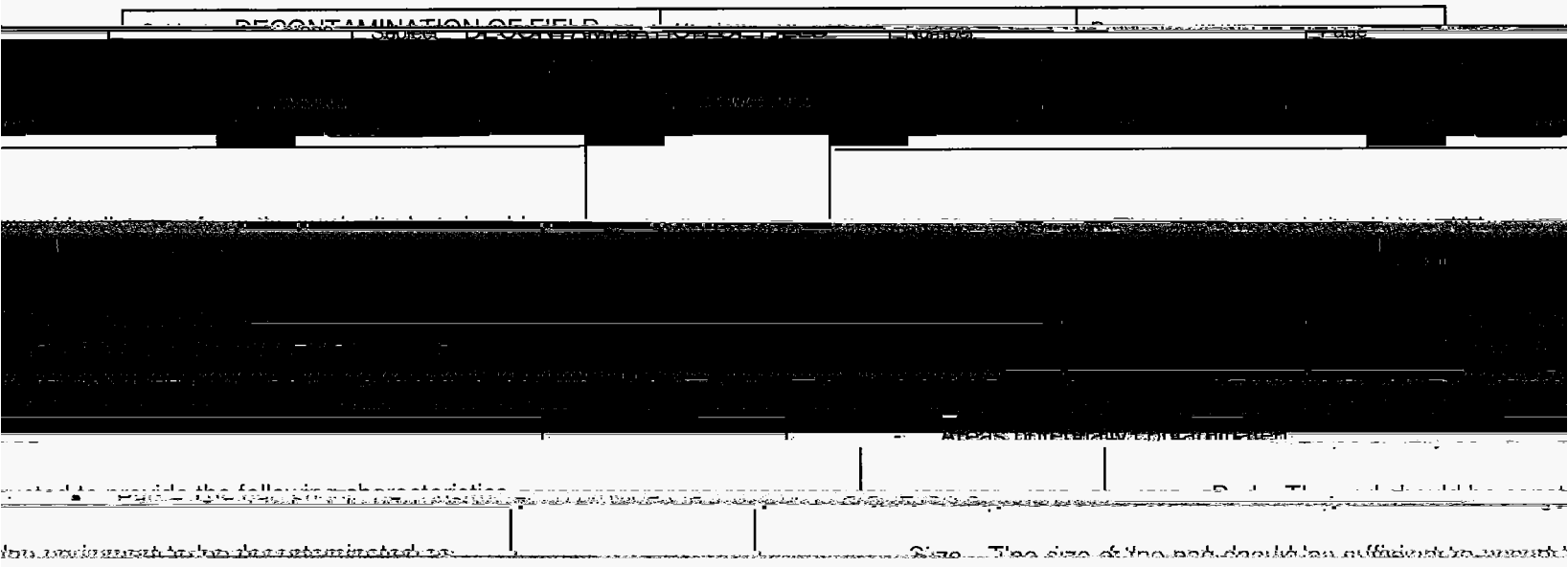
		Revision Date: 10/1/2008
		Document Control Number:
		SWP 5-15

ATTACHMENT IX
TETRA TECH DECONTAMINATION OF FIELD EQUIPMENT AND WASTE HANDLING STANDARD OPERATING PROCEDURE

[redacted]

D. Senovich

TABLE OF CONTENTS



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ATTACHMENT X

OSHA POSTER

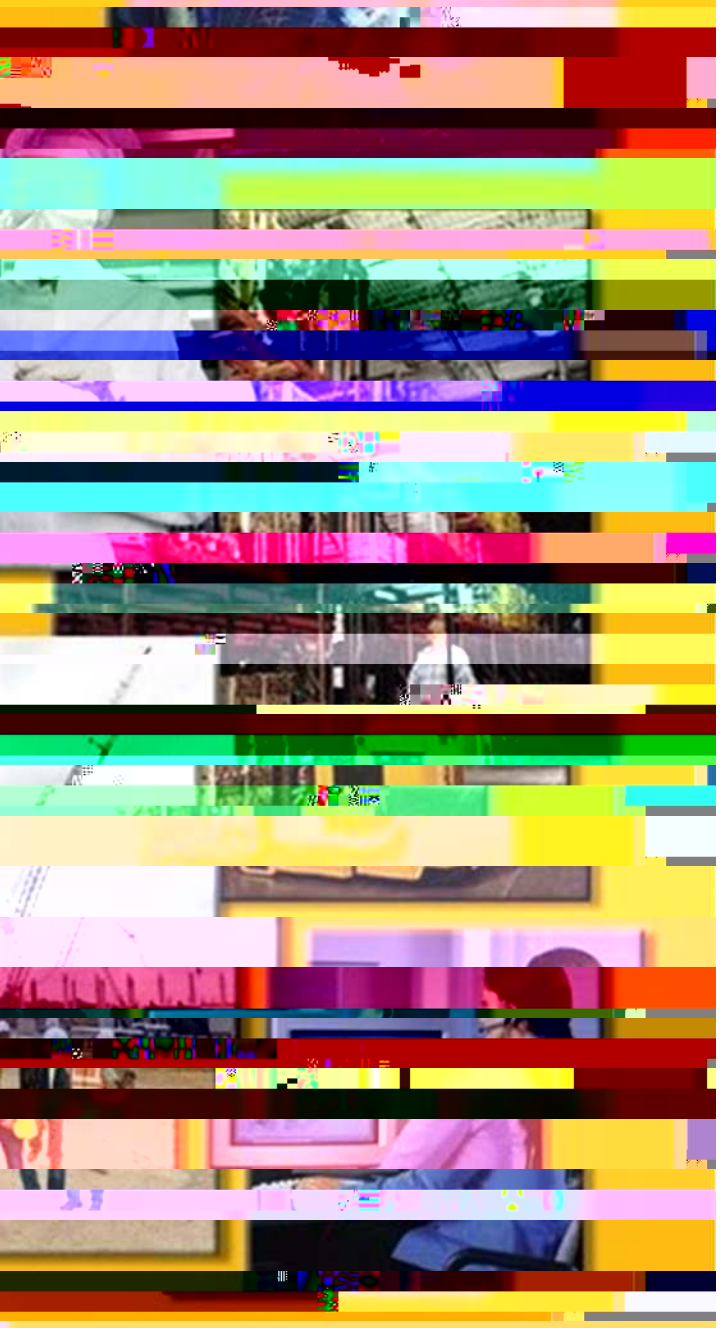
Job Safety and Health

It's the law!

OSHA

Occupational Safety

U.S. Department of Labor



EMPLOYEES:

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

EMPLOYERS:

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

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

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

www.osha.gov

OSHA 3165-12-06R