Submitted to:
US EPA Region 8
Denver, CO

Submitted by:
Atlantic Richfield Company
Anchorage, AK
May 2, 2011

1194013

Site Specific Health and Safety Plan

Rico-Argentine Mine Site – Rico Tunnels Operable Unit OU01 Rico, Colorado

Atlantic Richfield Company

Chuck Stilwell, P.E.
Project Manager

900 E. Benson Blvd.
Anchorage, Alaska 99508
(907) 564-4608
(406) 491-1129 (cell)
Chuck.Stilwell@bp.com

May 2, 2011

Mr. Steven Way
On-Scene Coordinator
Emergency Response Program (8EPR-SA)
US EPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Subject: Site Specific Health & Safety Plan
Rico Project – Rico Soils and St. Louis Ponds
Rico, Colorado

Dear Mr. Way,

Please find enclosed three (3) copies of the *Site Specific Health & Safety Plan* dated May 2, 2011. Atlantic Richfield is submitting the documents in accordance with Section 5.0 of the Removal Action Work Plan, Rico Project – Rico Soils and St. Louis Ponds Rico, Colorado dated March 9, 2011.

If you have any questions, please feel free to contact me at 406.491.1129.

Sincerely,

Chuck Stilwell, P.E.
Project Manager
Atlantic Richfield Company

Enclosures

cc: R. Halsey, AR
S. Dischler, AR
T. Moore, AR
C. Sanchez, Anderson Engineering
T. Kreutz, AECOM (w/o encl.)
D.Yadon, AECOM (w/o encl.)
J. Decker, AECOM (w/o encl.)

RICO PROJECT – RICO SOILS and ST. LOUIS PONDS
Rico, Colorado

SITE SPECIFIC HEALTH & SAFETY PLAN (SSHASP)

Prepared for:

Atlantic Richfield Company
900 E. Benson Blvd.
Anchorage, Alaska 99508

Prepared by:

ANDERSON
ENGINEERING COMPANY INC.

1109 Mesa Blvd
Grants, New Mexico 87020

February 2010
Update: April 2011

SITE SPECIFIC HEALTH & SAFETY PLAN
Rico Project – Rico Soils and St Louis Ponds

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SITE SPECIFIC HEALTH & SAFETY PLAN
Rico Project – Rico Soils and St Louis Ponds

1.0 SCOPE & APPLICABILITY

Policy Statement: It is the policy of Anderson Engineering Company, Inc (AECI) to provide a safe and healthful work environment for all its employees. AECI considers no phase of operations or administration to be of greater importance than injury and illness prevention. Safety takes precedence over expediency or shortcuts. Every accident and every injury is preventable. AECI will take every reasonable step to reduce the possibility of injury, illness, or accident.

Objective: This Site-Specific Health and Safety Plan (SSHASP) outlines the procedures that must be followed during the execution of this project. Operational changes that could affect the safety or health of personnel, the community, or the environment will not be made without the prior approval of the Project Manager and the Health, Safety and Environmental (HSE) Officer or designee.

The provisions of this plan are mandatory for all contractor personnel assigned to the project.

Approvals

Project Name: Rico Project – Rico Soils and St Louis Ponds
SSHASP Title: Health and Safety Plan, Rico Project – Rico Soils and St Louis Ponds

I have read and approved this SSHASP with respect to project hazards, regulatory requirements, and Contract obligations and procedures.

Christopher Sanchez		4-26-10
Project Manager	Name/Signature	Date
Christopher Sanchez, CSP		4-26-10
Project HSE Officer (or Designee dependent upon project requirements)	Name/Signature	Date

1.1 Subcontractor to AECI

Any subcontractor(s) to AECI shall provide or prepare their own SSHASP that meets or exceeds requirements of this SSHASP. This document is not a comprehensive safety program. All subcontractors is responsible for the safety of their employees.

In the case that the subcontractor accepts this SSHASP, all workforce members shall review and sign this SSHASP acknowledging that they understand the contents of this document and that they are willing to abide by all safety requirements contained herein as well as all other safety requirements required as part of their respective work.

I accept this SSHASP and plan to abide by all the contents contained therein. I also acknowledge that I am responsible for all other safety requirements that may be associated with completing tasks not contained within this document.

Print Name

Signature Date

1.2 Declaration of Understanding

I have reviewed and understand this Site-Specific Safety and Health Plan (SSHASP) and agree to abide by the procedures and limitations AECI specifies.

Name	Signature	Employer	Employee No.	Date

Notes:
All contractors to AECI must abide by the procedures and limitations contained in this SSHASP.
All contractor personnel working on this task must review and sign this SSHASP before starting fieldwork on site.

References:
This SSHASP complies with applicable Occupational Safety and Health Administration (OSHA) and US Environmental Protection Agency (USEPA) regulations. This SSHASP follows the guidelines established in the following:

- Standard Operating Guidelines (U.S. EPA, June 1992)
- Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH, October 1985)
- Title 29 of the Code of Federal Regulations, Part 1910 and 1926, U.S. Department of Labor/OSHA
- Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices (ACGIH, 1996)
- Safety and Health Requirements Manual (USACE, September 1996)

2.0 KEY PROJECT PERSONNEL & RESPONSIBILITIES

Position	Name	Telephone	Cell
RM Project Manager:	Chuck Stilwell, PE	907-564-4608	406-491-1129
AECI Project Engineer:	Kevin Cosper, PE	972-972-6222	801-756-3427
AECI Project Manager:	C. E. Sanchez, CSP	505-285-6484	801-971-1767
AECI Project HSE Officer:	C. E. Sanchez, CSP	505-285-6484	801-971-1767

2.1 Responsibilities

2.1.1 All Personnel

Each person is responsible for the Health and Safety (H&S) of themselves and their co-workers, for completing tasks in a safe manner and reporting any unsafe acts or conditions to their Supervisor. All personnel are responsible for continuous adherence to these H&S procedures during the performance of their work. No person may work in a manner that conflicts with the intent of the safety and environmental precautions expressed in this SSHASP. AECI reserves the right to dismiss from the site any person who violates safety procedures.

Each person working at the site is to perform work for which they are determined competent. AECI shall receive competency documentation (resume, certifications, etc.) for each individual that will be working at the site. No work shall be completed for which one is not deemed competent.

