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# SITE HEALTH AND SAFETY PLAN

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## PREPARED FOR

2014 Groundwater Investigation  
Fremont County, Pavillion, Wyoming  
Wyoming Department of Environmental Quality  
122 West 25<sup>th</sup> Street, 4 West  
Cheyenne, Wyoming 82002

## PREPARED BY

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AME Project Number 90081.01s

## PREPARER



Kyle G. Emery  
Site Safety Officer

Date 6/6/2014

## REVIEWER



Barbara J. Mickelson, P.E.  
Wyoming Professional Engineer #3866

Date 6/6/2014



Michael A. Acton  
Principal/Project Manager

Date 6/6/2014

**JUNE 6, 2014**

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<b>A. GENERAL INFORMATION</b>	
Client <i>Wyoming Department of Environmental Quality (WDEQ)</i>	AME Project No. <i>90081.01</i>
Site Name <i>Pavillion Area</i>	Client Claim/P.O. No.
Site Location <i>Approximately 5 miles east-northeast of Pavillion, Wyoming</i>	Project Manager <i>Jeff Heglie</i>
Site Owner <i>N/A</i>	See <b>FIGURE 1</b> for site details
Plan Prepared <i>Kyle Emery</i>	Date <i>May 16, 2014</i>
Approved By <i>Michael Acton</i>	Date <i>May 16, 2014</i>
Revised By <i>Kyle Emery</i>	Date <i>June 6, 2014</i>
Revision Approved By <i>Michael Acton</i>	Date <i>June 6, 2014</i>
Proposed Date of Investigation	Date <i>June 9<sup>th</sup> to June 21<sup>st</sup>, 2014</i>
<p><b>Objectives:</b> Phase I: Conduct site reconnaissance of up to 13 domestic water supply wells in general accordance with the Pavillion 2014 Groundwater Investigation Phase I Sampling Expert Scope of Work. Phase II: Conduct groundwater sampling of up to 14 domestic or stock water supply wells in accordance with the Sampling Analysis Plan and Quality Assurance Project Plan.</p>	
<p>Hazard Summary/Level of Protection:</p> <p>A <input type="checkbox"/>      B <input type="checkbox"/>      C <input type="checkbox"/>      D <input checked="" type="checkbox"/> (with modifications--see Section D)</p>	
<p>Summary of Available Information:</p> <ol style="list-style-type: none"> <li>1. The Town of Pavillion, Wyoming is a small, rural, and agricultural community in north-central Fremont County, Wyoming. The population was 231 at the 2010 census.</li> <li>2. The town is located approximately 25 miles northwest of Riverton, Wyoming.</li> <li>3. The concern is groundwater contamination, based on resident complaints of odor, taste, and adverse changes in water quality in domestic wells.</li> <li>4. The U. S. Environmental Protection Agency (EPA) was first contacted by community members in 2008.</li> <li>5. EPA performed two rounds of investigations during 2009-2010, to evaluate potential impact to human health and the environment.</li> <li>6. EPA reported low levels of organic compounds in drinking water wells.</li> <li>7. In August 2010, the EPA advised the rural residents living in the area of Pavillion not to drink water from their private domestic wells</li> </ol>	
<p>Sources of Background Information:</p> <p>James Gores &amp; Associates. 2011. <i>Pavillion Area Water Supply Level I Study</i>. October. U.S. Environmental Protection Agency. 2010. <i>January 2010 Sampling Results and Site Update</i>. August</p>	

