CH2M HILL HEALTH AND SAFETY PLAN

This Health and Safety Plan (HSP) will be kept on the site during field activities and will be reviewed as necessary. The plan will be amended or revised as project activities or conditions change or when supplemental information becomes available. The plan adopts, by reference, the Standards of Practice (SOPs) in the CH2M HILL *Corporate Health and Safety Program, Program and Training Manual*, as appropriate. In addition, this plan adopts procedures in the project Work Plan. The Site Safety Coordinator (SC) is to be familiar with these SOPs and the contents of this plan. CH2M HILL's personnel and subcontractors must sign Attachment 1.

Project Information and Description

PROJECT NO: 175843

CLIENT: US EPA

PROJECT/SITE NAME: Atlas Asbestos/Clear Creek Management Area

SITE ADDRESS: Between Hollister and Coalinga, CA

CH2M HILL PROJECT MANAGER: Caroline Ziegler/SFO

CH2M HILL OFFICE: San Francisco/Oakland

DATE HEALTH AND SAFETY PLAN PREPARED: 6/17/2004

DATE(S) OF SITE WORK: Planning for 1 week in August or September

SITE ACCESS: 4-wheel drive vehicle

SITE SIZE: 50,000 acres

SITE TOPOGRAPHY: Rugged

PREVAILING WEATHER: Hot, dry

SITE DESCRIPTION AND HISTORY: See SAP provided

DESCRIPTION OF SPECIFIC TASKS TO BE PERFORMED: CH2M HILL will perform air sampling activities to evaluate personal exposure to asbestos during routine outdoor activities conducted at in the Clear Creek Management Area (CCMA). Outdoor activities to be conducted will consist of the following:

- Off-road motorcycles will be ridden by CH2M HILL personnel. Multiple riders will be present to allow for the evaluation of both leaders and followers;
- 4-wheel drive vehicles will be driven along CCMA improved dirt roads with their windows open to evaluate exposure;
- All Terrain Vehicles (ATVs) will be driven along CCMA improved roads to evaluate exposure potentials; and
- Walkers, campers and hikers exposures will be evaluated using area monitors and personnel samplers.

Collection of air samples is estimated to last approximately 2-3 days. Once this evaluation is completed, all air samples will be sent to an analytical laboratory for asbestos analysis using TEM methods.

Site Map

This page is reserved for a Site Map.

Note locations of Support, Decontamination, and Exclusion Zones; site telephone; first aid station; evacuation routes; and assembly areas.

Table of Contents

1 Tasks to be Performed Under this Plan

1.1 Description of Tasks

(Reference Field Project Start-up Form)

Refer to the Sampling and Analysis Plan for detailed task information. A health and safety risk analysis (Section 1.2) has been performed for each task and is incorporated in this plan through task-specific hazard controls and requirements for monitoring and protection. The following tasks will be conducted during this investigation:

- Personal Air Sampling
- ATV, Off-road Motorcycles, and trucks will be driven around the site to create exposure potentials that are typical to public exposures
- Decontamination of Equipment
- Ambient Air Sampling

1.2 Task Hazard Analysis

(Refer to Section 2 for hazard controls)

POTENTIAL HAZARDS	TASKS				
	Air Sampling via Motorcycle	Air Sampling via 4 WD SUV	Air Sampling via Walking/Hiking	Surveying, ambient air sampling, camping	Decon of equipment
Flying debris/objects	X	X	X		X
Noise > 85dBA	X				X
Electrical					X
Suspended loads					
Buried utilities, drums, tanks					
Slip, trip, fall	X	X	X	X	X
Back injury	X		X	X	X
Confined space entry					
Trenches / excavations					
Visible lightning	X	X	X	X	X
Vehicle traffic	X	X	X	X	X
Heat Stress	X		X	X	X
Burns	X				
Fires	X	X		X	X
Entanglement					
Heavy equipment	X	X			X

2 Hazard Controls

This section provides safe work practices and control measures used to reduce or eliminate potential hazards. These practices and controls are to be implemented by the party in control of either the site or the particular hazard. CH2M HILL employees and subcontractors must remain aware of the hazards affecting them regardless of who is responsible for controlling the hazards. CH2M HILL employees and subcontractors who do not understand any of these provisions should contact the SC for clarification.

2.1 Project-Specific Hazards

2.1.1 Asbestos

- Materials suspected of containing asbestos shall be treated as asbestos unless documentation and/or testing results indicate otherwise.
- Where the presence of asbestos is suspected, design all operations to avoid contact.
- Do not disturb waste or other materials labeled "Danger - Asbestos Fibers."
- Do not enter regulated work areas unless training, medical monitoring, and PPE requirements established by the competent person have been met.
- Do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.
- Respiratory protection and other exposure controls selection shall be based on the most recent exposure monitoring results obtained from the competent person.

2.1.2 Respiratory Protection

(Reference CH2M HILL SOP HS-08, *Respiratory Protection*)

- CH2M HILL personnel exposed to dust on this project during off-road riding will wear a Respro HEPA-Filter mask designed for off-road motorcycle use. Each mask will be fitted with a HEPA filter insert that will be changed out daily (if wet) or will be disposed of after one week of riding.
- All respirator users must have completed appropriate respirator training within the past 12 months.
- Respirator users must complete the respirator medical monitoring protocol and been approved for APR Respirators.
- Tight-fitting facepiece respirator (negative or positive pressure) users must have passed an appropriate fit test within past 12 months. A Saccharin test will be performed to verify the proper fit of the Respro respirators and the tests will be documented on a CH2M HILL qualitative fit test form.
- Respirator use shall be limited to those activities identified in this plan. If site conditions change that alter the effectiveness of the specified respiratory protection, the HSM shall be notified to amend the written plan.
- All respirator users shall be clean-shaven and shall perform a user seal check before each use.
- Respirators in regular use shall be inspected before each use and during cleaning
- Respirators in regular use shall be cleaned and disinfected as often as necessary to ensure they are maintained in a clean and sanitary condition.
- Respirators shall be properly stored to protect against contamination and deformation.
- Field repair of respirators shall be limited to routine maintenance. Defective respirators shall be removed from service.