All site project personnel are required to immediately report any of the following to the AECI Project Manager:

- Accidents and injuries, no matter how minor
- Unexpected or uncontrolled release of chemical substances
- Any symptoms of chemical exposure
- Any symptoms of extreme weather exposure
- Any unsafe or malfunctioning equipment
- Any changes in site conditions which may affect the H&S of the project personnel
- Serious potential incidents (SPI) and near miss incidents

2.1.2 Project Manager/Field Supervisor

The Project Manager/Field Supervisor (PMFS) is ultimately responsible for ensuring that all project activities are completed in accordance with requirements set forth in this plan. The PMFS is responsible for ensuring all accidents and incidents on the project are reported and thoroughly investigated. The PMFS must approve in writing any revisions to the SSHASP, and is also responsible for the following:

- Enforcing the requirements of the SSHASP. This includes performing daily safety inspections of the work site.

- Stopping work, as required, to ensure personnel safety and protection of property, or where life or property-threatening noncompliance with safety requirements is found.
- Determining and posting routes to capable medical facilities and emergency telephone numbers (including poison control facilities) and arranging emergency transportation to medical facilities.
- Notifying local public emergency officers of the nature of the site operations, and posting of their telephone numbers in an appropriate location.
- Observing on-site project personnel for signs of chemical or physical trauma.
- Ensuring that all site personnel have been given the proper medical clearance, ensuring that all site personnel have met appropriate training requirements, and monitoring all team members to ensure compliance with the SSHASP.

2.1.3 The Project Health, Safety and Environmental Officer

The Project Health, Safety and Environmental Officer (HSE) is responsible for the preparation and modification of this SSHASP. Any changes to the SSHASP must be approved by the HSE Officer. The HSE Officer is the designated regulatory contact on matters related to occupational Health and Safety.

2.1.4 Lower Tier Contractors

On-site lower tier contractors and their personnel are responsible for understanding and complying with all site requirements. Contractors are required to follow the guidelines established in this SSHASP.

2.1.5 Visitors

Site visitors are required to review and acknowledge their understanding of this SSHASP. Site visitors are expected to abide by the requirements of the plan and cooperate with site supervision in ensuring a safe and healthful work site. Site visitors are not to enter the site alone and shall be escorted by qualified site personnel.

3.0 GENERAL PROJECT INFORMATION AND SCOPE

3.1 Project Scope of Work Summary

The Rico project consists of work in and around the Town of Rico Colorado. The St. Louis Mine adit located north of Rico discharges water to a series of settling ponds. There are 13 ponds of various sizes that are connected to flow the mine water through the pond network. The water is retained to allow settlement of metals from the mine discharge. The water is eventually released from the pond network to the Dolores River. The Rico remediation activities consist of monitoring, data collection and pond area work. The work activities are described below

3.1.1 Inspections The ponds are to be inspected on a monthly basis to observe the pond function and pond system condition. Inspections are to identify any problems with the system that may warrant further investigation or correction. The specific inspection items are as follow:

- Embankment Condition
- Pond to Pond Drain System Function
- Spillway Function
- Pond Water Levels
- Minor debris cleared from drains and spillways.

3.1.2 Sampling Surface water is to be sampled at various locations within the St. Louis Ponds and the Dolores River. The sampling is to be completed per the Sampling and Analysis Plan and the Quality Assurance Project Plan. Flow measurements are to be made of adit and pond discharges, pond flows and several points along the Dolores River. Groundwater levels will be monitored at piezometers located at various locations around the St. Louis Ponds. Sampling will be completed on a monthly basis.

3.1.3 Pond Solids Drying Area Construction An area for dewatering and drying of solids removed from the settling ponds will be constructed. The drying areas will be constructed per the construction plan. The drying areas will be enclosed by earthen embankments and the bottom surface graded to drain and collect fluids.

3.1.4 Pond Solids Removal Sediment solids within the St. Louis ponds are to be removed from the upper ponds. The pond solids are to be removed according to the removal plan. Pond solids will be removed using mechanical and or dredge/pump methods. Initial removals will be studied and evaluated for selection of a feasible and effective extraction alternative. Removal will begain with Pond 18.

3.2 SSHASP Scope

This SSHASP has been prepared to address the Scope of Work outline in Section 3.1, Project Scope of Work Summary. Based on the information herein and current site conditions, this SSHASP will be supplemented with a Risk Assessment, Task Safety Environmental Analysis (TSEA) prepared by the contractor's on-site supervision and project personnel.

3.3 Site Location

The St Louis Site is located north of Rico, Colorado along CO Hwy 145. Latitude/Longitude of general locations will be accessed are below.
Latitude: 108 degrees, 01 min, 44 sec.
Longitude: 37 degrees, 41 min, 47 sec.

3.4 Site History

Mining at the St Louis site began with the St Louis Tunnel by the St. Louis Smelting and Refining Co. during 1930-1331. A major crosscut connected the St Louis tunnel to the Mountain Springs Mine. This resulted in a continuous source of mine water to the Dolores River. The pond system was initially constructed at about the same time. The pond system has been modified and added to over the years. A sulfuric acid plant was built at the St Louis pond area and operated between 1955 and 1964. The Anaconda Co. obtained rights at the St Louis area and conducted drilling operations from 1980 to 1983. Anaconda also installed a lime plant at the St Louis Site to treat the mine discharge in 1984. Atlantic Richfield Co later obtain the Anaconda Co. and sold their properties including the St. Louis Site to Rico Development Co. Through agreement Atlantic Richfield is currently overseeing the pond operation.

4.0 HAZARD EVALUATIONS/RISK ANALYSES

A summary of the principal hazards (including biological, physical, chemical, environmental, etc.) for the anticipated project scope are shown in the following table.

Applicable hazards are checked in the Hazard Analysis table

Yes	No	
	x	Blood borne Pathogens
x		General Physical Hazards
x		Excavation/Trenching (requires separate permit)
x		Heavy Equipment and Machinery
x		Underground Hazards
	x	Crane Operations
	x	Mechanical and Flame-Cutting Equipment
x		Energized Electrical Equipment
x		Access/Egress
x		Noise
x		Housekeeping
x		Material Handling
	x	Drum Handling
	x	Confined Space Entry (requires separate permit)
	x	Heat Stress
x		Cold Stress
x (seasonal)		Adverse Weather
	x	Vehicular Traffic
	x	Compressed Gases and systems
x(seasonal)		Poisonous Plants
x(seasonal)		Poisonous Snakes and Animals
x(seasonal)		Insect Hazards
x		Water Safety
x		Working on Dredge Barge/Boats/Tug and Shore
x		Chemical Hazards (See attached detailed Chemical Hazard, Pb, Analysis)

A risk based approach has been used to complete hazard analysis. The risk based approach shall be examined to determine the extents of the respective hazards. See Appendix F, Job Hazard Analysis and Risk Assessment.