<b>B. EMERGENCY INFORMATION</b>		
<b>LOCAL EMERGENCY TELEPHONE NUMBERS (INCLUDE AREA CODES):</b>		
Ambulance	(911)	
Hospital Emergency Room <i>Riverton Memorial Hospital</i>	(307) 857-3445 – Emergency Room (ER) (307) 857-5285 – Main	
Poison Control Center ( <i>located in Nebraska</i> )	(911) or (800) 222-1222	
Fire Department	(911)	
Police ( <i>Riverton City Police Dept.</i> )	(911) or ((307) 856-4891 – Non-emergency)	
Explosives Unit	(911)	
<b>NOTE:</b> If you list 911, check to be sure it is activated in the site area and determine whether it is enhanced.		
<b>SITE RESOURCES</b>		
Water supply available onsite:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Telephone available onsite:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Restrooms available onsite:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Other resources available onsite	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If yes, identify: <i>Company cellular phone will be on location, but coverage may be unreliable at times.</i>		
If you answered "no" to any of the above questions, identify the closest available facility and provide directions.  <i>Restrooms are available at the Ocean Lake Campground located generally south of the work area or the Pavillion Community Center located approximately 5 miles to the southwest of the work area. Water supply and restrooms are also available approximately 25 miles southeast in Riverton.</i>		
EMERGENCY CONTACTS	Phone Number (include area codes)	
	Work Phone	Cellular Phone
Project Manager <i>Jeff Heglie</i>	(541) 488-9255	(916) 804-6484
Principal-in-Charge <i>Michael Acton</i>	(916) 939-9102	(916) 835-0051
Health and Safety Officer <i>Michael Acton</i>	(916) 939-9102	(916) 835-0051
Site Contact <i>Deborah Harris or Jim O'Connor</i>	(307) 332-3144	(307) 480-0303
Regulatory Consultants		
WDEQ-DWQ, Lander, Wyoming. <i>Deborah Harris or Jim O'Connor</i>	(307) 332-3144	(307) 480-0303
WDEQ, Cheyenne, Wyoming, <i>Mark Thiesse</i>	(307) 777-7072	(307) 509-9467

**C. EMERGENCY ROUTES**

Give name, address, telephone number, directions, distance and time estimate, and map.

**HOSPITAL:** *Riverton Memorial Hospital, 2100 W Sunset Drive, Riverton ,Wyoming 82501 (307) 857-3445-ER or (307) 857-5285-main*

*FIGURE 2 is includes two maps with routes to the hospital.*

**DIRECTIONS:****Hospital and Emergency Room****Route 1**

- Travel **West** on **E Pavillion Road** toward State Highway 133 ( WY-133)
- Turn **Left** onto **Gabes**, go 2.0 miles
- Turn **Right** onto **Missouri Valley Road/WY-134**, go 1.9 miles
- Turn **Left** (South) onto **WY-133**, go 4.1 miles
- Turn **Left** onto **US Highway 26** (US-26 E), go 17.0 miles
- Turn **Left** onto **College View Drive**, go 0.5 miles
- Take the 3<sup>rd</sup> **Right** onto **W Sunset Drive**, go 0.1 miles
- **2100 W Sunset Drive** is on the left

**Route 2**

- Travel **East** on **E Pavillion Road** toward Williams Road
- Turn **Right** onto **Williams Road**, go 1.9 miles
- Continue onto **Tunnel Hill Road**, go 0.8 miles
- Turn **Left** onto **Missouri Valley Road/WY-134**, go 2.0 miles
- Turn **Right** onto **8 Mile Road**, go 9.0 miles
- Turn **Left** onto **US Highway 26** (US-26 E), go 6.7 miles
- Turn **Left** onto **College View Drive**, go 0.5 miles
- Take the 3<sup>rd</sup> **Right** onto **W Sunset Drive**, go 0.1 miles
- **2100 W Sunset Drive** is on the left