2.1.3 Motorcycle, Off Highway Bikes & 4WD ATV's

All vehicles will be operated in accordance with the Manufacturer's requirements and specifications.

- OHV's (motorcycles) are special use vehicles with a light engine or electric motor, other than construction equipment, not intended and/or allowed for highway use. They ***do not*** have seat belts or ***do not*** have substantial roll protection (i.e., ROPS, FOPS, steel roll-cage, etc.)

Procedures for General Use:

Vehicles shall not be operated on site unless their use has been justified and approved by the Health and Safety Manager (HSM) and the onsite Safety Coordinator (SC).

Operators shall be trained by a competent person or qualified as competent by the Safety Coordinator or HSM prior to receiving revocable authorization to operate motorcycles on site. Motorcycles shall be operated in accordance with the operating manual.

Training will consist of these instructions, hands-on training by a competent person, and a demonstration of basic skills. All individuals are required meet all training aspects before ATV and motorcycle use.

Motorcycles and ATV's shall remain on flat surfaces at all times and shall not be operated on slopes steeper than a 45% grade.

Daily inspections of vehicles for safety and maintenance will be required (i.e., fluid leaks/levels, tire pressure, tire surfaces, lights, fuel levels, brakes, etc.).

Operators and passengers on motorcycles or ATV's shall wear:

- wear safety glasses, goggles, or face-shield at all times when moving
- leather boots
- a ***PROPERLY FITTED*** DOT/ANSI/SNELL approved helmet
- Leather gloves
- Respro Mask Respirator (either Sporta or Techno)

Motorcycle and ATV Safety

- Speed limits shall be maintained to safe operating speeds
- Make sure the engine is turned OFF before dismounting the vehicle. (tip: put vehicle into neutral before turning engine off).
- Avoid driving over any extreme obstacles (i.e. wood/logs, fences, boulders, etc).
- Remember to shift weight, to inside when turning, forward when going uphill, and back when going down hill. Reduce speed when necessary.
- Watch for pedestrians and other vehicles.
- Only drive during daylight hours.
- Do not carry passengers.
- Do not exceed recommend payload.
- When using trailers, watch your turning radius.
- Slow down before coming to a stop.
- Shut engine down prior to refueling.
- Each driver will have a valid drivers license.
- Motorcycle's must have adequate wheel guarding.
- Absolutely no horseplay or stunting will be tolerated while operating.

- Stay seated at all times while in motion.
- Avoid changing gears when throttle is depressed completely. It's best to quickly let up on the throttle before changing gears, and then going back after the gear has switched.
- Report any damage or injuries immediately, and report any hazardous condition that could cause these, including horseplay.
- Keep both hands on the bars when in motion.
- Exercise caution in fording streams. Inspect for depth, hidden debris, speed of current, holes/depressions or any other issues that may cause you to lose control.

CH2M HILL requires that riders read this information as part of the training before using OHVs on this project, and sign-off on the Health and Safety Plan (Attachment 1) to document that all personnel working on this project understand the safety requirements and agree to comply with this HSP. All questions should be posed to the Health and Safety Manager and onsite SC.

2.1.5 Equipment Trailers and Trucks

- Single axle trailers pose a hazard when disconnected from the trailer hitch. They can flip up the hitch bar if load is unbalanced or if personnel are standing in the bed and cause a weight shift. Secure the trailer in such a way as to prevent a sudden shift and imbalance.
- Wear gloves when connecting/disconnecting hitch and brace tires with blocks prior to disconnect. Always perform this on level surface.
- Use of large long-bed trucks require extra room for turning and have large blind spots when backing up. Use a spotter or check area prior to backing up to ensure you don't hit anything.
- Check light systems on trailers and trucks for proper operation prior to each days use.

2.2 General Hazards

2.2.1 General Practices and Housekeeping

(Reference CH2M HILL SOP HS-20, *General Practices*)

- Site work should be performed during daylight hours whenever possible. Work conducted during hours of darkness require enough illumination intensity to read a newspaper without difficulty.
- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Keep access to aisles, exits, ladders, stairways, scaffolding, and emergency equipment free from obstructions.
- Provide slip-resistant surfaces, ropes, and/or other devices to be used.
- Specific areas should be designated for the proper storage of materials.
- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.
- Containers should be provided for collecting trash and other debris and shall be removed at regular intervals.
- All spills shall be quickly cleaned up. Oil and grease shall be cleaned from walking and working surfaces.

2.2.2 Hazard Communication

(Reference CH2M HILL SOP HS-05, *Hazard Communication)*

The SC is to perform the following:

- Complete an inventory of chemicals brought on site by CH2M HILL using Attachment 2.
- Confirm that an inventory of chemicals brought on site by CH2M HILL subcontractors is available.
- Request or confirm locations of Material Safety Data Sheets (MSDSs) from the client, contractors, and subcontractors for chemicals to which CH2M HILL employees potentially are exposed.
- Before or as the chemicals arrive on site, obtain an MSDS for each hazardous chemical.
- Label chemical containers with the identity of the chemical and with hazard warnings, and store properly.
- Give employees required chemical-specific HAZCOM training using Attachment 3.

- Store all materials properly, giving consideration to compatibility, quantity limits, secondary containment, fire prevention, and environmental conditions.