5.0 EMPLOYEE TRAINING REQUIREMENTS

5.1 Daily Toolbox Meetings

All site personnel shall be required to attend Daily Toolbox Meetings which will be held immediately at the start of each work shift. Toolbox meetings shall be documented on the Daily Toolbox Meeting Record, See Appendix B. Minimum information to be covered in the meeting is as follows:

- Relevant HASP review
- Hazard communication review
- Assessment of the risks of any issues arising from the site walkover and location of on-site equipment and materials
- Planned tasks for the day and hazards associated with those tasks
- Hazard mitigation activities to be performed
- Assignment of specific safety responsibilities
- Review and completion of applicable permit(s)
- Right and obligation to “Stop Work”
- Right and obligation to discuss and ensure proper Management of Change (MoC)
- Review the completed Risk Assessment , TSEAs. The focus should be on how to complete activities on a given site during that work day. The TSEA discussion shall also include identification of “Stop Work” triggers.
- Review of Pb potential exposure
- Other relevant Anderson Defined Practices (ADP) that employees are trained on include PPE, Emergency Procedures, Remote Driving, Working Alone, Communication Plan, Vehicle Inspections, Heat/Cold Stress and Fitness for Duty

5.2 Risk Assessment and Task Safety Environmental Analysis Development and Review

A Risk Assessment (RA) shall be prepared for the Site, Project and Job Phase of the work. The Work Risk Assessment Tool will be utilized. The RA is to be prepared by all entities involved in the work. The RA is to define hazards and mitigations. Risk scores are to be determined for all jobs related to the work. Employees will use the RA to aid in preparation of the Task Safety and Environmental Analysis (TSEA)

A TSEA will be developed for each Task identified in the work plan and as otherwise needed. The TSEA must be completed and approved prior to start of work. See Appendix A for detailed information on TSEA development. The TSEA should be developed and reviewed with all affected site personnel. Whenever a job transfer occurs and when changes in conditions or scope of work necessitate modifications, the TSEA must be updated and reviewed with affected personnel.

The TSEA must comply with the SSHASP and becomes an integral part of the SSHASP when implemented. Maintain TSEA’s and the SSHASP in the same location for easy access by all individuals involved in the project.

6.0 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS/ PROTOCOLS & PROCEDURES

6.1 Levels of Protection

Use of Personal Protective Equipment (PPE) is characterized into four major levels which are referred to as Level A, B, C, or D. The definition of each is as follows:

Level A: Provides maximum respiratory protection and skin protection utilizing fully encapsulating suit ensembles, Self Contained Breathing Apparatus (SCBA) and/or Supplied Air Breathing Systems (SABS).

Level B: Provides maximum respiratory protection using SCBA, SABS, or a combination with reduced skin protection. Chemical resistant splash suits are utilized.

Level C: Respiratory protection is reduced using air filtering respirators and appropriate media coupled with outerwear as used in Level B or D. Chemically resistant clothing is often employed.

Level D: Standard work attire for site operations includes Hard Hat worn at all times, safety glasses-with side shields, steel toed boots, long-sleeve shirt, traffic vest, and appropriate hand protection. Note: When working near water the BP Water Work Policy shall be followed with the appropriate water safety equipment.

All personnel working at the Rico Project at a minimum will be required to comply with Level D PPE. The site PPE is to provide protection of onsite works to physical hazards and potential chemical and biological hazards, those persons working in close contact will metals impacted soils, solids or water will be required to use an upgraded Level D with rubber boots or full water waders, Tyvek coveralls and chemical resistant rubber/latex gloves. The HSE Officer will determine the need to elevate the PPE level and to address respiratory protection for air borne contaminates. The RA attached to this SSHASP will further define PPE use. All employees will be trained in the use and maintenance of PPE. The AECI PPE defined practice will be followed.

7.0 SITE CONTROL MEASURES AND PROCEDURES

7.1 Visitor Information

Visitors to the site shall abide by the following:

- All visitors shall be instructed to stay outside the contamination zone (exclusion and contamination reduction zones) and remain within the clean zone during the extent of their stay. Visitors shall be cautioned to avoid all contact with contaminated or suspected contaminated surfaces.
- Visitors requesting to observe work conducted in the exclusion zone (EZ) must meet EZ entry requirements and wear all appropriate PPE, prior to entry into that zone. If respiratory protective devices are necessary, visitors who wish to enter the contaminated zone must produce evidence that they have had a complete physical examination, training, and have been fit-tested for a respirator within the past 12 months.
- Visitor inspection of the contaminated area shall be at the discretion of the Field Supervisor.

7.2 Potable Water

An adequate supply of potable water shall be provided at the work site. Either individual water bottles shall be supplied, or a portable container shall be used to dispense drinking water. If a portable container is used, then the following rules shall be followed:

- Portable containers used to dispense drinking water will be capable of being tightly closed and shall be equipped with a tap dispenser. Water shall not be dipped from the container.
- Containers used for drinking water shall be clearly marked and not used for any other purpose.
- Disposable cups will be supplied; both a sanitary container for unused cups and a receptacle for disposing of used cups shall be provided.

7.3 Non-Potable Water

Outlets for non-potable water shall be identified to clearly indicate that the water is unsafe and is not to be used for drinking, washing, or cooking purposes. There shall be no cross-connection (open or potential) between potable and non-potable water systems. Non-potable and potable water systems shall be separated so as to minimize confusion and possible cross-contamination.

7.4 Toilet Facilities

Temporary toilet facilities shall be available for site workers.

7.5 Log In/Log Out

The Daily Toolbox Meeting Record will serve as the log in/log out sheet and will be maintained at the project Office. Personnel will sign in and out as they enter and leave the project. At the end of the shift, the log will be collected and reviewed for to insure all personnel are accounted for by the Field Supervisor. The log shall be incorporated into project files.