<b>D. SITE/WASTE CHARACTERISTICS</b>				
Waste/Contaminant Type(s):	<input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Soil <input type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Gas			
Characteristic(s):	<input type="checkbox"/> Corrosive <input checked="" type="checkbox"/> Ignitable <input type="checkbox"/> Radioactive <input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Volatile <input checked="" type="checkbox"/> Toxic <input type="checkbox"/> Reactive <input type="checkbox"/> Other____			
<b>Major Spills/Releases</b>				
Release Type	Date	Chemical	Quantity	Contaminated Media*
N/A				
*Air, surface water, soil, or ground water.				
Free Product: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>Not expected in this scope of work</i>		Dissolved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Have removal actions occurred? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe:				
General Facility Description: <i>Farming/ranching mixed with oil and gas development.</i>				
Site Characterization: <i>The EPA conducted four sampling events between March 2009 and April 2011, which included installation of two deep groundwater monitoring wells and six small diameter groundwater monitoring wells.</i>				
Description:    Active <input checked="" type="checkbox"/> Closed/Abandoned <input type="checkbox"/>				
Site Activities (operations onsite, products, raw materials used, etc.): <i>Agricultural production of hay, hops and alfalfa, and ranching operations (&gt;50 years), with some oil and gas well development since the 1960s.</i>				
How many years has the site been operating? <i>See above.</i>		Was the site used by previous owners? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Describe previous site activity: <i>Farm/ranch operations.</i>				
Surface cover onsite includes:				
<input checked="" type="checkbox"/> Soil/bare ground	<input type="checkbox"/> Clay caps	<input type="checkbox"/> Plastic cover		
<input checked="" type="checkbox"/> Grass	<input type="checkbox"/> Paving/asphalt	<input type="checkbox"/> Water bodies		
<input type="checkbox"/> Woods	<input type="checkbox"/> Swamp	<input checked="" type="checkbox"/> Brush/scrub		
<input checked="" type="checkbox"/> Buildings	<input checked="" type="checkbox"/> Unpaved roads	<input type="checkbox"/> Other		

**D. SITE/WASTE CHARACTERISTICS (continued)**

Site surface area estimated at: *Up to 13 domestic supply well locations on private property.*

Estimated percentage of surface area: Paved <u>1 %  
 Vegetated <u>49 %  
 Bare soil <u>49 %  
 Under water <u>1 %

Potential for dust generation onsite:  High  Medium  Low

Any site access restrictions:  Yes  No

*Private Property*

- Fenced/locked
- Posting (signs)
- Security guards

Is there evidence of public access to the site:  Yes  No

If yes, describe:

*Each domestic water supply well is located on private property, which may be secured by fences and gates.*

**CHEMICALS/WASTE STORED ONSITE:**

	Quantity	Size	Chemical
<input type="checkbox"/> Drums	<i>Unknown</i>		
<input type="checkbox"/> Tanks	<i>Unknown</i>		
<input type="checkbox"/> Vats	<i>Unknown</i>		
<input type="checkbox"/> Surface Impoundments	<i>Unknown</i>		
<input type="checkbox"/> Pits/Landfills	<i>Unknown</i>		
<input type="checkbox"/> Other	<i>Unknown</i>		

Utilities Location/Ownership (electrical, gas, telephone, cable TV):

*Unknown*

History (worker or non-worker injury; complaints from public; previous agency action):

*Unknown*

**D. SITE/WASTE CHARACTERISTICS (continued)**

Have citizen complaints been filed regarding the site:      Yes                    No

If yes, describe:

*Some domestic water supply well owners first contacted EPA in 2008 regarding perceived changes in well water quality (e.g., odor, taste).*

Are regulatory agencies involved with the site:                    Yes            No

If yes, are they:      federal            state            local

**REGULATORY CONTACTS**

Name	Agency	Phone
<i>Ms. Deborah Harris or Jim O'Connor</i>	<i>WDEQ-DWQ, Lander, Wyoming</i>	<i>(307) 332-3144</i>
<i>Mr. Mark Thiesse</i>	<i>WDEQ,</i>	<i>(307) 777-7072</i>