2.2.3 Shipping and Transportation of Chemical Products

(Reference CH2M HILL's *Procedures for Shipping and Transporting Dangerous Goods)*

Chemicals brought to the site might be defined as hazardous materials by the U.S. Department of Transportation (DOT). All staff who ship the materials or transport them by road must receive CH2M HILL training in shipping dangerous goods. All hazardous materials that are shipped (e.g., via Federal Express) or are transported by road must be properly identified, labeled, packed, and documented by trained staff. Contact the HSM or the Equipment Coordinator for additional information.

2.2.4 Lifting

(Reference CH2M HILL SOP HS-29, *Lifting*)

- Proper lifting techniques must be used when lifting any object.
  - Plan storage and staging to minimize lifting or carrying distances.
  - Split heavy loads into smaller loads.
  - Use mechanical lifting aids whenever possible.
  - Have someone assist with the lift -- especially for heavy or awkward loads.
  - Make sure the path of travel is clear prior to the lift.

2.2.5 Fire Prevention

(Reference CH2M HILL SOP HS-22, *Fire Prevention*)

- Fire extinguishers shall be kept in the cab of 4-wheel drive vehicles.

2.2.7 Heat Stress

(Reference CH2M HILL SOP HS-09, *Heat and Cold Stress*)

- Drink 16 ounces of water before beginning work. Disposable cups and water maintained at 50°F to 60°F should be available. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of coffee and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads (e.g., do not begin with extremely demanding activities).
- Use cooling devices, such as cooling vests, to aid natural body ventilation. These devices add weight, so their use should be balanced against efficiency.
- Use mobile showers or hose-down facilities to reduce body temperature and cool protective clothing.
- Conduct field activities in the early morning or evening and rotate shifts of workers, if possible.
- Avoid direct sun whenever possible, which can decrease physical efficiency and increase the probability of heat stress. Take regular breaks in a cool, shaded area. Use a wide-brim hat or an umbrella when working under direct sun for extended periods.
- Provide adequate shelter/shade to protect personnel against radiant heat (sun, flames, hot metal).
- Maintain good hygiene standards by frequently changing clothing and showering.
- Observe one another for signs of heat stress. Persons who experience signs of heat syncope, heat rash, or heat cramps should consult the SC to avoid progression of heat-related illness.

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	Heat Syncope	Heat Rash	Heat Cramps	Heat Exhaustion	Heat Stroke
Signs and Symptoms	Sluggishness or fainting while standing erect or immobile in heat.	Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations	Painful spasms in muscles used during work (arms, legs, or abdomen); onset	Fatigue, nausea, headache, giddiness; skin clammy and moist; complexion pale, muddy, or flushed; may faint on standing; rapid thready	Red, hot, dry skin; dizziness; confusion; rapid breathing and pulse; high oral

SYMPTOMS AND TREATMENT OF HEAT STRESS					
		during heat exposure.	during or after work hours.	pulse and low blood pressure; oral temperature normal or low	temperature.
Treatment	Remove to cooler area. Rest lying down. Increase fluid intake. Recovery usually is prompt and complete.	Use mild drying lotions and powders, and keep skin clean for drying skin and preventing infection.	Remove to cooler area. Rest lying down. Increase fluid intake.	Remove to cooler area. Rest lying down, with head in low position. Administer fluids by mouth. Seek medical attention.	Cool rapidly by soaking in cool– but not cold– water. Call ambulance, and get medical attention immediately!

Monitoring Heat Stress

These procedures should be considered when the ambient air temperature exceeds 70°F, the relative humidity is high (>50 percent), or when workers exhibit symptoms of heat stress.
The heart rate (HR) should be measured by the radial pulse for 30 seconds, as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 100 beats/minute, or 20 beats/minute above resting pulse. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 100 beats/minute at the beginning of the next rest period, the work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 100 beats/minute, or 20 beats/minute above resting pulse.

2.2.8 Other General Hazards

Blisters	• Blisters most commonly occur on the feet, especially if someone uses inappropriate socks, wet socks or boots, or boots that do not fit or are not broken in. • Preventing blisters is the most important first aid: if someone feels a "hot spot" starting (from friction between the skin and the boot) stop immediately and do something about it. Place a thin layer of moleskin or (believe it or not) duct tape on the affected area. If you don't take care of the hot spot, it will become a blister: in this case, use the moleskin, but with a hole in it, so that you don't place adhesive directly over the blister. You want to minimize pressure on the blister by building up protective padding around it, but not too much or you'll cause more problems. Generally you should not pop blisters, both because they can become infected, and because they may become more painful as you continue to walk.
Sunburn	• Sunburn can increase risk of cancer. Also, by the time we feel sunburnt, it's too late. This is especially true in winter, when we don't feel hot even though the sun beats down on us and reflects off the snow into our faces. • We can best prevent sunburn by covering up and by frequently applying copious amounts of sunblock with a high SPF rating (16 or higher). • First aid is the same as for any burn: if the skin is blistered, cover it with a loose sterile gauze dressing
Headaches	• Headaches result from many different things: dehydration, sunlight, tension, etc. • You can best treat the headache by treating the cause, if you know it. • Suggest that the person affected take aspirin, acetaminophen (e.g., Tylenol), or ibuprofen (e.g., Advil), drink water, eat a little, and, if possible, take a rest break. • Wearing sunglasses may prevent headaches from too much sunlight.