7.6 General Protocols

- Site personnel shall wear, at a minimum, Level D protection (Hard Hat worn at all times, safety glasses-with side shields, steel toed boots, long-sleeve shirt, traffic vest, and appropriate hand protection) whenever working inside the perimeter of the site.
- A fire extinguisher, first aid kit, and eye wash will be available in all vehicles, on all equipment, and easily accessible at each work area.
- Field operations shall cease during thunderstorms, heavy rains, high winds, or heavy snows.
- Snow avalanche hazards exist during the winter season along the east side of the St. Louis Ponds area. DO NOT access this area when deep snow exists on site. Access the site by the east routes along the dike roads.
- Workers will maintain visual contact with equipment operators.
- Drinking water will be provided at the site.
- Personnel will obey all posted traffic regulations.
- Seat belts are to be worn at all times when vehicles are in motion.
- If any H&S concerns change or unexpected site conditions arise which threaten the H&S of personnel, field operations are to be halted and the HSE Officer is to be contacted immediately for evaluation.
- At least one copy of this plan will be available at the Site.
- Ensure that no one is required to lift more than 50 pounds.
- Anyone exposed to falls 6 feet or more must use an appropriate fall protection device and must be trained in its use. Comply with Working at Heights ADP.
- Any person working within 6 ft of water 3 ft deep or a wet condition entrapment hazard shall comply with the Working On Or Near Water Policy (Attached to this SSHASP).
- General outdoor construction areas will be illuminated to a minimum of 3-foot candles. Supplementary lighting may be necessary at night, or in other areas such as first aid stations, administrative areas, etc.
- Employees will inform their partners or fellow team members of non-visible effects of heat stress. The symptoms may include:
    - Headaches/Dizziness
    - Nausea
    - Blurred vision
    - Cramps

    - Irritation of eyes, skin, or respiratory tract
    - Follow Heat Stress ADP
- Employees will inform their partners or fellow team members of the effects of cold stress. The symptoms may include:
    - Headaches/Dizziness
    - Shivering
    - Follow Cold Stress ADP
- Control of hazardous energy and hazardous material sources (Lockout/Tagout) will be adhered to during any activity requiring the isolation of energy or hazardous materials.

8.0 ANDERSON ENGINEERING DEFINED PRACTICES

The Anderson Engineering Co. Inc. Defined Practices (ADP) provide specific information and actions for addressing safety issues and hazards. The ADPs are to be available on site and are included to this SSHASP by reference. All onsite employees will be trained as appropriate on the ADPs. Competency of employees will be verified. The ADPs that are applicable to this project include the following:

- Communication Plan
- Daily Tool Box Meetings
- Driving Safety
- Emergency Response
- Lifting Operations
- LOTO
- Excavation and Ground Disturbance
- Fitness for Duty
- Heat and Cold Stress
- Heavy Equipment and Vehicle Safety
- Hazard Communication
- Overhead Power-lines
- PPE and Respiratory Protection
- Scoping Document - Permits
- SIMOPS
- Stop Work
- TSEA

9.0 EMERGENCY RESPONSE/CONTINGENCY PLANS

9.1 Discovery and Procedures

If a project employee discovers a spill, fire or injury the following steps shall be taken.

- Assess the situation as to hazards prior to approaching the scene;
- Determine the need for assistance;

- Contact emergency services as required - 911;
- Contact Field Supervisor
- AECI Project Manager
- AECI HSE Officer
- Remediation Management (RM) Contact
- Field Supervisor shall take appropriate measures to stabilize the scene.

9.2 Emergency Contacts and Actions

State Police: **Contact 911** or

Emergency – **Contact 911**
Non-emergency 911
Actions: Describe situation and need for assistance.

Fire: **Contact 911**
Actions: Use fire extinguisher if it is safe to do so.

Explosion: Contact 911
Actions: Evacuate area to muster area and account for all personnel. Muster at St Louis entry gate.

Ambulance: **Contact 911** or Contact

Actions: Assess nature and seriousness of injury. Administer first aid/ CPR as necessary.

Hospital: Contact 911 / 970-565-6666 (Cortez)

Southwest Medical Center
1311 N. Mildred Rd, Cortez CO
970-565-6666

Injury: Contact 911
Actions: Assess nature and seriousness of injury. Administer first aid as necessary.

Weather: www.weather.gov – internet or tune radio to frequency in area –

Actions: Halt activities and seek shelter during thunderstorms, tornadoes, high winds, snowstorms, etc.

Colorado Emergency Management: Contact (970) 304-4015 – Weld Co. Sheriff's Office.
Actions: Assess nature and seriousness of incident or condition.

Spill: Contact 911
Actions: Contain spill within immediate area if it is safe to do so and contact HAZMAT Team. Rico Fire Department 972-967-2861
Dolores County Fire Dept 972-882-4096

Federal Emergency Management Agency (FEMA)
Contact FEMA when large-scale natural or manmade disasters occur such as earthquakes, floods, forest fires, terrorist attack, etc. (800) 621-3362

U.S. National Response Center
Spills that exceed reportable quantities (800) 424-8802

State Agency (ies)
Louisiana Department of Environmental Quality 225-219-3640 or Toll Free 1-888-763-5424

OSHA
To report accidents, unsafe working conditions, or safety and health violations.
(800) 321-OSHA (6742) – [National Toll Free Number]

Other Emergency Information: All personnel on site must report any near-miss accident, accident, injury, or illness to their immediate supervisor or the Field Supervisor. Near misses, accidents, incidents, and injuries involving visitors, client representatives, and contractors will be documented in the project files. A detailed report will be submitted to AECI within 24 hours after the accident. An accident investigation will be conducted as soon as emergency conditions no longer exist and first aid and/or emergency medical treatment has been provided.

9.3 Hospitals/ Infirmaries

Southwest Medical Center
1311 N. Mildred Rd, Cortez CO
970-565-6666

9.4 Emergency Equipment On-Site

A fire extinguisher, first aid kit and eye wash bottle will be kept in each piece of equipment and in each work zone at all times.

9.5 Personnel Responsibilities During Emergencies

The HSE Officer will ensure that all necessary emergency equipment is ready for use and will train all personnel in emergency procedures. The HSE Officer will also establish emergency evacuation routes from all locations of the work area. During the daily toolbox safety meeting and prior to beginning work, a staging area will be designated where workers will meet in the event of an evacuation for an emergency.

In case of emergency, The HSE Officer will implement site emergency procedures with consideration for the following:

1. Evaluating the emergency conditions and making recommendations regarding risks to off-site personnel and the public, the necessity of upgrading PPE to protect on-site personnel and emergency responders, and recommending evacuation of on-site personnel;
2. Providing first aid for injured or exposed personnel;
3. Preparing a written accident report for submission to AECI.

All site incidents and accidents that occur in connection to this project will be recorded and reported to AECI.

9.6 Medical Emergencies

Seriously injured or ill personnel should not be moved, unless their lives are endangered, until an assessment has been made by a person trained in first aid and cardiopulmonary resuscitation (CPR). Where the potential exists for the person providing first aid to come into contact with the victim's blood, a protective barrier such as gloves or mouth shield will be used. Emergency medical services can be obtained by calling 911 by telephone, or indirectly, by contacting someone with a telephone by two-way radio.

Any person who becomes ill or injured in the presence of contaminated material must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered before transport. If the person's condition is serous, partial decontamination may be completed (i.e., disrobing the victim and redressing in clean coveralls or wrapping in a blanket). First aid should be administered while awaiting an ambulance or paramedics.