<b>E. HAZARD EVALUATION</b>																												
<b>E1. Chemical Hazards</b>																												
List all chemicals below that have been identified or are suspected onsite and their maximum concentrations in soil/water. For chemicals not shown in an appendix, enter the hazardous property information in the spaces provided.																												
Chemical Name	PEL/TLV	Maximum Concentration in Soil µg/kg (ppb)	Maximum Concentration in Water µg/L (ppb)	Health Hazards/ Comments																								
<i>Gasoline</i>	<i>300 ppm</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Flammable</i>																								
<i>Benzene</i>	<i>0.1 ppm</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Carcinogen</i>																								
<i>Xylenes</i>	<i>100 ppm</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Absorbed through skin</i>																								
<i>Methane</i>	<i>1,000 ppm</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Extremely Flammable Simple Asphyxiant</i>																								
<i>Hydrogen Sulfide</i>	<i>10 ppm</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Flammable, Poisonous Gas</i>																								
<i>Napthalene</i>	<i>10 ppm</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Flammable</i>																								
PEL = Permissible Exposure Limit TLV = Threshold Limit Value ppm = parts per million																												
<b>Potential Hazards (check boxes that apply to the site):</b>																												
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><input type="checkbox"/> Corroded containers</td> <td style="width: 33%;"><input type="checkbox"/> Visible leachate</td> <td style="width: 33%;"><input type="checkbox"/> Underground tanks</td> </tr> <tr> <td><input type="checkbox"/> Visible soil contamination</td> <td><input checked="" type="checkbox"/> Odors</td> <td><input checked="" type="checkbox"/> Aboveground tanks</td> </tr> <tr> <td><input type="checkbox"/> Observed free product</td> <td><input type="checkbox"/> Dust</td> <td><input type="checkbox"/> Observed tanks</td> </tr> <tr> <td><input type="checkbox"/> Open lagoons</td> <td><input checked="" type="checkbox"/> Open pits</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Air stack emissions</td> <td><input type="checkbox"/> Onsite surface water contamination</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Visible onsite releases</td> <td><input type="checkbox"/> Off-site surface water contamination</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Visible off-site releases</td> <td><input type="checkbox"/> Interior building contamination</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Visible onsite erosion</td> <td><input checked="" type="checkbox"/> No obvious hazards</td> <td></td> </tr> </table>					<input type="checkbox"/> Corroded containers	<input type="checkbox"/> Visible leachate	<input type="checkbox"/> Underground tanks	<input type="checkbox"/> Visible soil contamination	<input checked="" type="checkbox"/> Odors	<input checked="" type="checkbox"/> Aboveground tanks	<input type="checkbox"/> Observed free product	<input type="checkbox"/> Dust	<input type="checkbox"/> Observed tanks	<input type="checkbox"/> Open lagoons	<input checked="" type="checkbox"/> Open pits		<input type="checkbox"/> Air stack emissions	<input type="checkbox"/> Onsite surface water contamination		<input type="checkbox"/> Visible onsite releases	<input type="checkbox"/> Off-site surface water contamination		<input type="checkbox"/> Visible off-site releases	<input type="checkbox"/> Interior building contamination		<input type="checkbox"/> Visible onsite erosion	<input checked="" type="checkbox"/> No obvious hazards	
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<b>E2. Biological Hazards</b>																												
Do biological hazards exist at the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																												
If yes, describe: <u>Insects including ticks, venomous snakes including rattlesnakes, rodents and/or large wildlife may be present at one or all well locations.</u>																												
<b>E3. Physical Hazards</b>																												
Do physical hazards exist at the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																												
If yes, describe: <u>Physical hazards may include removing potentially heavy doors to access sampling locations as well as gaining access to in-ground vaults housing wells and pump equipment. Walking surfaces at wells and sampling location may consist of uneven fields, roads, and/or ditches.</u>																												