Nosebleeds	• Nosebleeds more commonly occur in cold than in hot weather because of the very dry air. • If someone gets a nosebleed, try to stop the bleeding by pinching the nostrils with your fingers. • Be patient, because nosebleeds often take a while to stop. • If pinching the nostrils doesn't work, you may insert a small, clean pad of gauze into the affected nostril, and pinch it again. • If someone is prone to nosebleeds, especially in cold weather, it may help to wear a bandanna over the nose and mouth. • As he or she breathes out, the bandanna traps some warmer, moist air, which may be enough to prevent a nosebleed.
Fainting	• Fainting results from loss of blood from the brain and is best treated by lowering the head in relation to the heart. • If someone feels faint, have him or her sit down, or lie down (on a sleeping pad or some other insulation, if possible) until feeling better. • Only allow him or her to stand up slowly when he or she feels able
Cuts and Scrapes	• Take the time to wash the cut with soap and water, or an antiseptic towelette. • Cleaning the wound immediately will help prevent infection later
Cramps	• If someone experiences muscle cramps, have him or her sit or lie down and relax. • Massage and stretch the sore muscle slowly, gently, and carefully. • Have him or her drink water, eat a little, and start again slowly. • Drinking a sports drink like Gatorade will help replace salts that are lost because of sweating. • Replacing these salts may help reduce the muscle cramps and prevent them from recurring.
Sprains	• If the sprain is minor, the victim may be able to walk with little or no assistance. • To reduce the swelling of a minor sprain, you must put ice on the injury (of course, be careful of frostbite and hypothermia in cold weather). • You will also need to tape the injured joint using sports tape or an ace bandage and allow the injured person to take ibuprofen (only if they are not allergic to aspirin), if they intend to walk out. • On the other hand, major sprains may appear to be fractures and should be treated as such. • Splint the injury and plan the best way to get the victim to medical care.
Drinking Water	• Never drink untreated water from streams or lakes. • Many areas are prone to natural contamination (e.g., giardia). • All drinking water must be packed in, or properly treated.

2.3 Biological Hazards and Controls

2.3.1 Snakes

Snakes typically are found in underbrush and tall grassy areas. If you encounter a snake, stay calm and look around; there may be other snakes. Turn around and walk away on the same path you used to approach the area. If a person is bitten by a snake, wash and immobilize the injured area, keeping it lower than the heart if possible. Seek medical attention immediately. **DO NOT** apply ice, cut the wound, or apply a tourniquet. Try to identify the type of snake: note color, size, patterns, and markings.

2.3.2 Poison Ivy and Poison Sumac

Poison ivy, poison oak, and poison sumac typically are found in brush or wooded areas. They are more commonly found in moist areas or along the edges of wooded areas. Become familiar with the identity of these plants. Wear protective clothing that covers exposed skin and clothes. Avoid contact with plants and the outside of protective clothing. If skin contacts a plant, wash the area with soap and water immediately. If the reaction is severe or worsens, seek medical attention.

2.3.3 Ticks

Ticks typically are in wooded areas, bushes, tall grass, and brush. Ticks are black, black and red, or brown and can be up to one-quarter inch in size. Wear tightly woven light-colored clothing with long sleeves and pant legs tucked into boots; spray **only outside** of clothing with permethrin or permanone and spray skin with only DEET; and check yourself frequently for ticks.

If bitten by a tick, grasp it at the point of attachment and carefully remove it. After removing the tick, wash your hands and disinfect and press the bite areas. Save the removed tick. Report the bite to human resources. Look for symptoms of Lyme disease or Rocky Mountain spotted fever (RMSF). Lyme: a rash might appear that looks like a bullseye with a small welt in the center. RMSF: a rash of red spots under the skin 3 to 10 days after the tick bite. In both cases, chills, fever, headache, fatigue, stiff neck, and bone pain may develop. If symptoms appear, seek medical attention.

2.3.4 Bees and Other Stinging Insects

Bee and other stinging insects may be encountered almost anywhere and may present a serious hazard, particularly to people who are allergic. Watch for and avoid nests. Keep exposed skin to a minimum. Carry a kit if you have had allergic reactions in the past, and inform the SC and/or buddy. If a stinger is present, remove it carefully with tweezers. Wash and disinfect the wound, cover it, and apply ice. Watch for allergic reaction; seek medical attention if a reaction develops.

2.3.5 Bloodborne Pathogens

(Reference CH2M HILL SOP HS-36, *Bloodborne Pathogens*)

Exposure to bloodborne pathogens may occur when rendering first aid or CPR, or when coming into contact with landfill waste or waste streams containing potentially infectious material. Exposure controls and personal protective equipment (PPE) are required as specified in CH2M HILL SOP HS-36, *Bloodborne Pathogens*. Hepatitis B vaccination must be offered before the person participates in a task where exposure is a possibility.

2.5 Contaminants of Concern

(Refer to Project Files for more detailed contaminant information)

Contaminant	Location and Maximum[a] Concentration (ppm)	Exposure Limit[b]	IDLH[c]	Symptoms and Effects of Exposure	PIP[d] (eV)
Asbestos	Soil: <0.1% to 5%	0.1 f/cc	NA	The OSHA definition of asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered. Excessive inhalation of asbestos fibers causes chronic inflammation of lung tissue and pleural membranes. Asbestosis fibers can cause a fibrosis of the lung and thickening of the linings of the lung resulting in impaired lung function manifested by breathlessness and increased effort in breathing. OSHA, NIOSH, and ACGIH recognize asbestos as a human carcinogen, primarily linked to lung cancer but also associated with other forms of cancer. Symptoms of asbestos exposure may not appear for many years following initial exposure. Asbestos is known to the State of California to cause cancer under the criteria of Proposition 65.	NA

Footnotes:

[a] Specify sample-designation and media: SB (Soil Boring), A (Air), D (Drums), GW (Groundwater), L (Lagoon), TK (Tank), S (Surface Soil), SL (Sludge), SW (Surface Water).

[b] Appropriate value of PEL, REL, or TLV listed.

[c] IDLH = immediately dangerous to life and health (units are the same as specified "Exposure Limit" units for that contaminant); NL = No limit found in reference materials; CA = Potential occupational carcinogen.