Any person transporting an injured/exposed person to a clinic or hospital for treatment should take directions to the hospital (map attached) and information on the chemical(s) that person may have been exposed to. The MSDSs for the chemicals on-site are attached to the plan, See Appendix C.

Any vehicle used to transport contaminated personnel will be cleaned or decontaminated as necessary. The Medical Case Management ADP will be followed.

9.7 Fire or Explosion

In the event of a fire/explosion, personnel will determine whether the fire is small enough to readily extinguish with immediately available portable extinguishers or water, or if other fire-fighting methods are necessary.

Non-essential personnel will be directed away from the area of the fire.

If a fire is judged to be small enough to fight with available equipment, personnel will attempt to extinguish the fire provided that:

1. They are able to approach the fire from the upwind side, or opposite to the direction of the fire's progress.
2. The correct extinguisher is readily available. (A type ABC fire extinguisher shall be in all equipment.)
3. No known complicating factors are present, such as likelihood of rapid spread, imminent risk of explosion, or gross contamination.

If evacuation is necessary, all personnel will proceed to the pre-designated staging area for a head count and await further instructions for the HSE Officer. The HSE Officer will prepare a written incident report for submission to AECI within 48 hours

9.8 AECI Reporting Requirements

Notification & Reporting Procedures:

Incidents are classified into three basic types: Major (including High Potential Incidents and High Potential Near-Misses), Non-Major, and Near-Miss. When an incident occurs, an incident/near-miss investigation report needs to be completed using the Traction System. The first step is to assess the severity based on the Incident Notification and Reporting Table Definitions (Appendix E, Attachment 1). The initial evaluation determines the appropriate notification.

When an incident occurs, the staff and contractors must notify the appropriate contacts (Appendix E, Attachment 2-Emergency Contact Phone Numbers and Call-out Tree), verbally or via email, as required. The notification often includes an initial Report. Appendix E, Attachment 3 shows the Incident Notification and Reporting Process Table, for notification and reporting requirements. Once the severity is assessed, the Field Supervisor, AECI Project Manager, AECI HSE Officer, and RM Contact are notified as required. Once staff has completed an investigation, a completed report must be submitted. It is at this time that corrective action is recommended and monitored. Appendix E, Attachment 4 – Emergency Summary Information, shows a summary of key

phone numbers and parties. Appendix E, Attachment 5 – Hospital Location Map, shows the route to get to the hospital from the Site.

- Whenever a Major Incident or High Potential Incident occurs, the AECI Project Manager and AECI HSE Officer must receive immediate verbal notification, followed by a written report.
- The AECI Salt Lake City Office (1-888-399-2324 or 801-972-6222) is a resource for communications as well as emergency response. If needed, the AECI Salt Lake City Office can be called for notification support on Major Incidents when AECI personnel are not immediately available and when an incident has occurred where the severity is unknown or additional support may be needed.

For all Major Incidents and High Potential Incidents, AECI will contact the **Incident Notification Center** to assist in notifications**.**

10.0 SITE CONTROL PROGRAM

This Site Control Program is deigned to minimize the spread of hazardous substances from contaminated areas to areas that have not been contaminated. The Site Control Program is intended to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the site, and to deter vandalism and theft.

The Field Supervisor is responsible for ensuring the Site Control Program is updated as needed.

A site map(s) indicating the site perimeter, entry and exit points, work zones, emergency equipment storage locations, and evacuation routes and places of safe assembly is attached to this HASP.

For the safety of all personnel, access to this site is restricted to only those site workers who have access approval from the Field Supervisor. To further reduce the potential for chemical exposure, site workers shall only enter into zones in which they have access approval from the Field Supervisor.

During hours of site operation, site entry and exit is authorized only at the point(s) identified on the attached Site Map. Entry and exit at these points is controlled by warning signs. During hours that the site is not operating, access to the site is controlled by warning signs and fencing.

For accountability purposes, all site visitors to the site must register with the Field Supervisor. Visitors are required to be escorted. Visitors are expected to comply with the requirements of this HASP. Visitors who will enter contaminated areas of the site must provide adequate

documentation that they have the required training and medical evaluation as required by this HASP. Visitors shall receive a site-specific briefing about protecting themselves from site hazards, recognizing site zones, and following emergency evacuation procedures. Visitors shall have the required PPE for the areas that they will visit.

The buddy system should be used for all site workers. The buddy system involves two individuals working together on a project for safety purposes. While working on the buddy system each individual shall be able to maintain visual contact with the other individual. Constant eye contact allows both individuals to be able to respond to the other individual in the case that the person is injured or in need of assistance.

It is discouraged having a single worker onsite. If the situation is needed, the individual shall use an offsite point of contact as their buddy in the buddy system. The single worker shall check-in with their buddy upon arriving onsite, every 2 hours thereafter, and upon leaving the site.

11.0 PERMITS

The AECI/Field Supervisor is responsible for ensuring the completion of the necessary permits for the work to be completed. The permits shall be completed and signed by a competent person as assigned by the Field Supervisor. The pond work will require permits. The inspection and sampling work will not require permits, however all employees shall be briefed on the Working Near Water Policy attached to this HASP. All permits will be completed per the Scoping Document Permits ADP and the respective Permit ADP. The Permit ADPs shall be on site and are hereby referenced. The following Permits are expected for the Scope of Work at the Rico Project.

- Excavation and Ground Disturbance
- Overhead Power-lines
- Lifting Operations

APPENDICES

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APPENDIX A

Task Safety Environmental Analysis

Task Safety Environmental Analysis (TSEA) Procedure

1.0 GENERAL INFORMATION

A task safety environmental analysis (TSEA) is a hazard identification technique that involves breaking a job down into basic work elements. Each element is then scrutinized to identify all conditions or activities that could possibly lead to an accident.

A TSEA is a procedure used to review job methods and uncover hazards that: 1) may have been overlooked in the layout of the plant or building and in the design of the machinery, equipment, tools, work stations, and processes; 2) may have developed after production started; or 3) resulted from changes in work procedures or personnel.

A TSEA is an important accident prevention tool that finds and eliminates or minimizes hazards before the job or task is performed. Since employees and supervisors know the jobs the best, it is important that they provide their knowledge and experience about safety and health as they relate to the task or job being analyzed. Some other benefits of a TSEA are:

- Train new employees on jobs they will be performing, or provide refresher training.
- Study jobs for possible improvements in methods or steps, or when they are added or removed.
- Use as a refresher for jobs that are non-routine or performed infrequently.
- Use as an accident investigation tool.
- Most importantly, use as a tool to inform employees of specific job hazards and protective measures to avoid accidents or injuries.