<b>F. <u>SITE SAFETY WORK PLAN</u></b>	
Team Members (list names)	Responsibility
<i>Jeff Heglie</i>	<i>Sampling Team Project Manager</i>
<i>Dennis Jones</i>	<i>Sampling Team</i>
<i>Kyle Emery</i>	<i>Sampling Team</i>
<b>PERIMETER ESTABLISHMENT</b>	
Map/Sketch Attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Site Secured: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Perimeter Identified: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Zone(s) of Contamination Identified: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>INVESTIGATION-DERIVED MATERIAL DISPOSAL</b> N/A	
<b>F1. <u>PERSONAL SAFETY</u></b>	
<b>Site Entry Procedures:</b> <i>Read and sign Site Safety and Health Plan located with AME personnel on location.</i>	
<b>Personnel Protection:</b>  Level of Protection: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D	
<b>Modifications:</b>  <ol style="list-style-type: none"> <li>1. All personnel to wear leather boots, safety glasses with side shields, and required hand protection as appropriate.</li> <li>2. All personnel must wear appropriate gloves for working task (i.e. Nitrile gloves while collecting groundwater, impact-resistant gloves when handling heavy materials, etc.).</li> <li>3. Neoprene gloves and/or tyvek/saranax suit should be worn if contact with contaminated water or soil is likely.</li> <li>4. Hearing protection must be worn if noise levels prevent normal conversation at a distance of 3 feet.</li> <li>5. No smoking, eating, or drinking is allowed within the exclusion zone.</li> <li>6. Respiratory protection is dependent on conditions listed in the next section.</li> </ol>	

**F. SITE SAFETY WORK PLAN (continued)**

**SURVEILLANCE EQUIPMENT AND MATERIALS:**

Instrumentation	Action Level	Action
Hydrogen Sulfide (H2S) meter	>10 ppm*	Do not enter area or leave area immediately
Oxygen meter	<19.5% oxygen	Do not enter area or confined space.
Explosimeter (LEL meter)	>10% LEL >20% LEL	Eliminate all ignition sources. Reduce levels immediately or leave site.

\*50 ppm [10-minute maximum peak] IDLH: 100ppm

First Aid Equipment: Standard first aid kit, portable eye wash.

First Aid Procedures: As applicable below.

- Ingestion: DO NOT induce vomiting, summon medical help.
- Inhalation: Move victim to fresh air, seek medical attention if needed.
- Dermal Exposure : Remove contaminated clothing, flush with water.

**DECONTAMINATION PROCEDURE:**

Level:  A  B  C

Special Requirements: Refer to Health and Safety Manual for detailed instructions \_\_\_\_\_

**WORK LIMITATIONS (time of day, weather, heat/cold, stress):**

In high ambient temperatures, follow heat-stress precautions. Provide plenty of cool water and electrolytes (e.g., Gatorade). Remove protective clothing during breaks. Check resting pulse and increase number of breaks if pulse does not return to normal during work breaks.

In cold ambient temperatures (<0° F.), follow hypothermia precautions.

*Work may progress only during daylight hours or under conditions of adequate lighting.*

**ELECTRICAL HAZARDS:**

Utilities located by \_\_\_\_\_ (company) on \_\_\_\_\_ (date) before drilling.

N/A

**TRAINING REQUIREMENTS:**

*Personnel routinely or occasionally working on the site will be trained in general accordance with 8 California Code of Regulations (CCR) 5192. Personnel engaged in a limited number of site visits will meet the requirements of 8 CCR 5194. In addition, these personnel will review the HASP, comply with HASP personal protective equipment (PPE) requirements.*

**CONFINED SPACES:**

*If entry into confined space is necessary, a Confined Space Entry Permit must be completed and authorized, and confined-space entry procedures followed.*

**WELL PURGING AND SAMPLING**

*The following outlines the hazards and precautions applicable to well purging and sampling:*