[d] PIP = photoionization potential; NA = Not applicable; UK = Unknown.

2.6 Potential Routes of Exposure

Dermal: Contact with contaminated media. This route of exposure is minimized through proper use of PPE, as specified in Section 4.	**Inhalation:** Vapors and contaminated particulates. This route of exposure is minimized through proper respiratory protection and monitoring, as specified in Sections 4 and 5, respectively.	**Other:** Inadvertent ingestion of contaminated media. This route should not present a concern if good hygiene practices are followed (e.g., wash hands and face before drinking or smoking).

3 Project Organization and Personnel

3.1 CH2M HILL Employee Medical Surveillance and Training

(Reference CH2M HILL SOPs HS-01, *Medical Surveillance,* and HS-02, *Health and Safety Training)*

The following personnel working on this project have received training and medical surveillance that is appropriate to the field work being conducted on this project.

Employee Name	Office	Responsibility	Training
Mike Sanchez	RDD	Motorcycle Rider	40-hour, Respiratory Protection, Asbestos Awareness, Safety Coordinator and Medical Surveillance
David Golles	SCO	Motrocycle rider, SSC	40-hour, Respiratory Protection, Medical Surveillance, Asbestos Awareness, SSC, FA/CPR
Sandra Shearer	RDD	Motorcycle Rider	Level C, SSC, FA/CPR
Richard Braun	SCO	Human Health Risk Assessor/Observation of Air Monitoring	40-hour, Asbestos Awareness
William Heung	SAC	Field Team	Level C,
Rick Cavil	SFO	HSM, Field Team	Level C, FA/CPR, SSC
Caroline Ziegler	SFO	PM	Level D,

3.2 Field Team Chain of Command and Communication Procedures

3.2.1 Client

Contact Name:
Phone:
Facility Contact Name:
Phone:

3.2.2 CH2M HILL

Project Manager: Caroline Ziegler/SFO
Health and Safety Manager: Rick Cavil/SFO
Field Team Leader: Mike Sanchez /RDD or Dave Golles/SCO
Site Safety Coordinator: Dave Golles/SCO
The SC is responsible for contacting the Field Team Leader and Project Manager. In general, the Project Manager will contact the client. The Health and Safety Manager should be contacted as appropriate.

3.2.3 CH2M HILL Subcontractors

(Reference CH2M HILL SOP HS-55, *Subcontractor, Contractor, and Owner*)

No field subcontractor are anticipated.

The subcontractors listed above are covered by this HSP and must be provided a copy of this plan. However, this plan does not address hazards associated with the tasks and equipment that the subcontractor has expertise in (e.g., drilling, excavation work, electrical). Subcontractors are responsible for the health and safety procedures specific to their work, and are required to submit these procedures to CH2M HILL for review before the start of field work. Subcontractors

must comply with the established health and safety plan(s). The CH2M HILL SC should verify that subcontractor employee training, medical clearance, and fit test records are current and must monitor and enforce compliance with the established plan(s). CH2M HILL's oversight does not relieve subcontractors of their responsibility for effective implementation and compliance with the established plan(s).

CH2M HILL should continuously endeavor to observe subcontractors' safety performance. This endeavor should be reasonable, and include observing for hazards or unsafe practices that are both readily observable and occur in common work areas. CH2M HILL is not responsible for exhaustive observation for hazards and unsafe practices. Health and safety related communications with CH2M HILL subcontractors should be conducted as follows:

- Brief subcontractors on the provisions of this plan, and require them to sign the Employee Signoff Form included in Attachment 1.
- Request subcontractor(s) to brief the project team on the hazards and precautions related to their work.
- When apparent non-compliance/unsafe conditions or practices are observed, notify the subcontractor safety representative and require corrective action – the subcontractor is responsible for determining and implementing necessary controls and corrective actions.
- When repeat non-compliance/unsafe conditions are observed, notify the subcontractor safety representative and stop affected work until adequate corrective measures are implemented.
- When an apparent imminent danger exists, immediately remove all affected CH2M HILL employees and subcontractors, notify subcontractor safety representative, and stop affected work until adequate corrective measures are implemented. Notify the Project Manager and HSM as appropriate.
- Document all oral health and safety related communications in project field logbook, daily reports, or other records.

4 Personal Protective Equipment (PPE)

(Reference CH2M HILL SOP HS-07, *Personal Protective Equipment*, HS-08, *Respiratory Protection*)

PPE Specifications [a]

Task	Level	Body	Head	Respirator [b]
• General site entry • Surveying • Oversight of testing • Decon	D	Work clothes; leather work boots; work glove.	Sun hat Safety glasses	N-100 required
• Walking, camping in areas of non dust generation • Equipment decon (without dust generation)	Modified D	**Coveralls**: Cloth reuseable **Boots:** Leather work boots **Gloves:** Nitrile gloves required if handling dirty equipment contaminated with local soils.	Sun Hat Safety sun glasses	None required.
• Air Sampling using 2 wheel Motorcycle, SUV or ATV	C	**Coveralls:** Uncoated Tyvek® or coveralls. **Boots:** Steel-toe, leather work boots **Gloves:** Padded motorcycle gloves.	DOT/ANSI rated Helmet Ear protection [d] Safety glasses or goggles.	Respro Sporta Filtering Face Mask with HEPA filters or N-100
• Equipment decontamination when dust is generated (i.e., dry sweeping, etc.)	C	**Coveralls:** Uncoated Tyvek® or coveralls. **Boots:** Steel-toe, leather work boots **Gloves:** Nitrile gloves.	Ear protection [d] Safety glasses or goggles.	Respro Sporta Filtering Face Mask with HEPA filters

Reasons for Upgrading or Downgrading Level of Protection

Upgrade [f]	Downgrade
• Request from individual performing tasks. • Change in work tasks that will increase contact or potential contact with hazardous materials. • Occurrence or likely occurrence of gas or vapor emission. • Known or suspected presence of dermal hazards. • Instrument action levels (Section 5) exceeded.	• New information indicating that situation is less hazardous than originally thought. • Change in site conditions that decreases the hazard. • Change in work task that will reduce contact with hazardous materials.