The four basic steps in making a job safety analysis are:

1. Select the job to be analyzed.
2. Break the job down into successive steps or activities and observe how these actions are performed.
3. Identify the hazards and potential accidents.
4. Develop safe job procedures to eliminate the hazards and prevent the potential accidents.

In order to complete a TSEA correctly, all health and safety aspects of the job must be analyzed thoroughly.

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APPENDIX B

Daily Toolbox Safety Meeting Record

(SEE ATTACHMENT SUPPLEMENT)

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APPENDIX C

Material Safety Data Sheets

(SEE ATTACHMENT SUPPLEMENT)

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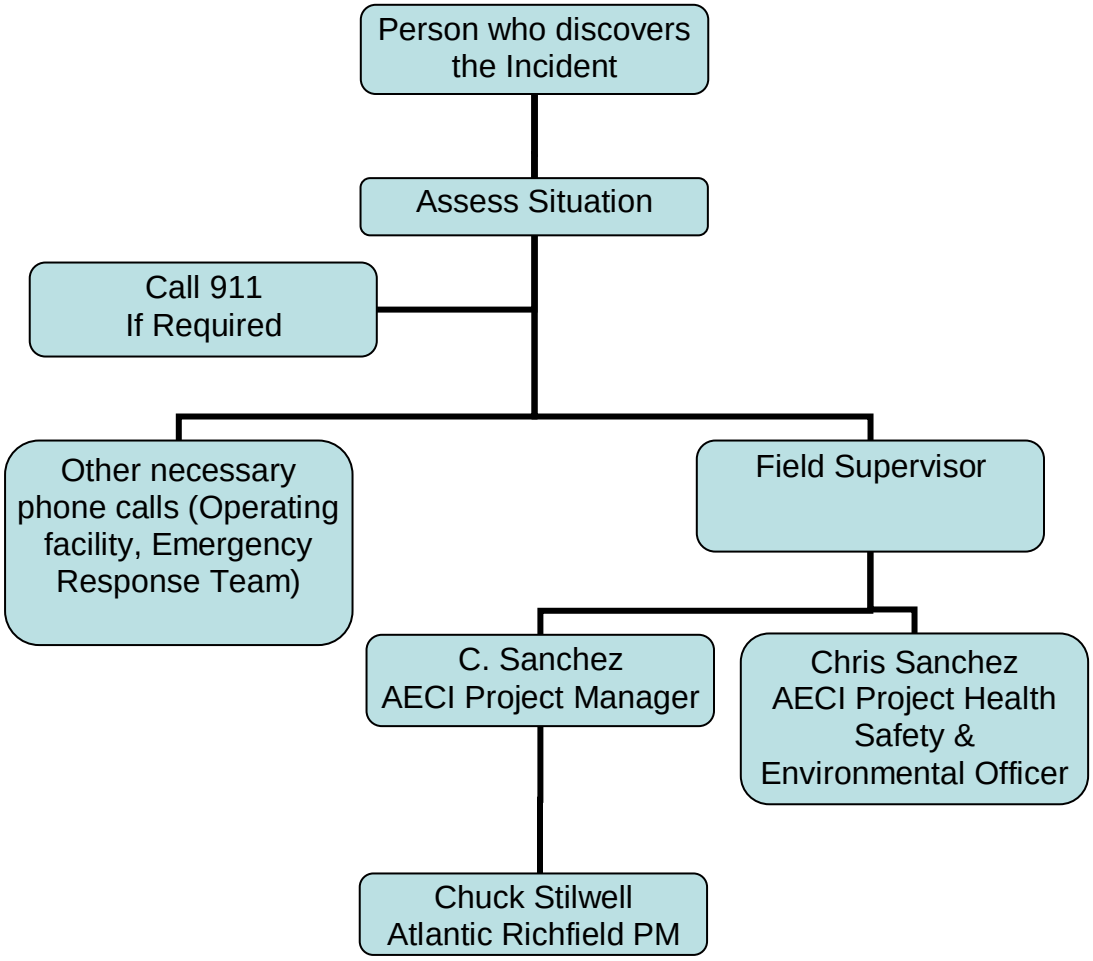
APPENDIX D

Notification and Reporting

Attachment 1
Incident Notification and Reporting Table Definitions

Incident Severity	Vehicle Incidents	Spill / Release / Vapor Disc	Unplanned Business Interruption	Fire / Explosion	Security	Personal Injury / Illness	Property Damage
MAJOR / HIGH POTENTIAL Refer to AECI Group Major Incident and High Potential Incident Reporting Guideline	Any incident resulting in a fatality or multiple serious injuries	Any spill or release >100 barrels or less in a sensitive area, RQ, off site impact, any spill or navigable water, release of 10 tons of classified material, or any spill >1 barrel and has a High Potential	Any accidental damage having a cost exceeding US $500,000	Any fire or explosion with offsite or significant onsite impact / any use of fire fighting equipment – High Potential	Any serious threats to security, bomb threats, or kidnapping threats – High Potential	Any injuries or illnesses resulting in fatalities, 3 or multiple serious injuries	Any property damage > $500,000
NON-MAJOR INCIDENTS	Any incident involving an AERL vehicle including under the influence of D&A ($0 Cost Threshold)	Any spill < 100 barrels	Any unplanned business interruption hitting undergrou nd utilities, product lines, or claim impact on operating facility business	An other fire / explosion not categorized as a Major Incident	Any non-serious threat to security, including vandalism	Any injury or illness resulting in a DAFWC, AECI Amoco exposure, or OSHA Recordable	Any property damage up to $499,999
NEAR MISS	Any contractor vehicle incident without injury or property damage	Any potential for spill or release	Any complaint filed by an Operating Facility Business	Any risk of fire or explosion (i.e. working in LEL conditions, etc.)	N/A	All other injuries or illness including First Aid which does not result in medical treatment.	Any property damage less than $500

Attachment 2
2009 AECI Notification Tree



Initial Notification must be made immediately to the AECI Project Manager and AECI HSE Officer no matter how small the incident.

Attachment 3
Incident Notification and Reporting Process Table

	Notification		Initial Reporting		Investigation	
Incident Severity	Notification Required	When	Forms/ Reports	When	Forms/ Reports	When
MAJOR/ HIGH POTENTIAL	• AECI Project Manager • AECI HSE Officer • RM Contact • Incident Notification Center	Immediately	Major/High Potential Incident Announcement Forms OSHA 200 Log (as applicable)	Immediately	Major Incident Investigation Summary Report (10 day and 60 day)	10 Days (Preliminary) 60 Days (Final)
NON-MAJOR	• AECI Project Manager • AECI HSE Officer • RM Contact	Immediately	GEM Incident/ NM Inv. Report Form or equivalent OSHA 200 Log (as applicable)	Within 24 Hours	GEM Incident/ NM Inv. Report Form	14 Days or as otherwise noted
NEAR MISS	• AECI Project Manager • AECI HSE Officer • RM Contact	Immediately	Gem Incident/ NM Inv. Report Form or equivalent	Within 72 Hours	GEM Incident/ NM Inv. Report Form, when needed	14 Days or as otherwise noted

NOTE: If AECI PM is not available, Contractor is responsible for notifying another AECI manager.

*Initial and Final Reports may be done with participation from both Contractor and AECI Representatives, depending on severity.

Attachment 4
Emergency Information Summary

PPE Minimum Level of Protection: Level D

Do not endanger your own life. Survey the situation before taking any action.

Atlantic Richfield Company Office Telephone	972-509-7000
Site Location Address	St. Louis Ponds, North of Rico CO on CO State Hwy 145.
Telephone Located at	Site Supervisor will have cellular phone on site.

EMERGENCY PHONE NUMBERS In the event of any emergency contact the Project Manager or Site Health and Safety Officer.

Ambulance	911
Fire	911
State Police	**911**
Poison Control	911
Hospital Name	Southwest Medical Center 1311 N. Mildred Rd, Cortez CO 970-565-6666
Hospital Phone Number	**See above**
Project Manager	Chuck Stilwell mobile 406-491-1129
Site Health and Safety Officer	C. E. Sanchez – home – 505-287-5110 or mobile-801-971-1767
Health and Safety Representative	C. E. Sanchez – home – 505-287-5110 or mobile-801-971-1767
Site Supervisor	C. E. Sanchez – home – 505-287-5110 or mobile-801-971-1767
State Agency	Colorado Dept Public Health and Environment Voluntary Clean Up Group 303-692-3311

Attachment 5 Hospital Location Map	
SEE ATTACHMENT SUPPLEMENT FOR DIRECTIONS, MAP & STREET PHOTO	
	HOSPITAL INFORMATION: Various – see above

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APPENDIX E

Job Hazard Analysis and Risk Assessment

Potential Activity Hazard Analysis

General Physical Hazards
The Site may contain numerous physical safety hazards such as the following:

Physical Hazard	Potential Injury	Actions to Prevent or Reduce Exposure
Holes or ditches	Slip, trip, falls resulting in sprains, broken bones	Use access pathways into work areas which minimize this hazard, fill in if possible. Flag all holes and ditches. Install guardrails or barricades.
Precariously positioned objects, that may shift or fall, include loose rocks, slag material, etc.	Impact injuries, crushing, head injuries, pinning under objects. Falling object injuries. Slips, trips and falls.	Reduce work in all unstable areas as much as reasonably feasible. Never work under suspended or unstable loads or slopes.
Sharp objects	Cuts, abrasions and puncture wounds.	Make sure all sharp corners and edges are marked and guarded. Pick up sharp objects, glass etc. Boards with protruding nails should be disposed of if possible or have nails turned down. Use established gates for site access.
Slippery surfaces	Slips and falls	Use appropriate footwear and avoid slippery areas whenever possible. Establish handholds if possible.
Steep grades	Slips and falls	Avoid working on steep grades when possible. Tie off workers from above with appropriate fall protection gear.
Uneven terrain/ unstable surfaces	Slips, trips and falls	Avoid when possible. Minimize need to carry loads over uneven surfaces. Note and identify all unstable surfaces.
Heavy Equipment Operations	Pedestrian, vehicle and equipment collisions	Ground personnel to stay out of work area whenever possible. Establish and maintain eye contact with operator prior to entering the work area. Do not drive within 100 ft of operating equipment.
Protective Equipment	General increase in accident potential	Use of PPE may impair the employees' ability to see or hear which can result in an increased risk of accident. All personnel should be trained in the proper use and application of PPE.

Physical Hazard	Potential Injury	Actions to Prevent or Reduce Exposure
Jewelry, loose clothing	Loss of digits, pinning in machinery, death	Avoid wearing loose jewelry of any type within the work area. Loose or ragged clothing is not permitted in the work area due to the potential of being snagged in moving machinery.

Potential Activity Hazard Analysis

Access and Egress

Work site access and egress (exit) require awareness and safety procedures to avoid incidents. Work site locations vary a range of hazards.

Hazard	Potential Injury or Loss	Actions to Prevent or Reduce Exposure
Traffic Hazards	Collisions, pedestrian accidents, crushing or pinch points, serious injury, loss of limbs or life, equipment damage, work stoppage	Practice defensive driving. Designated access routes, defined work areas, defined entry and exit locations. Use of correct PPE including traffic vests.
Electrical Power Lines and Equipment (Lines may be Overhead or Underground)	Electrocution, severe burns, cardiac arrest, loss of life, fire, equipment damage, work stoppage	Excavation plans shall include identification of underground utilities including power lines. Overhead lines are to be identified and minimum clearance distances understood and maintained for both access and work. Refer to the Energized Electrical Equipment Activity Hazard Analysis.
Crossing Fence Lines	Serious cuts and puncture wounds, slip trip and falls	Do not climb over fences or walls, use gate or passways. Install passways for work areas. Should going through wire fence be unavoidable the two man approach is required, one to hold the wire open while the other passes. Use of correct PPE including gloves.
Tools (power and hand) and Equipment	Electrocution, serious cuts and puncture wounds, loss of limbs or life, work stoppage	All tools and equipment shall be in good repair, grounded and connected into a ground fault protected circuit. Unplug power tools when not in use. Follow lock-out / tag-out procedures for electrical equipment service and non-use. Use of correct PPE including gloves.
Housekeeping	Serious cuts and puncture wounds, slip trip and falls	Maintain clear and orderly work areas, access and exit ways. Properly store all tools and equipment. Refer to Housekeeping Activity Hazard Analysis.
Working Space or Areas, Confined Space	Explosion, fire, toxic environment, lack of Oxygen, severe burns, loss of life, possible cross contamination of work zones and clean areas	Complete evaluation of work space. A site specific Job Safety Analysis or Permit is to be completed prior to entry into potentially hazardous environments. Refer to other specific Activity Hazard Analysis.

Potential Activity Hazard Analysis

Housekeeping

Significant hazards are associated with poor housekeeping both at the site, equipment and in job trailers. Poor housekeeping contributes to slip, trip and fall injuries, increases the chances for a fire and other serious incidents. All site personnel are responsible for identifying and correcting housekeeping problems in their individual work areas.