[a] Modifications are as indicated. CH2M HILL will provide PPE only to CH2M HILL employees.

[b] No facial hair that would interfere with respirator fit is permitted.

[c] Hardhat and splash-shield areas are to be determined by the SC.

[d] Ear protection should be worn when conversations cannot be held at distances of 3 feet or less without shouting.

[e] Cartridge change-out schedule is at least every 8 hours (or one work day), except if relative humidity is > 85%, or if organic vapor measurements are > midpoint of Level C range (refer to Section 5)--then at least every 4 hours. If encountered conditions are different than those anticipated in this HSP, contact the HSM.

[f] Performing a task that requires an upgrade to a higher level of protection (e.g., Level D to Level C) is permitted only when the PPE requirements have been approved by the HSM, and an SC qualified at that level is present.

5 Air Monitoring/Sampling

(Reference CH2M HILL SOP HS-06, *Air Monitoring)*

5.1 Air Monitoring Specifications

Industrial hygiene monitoring for asbestos will be performed during field activities to evaluate exposures for all personnel riding and walking around the site. Since we currently do not know the level of asbestos airborne present these areas, personnel performing dust generating activities will be required to wear respiratory protection as outlined in Section 4.

Real-time air monitoring will not be performed during this 2-3 days field evaluation since quantitative samples are being collected to evaluate exposure and exposure potentials.

6 Decontamination

(Reference CH2M HILL SOP HS-13, *Decontamination*)

The SC must establish and monitor the decontamination procedures and their effectiveness. Decontamination procedures found to be ineffective will be modified by the SC. The SC must ensure that procedures are established for disposing of materials generated on the site.

6.1 Decontamination Specifications

Personnel	Sample Equipment	Heavy Equipment
• Outer-glove removal • Body-suit removal • Hand wash/rinse • Face wash/rinse • Shower ASAP • Dispose of PPE in municipal trash, or contain for disposal • Dispose of personnel rinse water to facility or sanitary sewer, or contain for offsite disposal	• Vacuum or wash equipment as necessary	• Vacuum or wash as appropriate

7 Spill-Containment Procedures

N/A

8 Site-Control Plan

8.1 Site-Control Procedures

(Reference CH2M HILL SOP HS-11, *Site Control)*

- The SC will conduct a site safety briefing (see below) before starting field activities or as tasks and site conditions change.
- Topics for briefing on site safety: general discussion of Health and Safety Plan, site-specific hazards, equipment operation, PPE requirements, special procedures, emergencies.
- The SC records attendance at safety briefings in a logbook and documents the topics discussed.
- Establish onsite communication consisting of the following:
  - Line-of-sight and hand signals
  - Air horn
  - Two-way radio or cellular telephone if available
- Establish offsite communication.
- Establish and maintain the "buddy system."
- The SCC is to conduct periodic inspections of work practices to determine the effectiveness of this plan – refer to Sections 2 and 3. Deficiencies are to be noted, reported to the HSM, and corrected.

9 Emergency Response Plan

(Reference CH2M HILL, SOP HS-12, *Emergency Response*)

9.1 Pre-Emergency Planning

The SC performs the applicable pre-emergency planning tasks before starting field activities and coordinates emergency response with CH2M HILL onsite parties, the facility, and local emergency-service providers as appropriate.

- Review the site emergency and contingency plans where applicable.
- Determine what onsite communication equipment is available (e.g., two-way radio, air horn).
- Determine what offsite communication equipment is needed (e.g., nearest telephone, cell phone).
- Confirm and post emergency telephone numbers, evacuation routes, assembly areas, and route to hospital; communicate the information to onsite personnel.
- Review changed site conditions, onsite operations, and personnel availability in relation to emergency response procedures.
- Where appropriate and acceptable to the client, inform emergency room and ambulance and emergency response teams of anticipated types of site emergencies.
- Designate one vehicle as the emergency vehicle; place hospital directions and map inside; keep keys in ignition during field activities.
- Inventory and check site emergency equipment, supplies, and potable water.
- Communicate emergency procedures for personnel injury, exposures, fires, explosions, and releases.
- Rehearse the emergency response plan before site activities begin, including driving route to hospital.
- Brief new workers on the emergency response plan.

The SC will evaluate emergency response actions and initiate appropriate follow-up actions.

9.2 Emergency Equipment and Supplies

The SC should mark the locations of emergency equipment on the site map and post the map.

Emergency Equipment and Supplies	Location
20 LB (or two 10-lb) fire extinguisher (A, B, and C classes)	Support Zone/Staging area/4WD Vehicles
First aid kit	Support Zone
Eye Wash	Support & Decon Zone
Potable water	Support & Decon Zone
Bloodborne-pathogen kit	Support Zone
Communication equipment	Satellite phone, set of 4
Additional equipment (specify):	Tow straps with 4WD vehicles

9.3 Incident Response

In fires, explosions, or chemical releases, actions to be taken include the following:

- Shut down CH2M HILL operations and evacuate the immediate work area.
- Notify appropriate response personnel.
- Account for personnel at the designated assembly area(s).
- Assess the need for site evacuation, and evacuate the site as warranted.

Instead of implementing a work-area evacuation, note that small fires or spills posing minimal safety or health hazards may be controlled.

9.4 Emergency Medical Treatment

The procedures listed below may also be applied to non-emergency incidents. Injuries and illnesses (including overexposure to contaminants) must be reported to Human Resources. If there is doubt about whether medical treatment is necessary, or if the injured person is reluctant to accept medical treatment, contact the CH2M HILL medical consultant. During non-emergencies, follow these procedures as appropriate.

- Notify appropriate emergency response authorities listed in Section 9.8 (e.g., 911).
- The SCC will assume charge during a medical emergency until the ambulance arrives or until the injured person is admitted to the emergency room.
- Prevent further injury.
- Initiate first aid and CPR where feasible.
- Get medical attention immediately.
- Perform decontamination where feasible; lifesaving and first aid or medical treatment take priority.
- Make certain that the injured person is accompanied to the emergency room.
- When contacting the medical consultant, state that the situation is a CH2M HILL matter, and give your name and telephone number, the name of the injured person, the extent of the injury or exposure, and the name and location of the medical facility where the injured person was taken.
- Report incident as outlined in Section 9.7.

9.5 Evacuation

- Evacuation routes and assembly areas (and alternative routes and assembly areas) are specified on the site map.
- Evacuation route(s) and assembly area(s) will be designated by the SC before work begins.
- Personnel will assemble at the assembly area(s) upon hearing the emergency signal for evacuation.
- The SC and a "buddy" will remain on the site after the site has been evacuated (if safe) to assist local responders and advise them of the nature and location of the incident.
- The SC will account for all personnel in the onsite assembly area.
- A designated person will account for personnel at alternate assembly area(s).
- The SC will write up the incident as soon as possible after it occurs and submit a report to the Corporate Director of Health and Safety.

9.6 Evacuation Signals

Signal	Meaning
Grasping throat with hand	Emergency-help me.
Thumbs up	OK; understood.
Grasping buddy's wrist	Leave area now.
Continuous sounding of horn	Emergency; leave site now.

9.7 Incident Notification and Reporting

- Upon any project incident (fire, spill, injury, near miss, death, etc.), immediately notify the PM and HSM. Call emergency beeper number if HSM is unavailable.
- For CH2M HILL work-related injuries or illnesses, contact and help Human Resources administrator complete an Incident Report Form (IRF). IRF must be completed within 24 hours of incident.
- For CH2M HILL subcontractor incidents, complete the Subcontractor Accident/Illness Report Form and submit to the HSM.
- Notify and submit reports to client as required in contract.

10 Approval

This site-specific Health and Safety Plan has been written for use by CH2M HILL only. CH2M HILL claims no responsibility for its use by others unless that use has been specified and defined in project or contract documents. The plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if those conditions change.

10.1 Original Plan

Written By: Rick Cavil/SFO **Date: July 1, 2004**

Approved By: Trish Danby/SAC **Date: August 4, 2004**

10.2 Revisions

Revisions Made By: Rick Cavil/SFO **Date: 09/17/2004**

Revisions to Plan: Section 2.1.5, staff updates, communication needs.

Revisions Approved By: Rick Cavil/SFO **Date: 09/17/2004**

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11 Attachments

Attachment 1: **Employee Signoff Form – Field Safety Instructions**
Attachment 2: **Project-Specific Chemical Product Hazard Communication Form**
Attachment 3: **Chemical-Specific Training Form**
Attachment 4: **Emergency Contacts**
Attachment 5: **Applicable Material Safety Data Sheets**

EMPLOYEE SIGNOFF FORM

Health and Safety Plan

The CH2M HILL project employees and subcontractors listed below have been provided with a copy of this HSP, have read and understood it, and agree to abide by its provisions.

Project Name: Atlas Asbestos/Clear Creek Management Area **Project Number:** 175843

EMPLOYEE NAME (Please print)	EMPLOYEE SIGNATURE	COMPANY	DATE

Project-Specific Chemical Product Hazard Communication Form

This form must be completed prior to performing activities that expose personnel to hazardous chemicals products. Upon completion of this form, the SC shall verify that training is provided on the hazards associated with these chemicals and the control measures to be used to prevent exposure to CH2M HILL and subcontractor personnel. Labeling and MSDS systems will also be explained.

Project Name: Atlas Asbestos/Clear Creek Management Area **Project Number:** 175843

MSDSs will be maintained at the following location(s): Staging area

Hazardous Chemical Products Inventory

Chemical	Quantity	Location	MSDS Available	Container labels	
				Identity	Hazard
Gasoline					

Refer to SOP HS-05 *Hazard Communication* for more detailed information.

CH2MHILL

CHEMICAL-SPECIFIC TRAINING FORM

Location:	Project # : 175843
HCC:	Trainer:

TRAINING PARTICIPANTS:

NAME	SIGNATURE	NAME	SIGNATURE

REGULATED PRODUCTS/TASKS COVERED BY THIS TRAINING:

The HCC shall use the product MSDS to provide the following information concerning each of the products listed above.

☐ Physical and health hazards

☐ Control measures that can be used to provide protection (including appropriate work practices, emergency procedures, and personal protective equipment to be used)

☐ Methods and observations used to detect the presence or release of the regulated product in the workplace (including periodic monitoring, continuous monitoring devices, visual appearance or odor of regulated product when being released, etc.)

Training participants shall have the opportunity to ask questions concerning these products and, upon completion of this training, will understand the product hazards and appropriate control measures available for their protection.

Copies of MSDSs, chemical inventories, and CH2M HILL's written hazard communication program shall be made available for employee review in the facility/project hazard communication file.