Hazard	Potential Injury or Loss	Actions to Prevent or Reduce Exposure
Trash, debris, clutter	Pain and injury ranging from minor to serious caused by slips, trips and falls.	Trash and debris are to be consolidated at an approved staging location and contained while awaiting transport or disposal. Tripping hazards should be identified and eliminated if possible. If elimination cannot be done, then the hazards should be clearly marked and guarded.
Sharp objects	Infections, scars, etc. caused by cuts or punctures	Tools and equipment should be properly stored when not in use with protective covers placed over sharp edges and ends. Remove all sharp objects from ground.
Trash fires	Loss of life, equipment, work stoppage	Flammable containers shall be stored in approved containers and cabinets. No hot materials shall be disposed of in any container except for safety containers specifically assigned for the task.
Other	Damage, loss and injuries	An end of shift routine should be developed which will allow for the proper storage of all tools, equipment and supplies.

Potential Activity Hazard Analysis

Adverse Weather

Adverse weather conditions can occur anywhere at virtually any time. Proximity to large bodies of water such as the Great Salt Lake and rivers or mountains, ridges, canyons and similar terrain can result in rapidly changing and intense weather conditions. The contractor's PSHO shall be charged
with maintaining knowledge regarding forecast conditions that will impact the site and work operations.

Weather Condition	Potential Hazard or Concern	Action to Eliminate or Reduce Exposure
Sustained High Temperatures	Heat Stress Related Illnesses	Ensure that sufficient and appropriate fluids are available for consumption by workers. Initiate heat stress monitoring if warranted. Provide for adequate rest periods in sheltered areas.
Sustained Low Temperatures	Cold Stress Related Illnesses	Ensure that all personnel are adequately clothed for the conditions. Monitor temperatures including wind chill. Monitor personnel closely for sign of illness. Provide adequate breaks in heated and sheltered environment.
High Wind	Eye injuries from windblown materials, falls from elevated positions, flying debris	Ensure all personnel are wearing appropriate safety glasses or other eye protection as necessary. Avoid having personnel work on or in elevated machinery or positions. Employ good housekeeping techniques to eliminate blowing debris. Special caution should be used involving the dumping of end dump trucks and trailers.
Heavy Rain	Reduced visibility and flash floods in low lying areas of the site. Loss of traction by wheeled vehicles. Unstable and/or slippery walking and working surfaces.	Instruct all personnel to reduce speeds when traveling in wet conditions. Vehicle traffic and foot traffic should be limited if possible. All personnel should be advised of potential flash flood locations on the site and work in these locations should be avoided if heavy rains are present or forecast.
Thunderstorms	Equipment and personnel being struck by lightning.	Avoid elevated positions. If thunderstorms are present, ground personnel should be retrieved and seek shelter until threat has passed. All equipment should be stopped and operators removed. The Field Supervisor shall be responsible for suspending operations and restarting operations during thunderstorm conditions. Generally, the 30-30 rule shall be used, which is: if thunder is heard within 30 seconds of seeing a lightning strike, work shall be halted for a period of 30 minutes.
Snow	Cold Stress Related illness, slippery conditions	Same as for Sustained Low Temperatures. Wheeled equipment traction is greatly reduced so care must be taken. All ground personnel should be closely monitored at all times.

Fog or Mist	Reduced visibility	Extreme caution should be exercised by equipment and vehicle operators. Ground personnel should not be placed in proximity to working equipment or traffic under reduced visibility conditions.

Potential Activity Hazard Analysis

Poisonous Plants

Hazard	Potential Injury or Illness	Actions to Prevent or Reduce Exposure
Contact with Poison Oak, Poison Ivy, Poison Sumac	Painful skin irritation, allergic reactions, death	Examine work area for poisonous plants. Notify workers of potential of poisonous plants, reassign allergic workers. Exercise caution when working in vegetated areas. Coveralls, gloves of leather or cotton will normally provide adequate protection from skin contact. Respiratory protection may be required, follow TSEA for this work. In known infested areas use equipment to handle plants. Persons who are exposed or believe they may have been exposed should report the episode to their supervisor.

Potential Activity Hazard Analysis

Poisonous Snakes and Animals

The concern for biological hazards must be determined on a task specific basis and addressed in individual job safety analysis (JSA) issued for these tasks. Prompt reporting and medical attention is required for bites/stings of any kind and exposure to poisonous wildlife with evidence of allergic reaction. Rodents may carry rabies or plague and a medical evaluation is required. The following tables should be used as a reference or guide when developing the work plans and JSAs.

Hazard	Potential Injury or Illness	Actions to Prevent or Reduce Exposure
Rattle Snakes	Snake bite	Personnel on foot should avoid brushy areas or areas with tall grass. Use extreme caution when moving materials which have been stored outside. Snakes are frequently found in rocky areas as well. Personnel shall wear boots at least to the ankle, long pants and long shirts on site.
Rodents	Rabies, plague, hanta-virus	Avoid contact with any type of rodent, dead or alive. Dead animal carcasses should be handled using universal precaution PPE (Impervious gloves, goggles, clothing and a respirator.) Avoid areas where rodent droppings are present and avoid stirring dust so that it becomes airborne. Employ Standard Operating Procedure for handling potential Hanta-Virus carrying materials or organisms.

Potential Activity Hazard Analysis

Insect Hazards

Hazard	Potential Injury or Illness	Actions to Prevent or Reduce Exposure
Spiders (Black Widows, Brown Recluse, other)	Painful bites, allergic reactions, death	Identify personnel with insect allergies and arrange for anti-inflammatory medication to be on-site. Exercise caution when moving materials. Gloves of leather or cotton will normally provide adequate protection from bites. Persons who are bitten or believe they may have been bitten should report the bite to the SH.
Scorpions	Painful stings, allergic reactions	Report to PSHO as soon as possible.
Bees, wasps, hornets, etc.	Extremely painful sting, severe allergic reactions in some persons.	Avoid disturbing nests, do not wear strong colognes, perfumes, etc. Bright colors may sometimes attract.
Horseflies, flies, gnats, mosquitoes, etc.	Sometimes painful stings, irritants	Utilize insect repellent commercially available.

Potential Activity Hazard Analysis

Water Safety

Hazard	Potential Injury or Illness	Actions to Prevent or Reduce Exposure
Loss of footing, falling in water.	Drowning, hypothermia, death	All work shall be completed 6 ft or more from water that is 3 ft deep or more or that have a subsurface that can trap entrant (ex deep mud). Watch footing around banks. Do not work on unstable bank. Should the work not meet this requirement a RA shall be performed and the work shall be in compliance with the BP Water Work Policy. This Policy is attached.

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APPENDIX F

WORKING ON OR NEAR WATER POLICY
(SEE ATTACHMENT SUPPLEMENT)