Emergency Contacts

24-hour CH2M HILL Emergency Beeper – 888/444-1226

Medical Emergency – 911
Facility Medical Response #:
Local Ambulance #:

CH2M HILL Medical Consultant
Health Resources
Dr. Jerry H. Berke, M.D., M.P.H.
600 West Cummings Park, Suite 3400
Woburn, MA 01801-6350
1-800-350-4511 (0800-2300 EST, M-F)
all other times 1-800-978-7003
(After hours calls will be returned within 20 minutes)

Fire/Spill Emergency -- 911
Facility Fire Response #:
Local Fire Dept #:

Corporate Director He[redacted]onment
Name: Dave McCormack/SEA
Phone: 425/453-5000 ext. 5417
24-hour emergency beeper: 888-444-1226

Security & Police – 911
Facility Security #:
Local Police #:

Health & Safety Manager (HSM)
Name: Rick Cavil/SFO
Phone: 510-251-2426 x7502 or cell 408-896-0140

Safety Coordinator (SC)
Name:
Phone:

Regional Human Resources Department
Name: Lisa Covey/SAC
Phone: 916/286-0253

Project Manager (PM)
Name: Caroline Ziegler/SFO
Phone: 510-251-2426 x7704

Corporate Human Resources Department
Name: Pete Hannan/COR
Phone: 720-286-3077

Federal Express Dangerous Goods Shipping
Phone: 800/238-5355

CH2M HILL Emergency Number for Shipping Dangerous Goods
Phone: 800/255-3924

Worker's Compensation:
Contact Regional HR dept. to have form completed or contact Julie Zimmerman after hours: 720-286-2375

Automobile Accidents:
Rental: Carol Dietz/COR 720-286-2757
CH2M HILL owned vehicle:
Zurich Insurance Co. 800/987-3373

Contact the PM. Generally, the PM will contact relevant government agencies.

Facility Alarms:

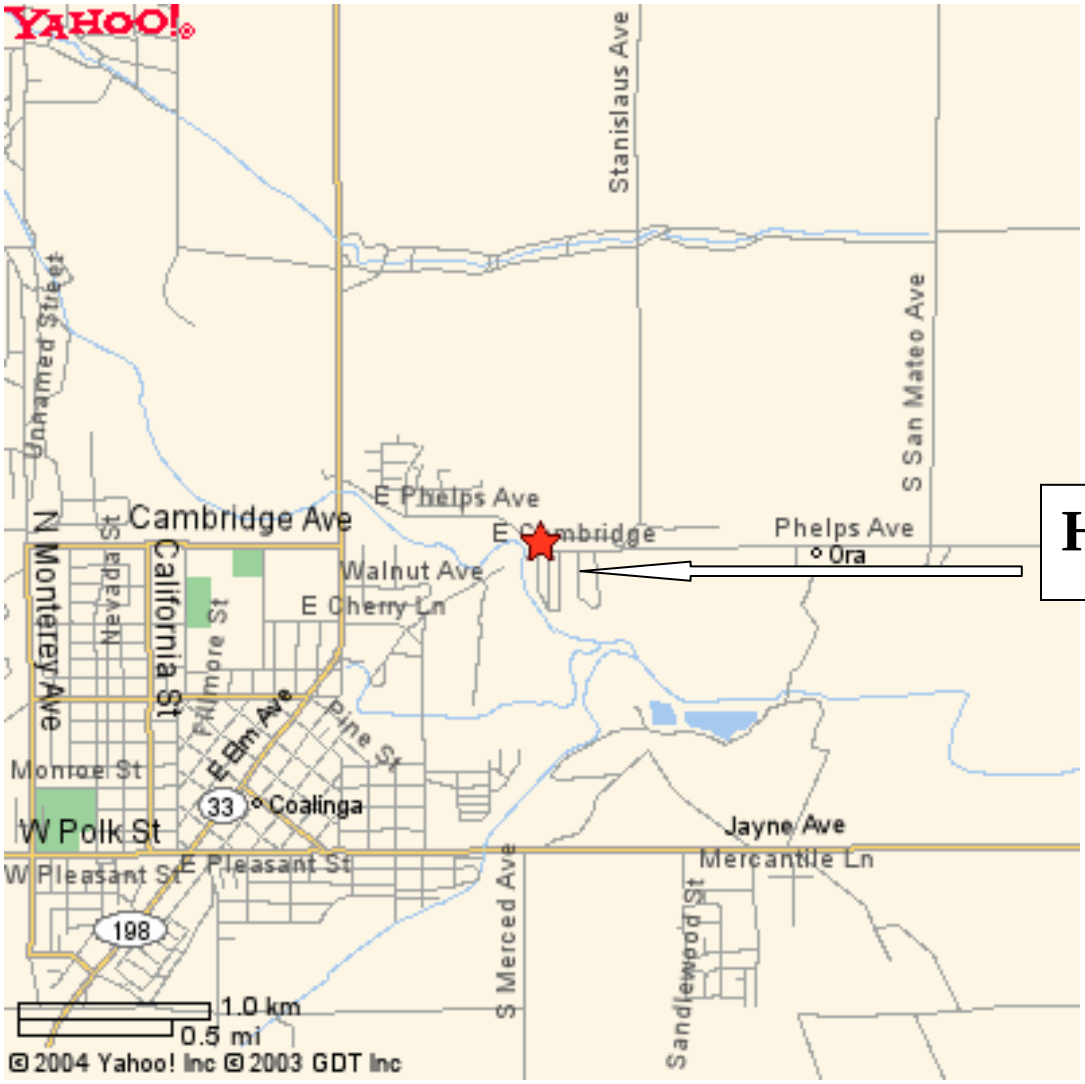
Evacuation Assembly Area(s):

Facility/Site Evacuation Route(s):

Hospital Name/Address: Coalinga Regional Medical Center
1191 Phelps Ave.
Coalinga CA 93210

Hospital Phone #: (559) 935-6400

Directions to Hospital



Hospital

CH2M HILL HEALTH AND SAFETY PLAN

Attachment 5

Applicable Material Safety Data Sheets

Include MSDS for Gasoline