- *Exposure to vapors of volatile organics when the well sampling location is initially opened.*
- *To prevent contact with contaminated water or product material, provide adequate protective equipment (see below for details).*
- *Slipping on wet or muddy surfaces created by purged water.*
- *Possible water splashing in eyes during sampling.*
- *Eye protection should be worn as appropriate to prevent water splashing into eyes.*
- *There will be no eating, drinking, or smoking while in the designated work area.*
- *Be aware of contact with native wildlife such as rodents, bees, flying ants, spiders, and snakes.*
- *Tripping hazards associated with hoses and cable.*

## CHEMICAL HAZARD PROPERTIES

Parameter	Diesel Fuel	Gasoline	Kerosene	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	n-Hexane	Methane	Hydrogen Sulfide
Water Solubility <sup>1</sup>	Insoluble	Insoluble	Insoluble	0.07%	0.07%	0.01%	0.02%	0.003%	0.002%	3.5%	0.4%
Specific Gravity	0.81 - 0.90	0.72 - 0.76	0.83 - 1.0	0.8765	0.866	0.867	0.088	1.15	0.66	0.422	1.54
Vapor Density	NA <sup>7</sup>	3 - 4	NA	2.8	3.2	3.7		4.42	2.97	0.6	1.19
Flash Point, Degrees F.	130	-45	100 - 65	12	40	55	81	174	-7	-306	-
Vapor Pressure <sup>2</sup>	NA	Variable	5 mm@100°F	75 mm	21 mm	7.1 mm	7 mm	0.08 mm	124 mm	-	-
LEL (%) / UEL (%)	0.6 - 1.3 / 6 - 7.5	1.4 / 7.6	0.7 / 5.0	1.2 / 7.8	1.1 / 7.1	0.8 / 6.7	0.9 / 6.7	0.9 / 5.9	1.4 / 7.5	5.3 / 15	4.0 / 44
LD <sub>50</sub> , mg/kg				3,800	5,000	3,500				-	673
TLV-TWA <sup>3</sup>	None established	300 ppm <sup>8</sup>	None established	0.5 ppm	200 ppm	100 ppm	100 ppm	10 ppm	500 ppm	1,000 ppm	10 ppm
IDLH Level	None established	None established	None established	500 ppm	500 ppm	800 ppm	900 ppm	250 ppm	1,100 ppm	NE / NA <sup>10</sup>	100 ppm
Odor Threshold or Warning Concentration, ppm	0.008	<1	0.008	4.68	0.17 - 40	0.25 - 200				200 ppm	10 ppm <sup>11</sup>
Hazard Property <sup>4</sup>	BCD	BCD	BCD	BCDG	BC	BCD	BCD		B	B	ABCD
Dermal Toxicity <sup>5</sup>	CI	CI	CI	CIG	BHE	CIF	CI	CI	CI	-	
Acute Exposure Symptoms <sup>6</sup>	BCDHFKL MNP	BCEFHKL MNP	BEGHKLMN QR	BKLM R	BEFKM R	BCHKM	ABFHLM NQ	AEKMNQ	BFKL MN	P	CDFK M

**HAZARDOUS PROPERTY INFORMATION  
EXPLANATIONS AND FOOTNOTES**

Water solubility is expressed in different terms in different references. Many references use the term "insoluble" for materials that will not readily mix with water, such as gasoline. However, most of these materials are water soluble at the part per million or part per billion level. Gasoline, for example, is insoluble in the gross sense, and will be found as a discrete layer on top of the groundwater. But certain gasoline constituents, such as benzene, toluene, and xylenes will also be found in solution in the groundwater at the part per million or part per billion level.

1. Water solubility expressed as 0.2 g means 0.2 grams per 100 grams of water at 20° C.
2. Solubility of metals depends on the compound in which they are present.
3. Several chlorinated hydrocarbons exhibit no flash point in the conventional sense, but will burn in the presence of high-energy ignition source or will form explosive mixtures at temperatures above 200° F.
4. Practically nonflammable under standard conditions.
5. Expressed as mm Hg under standard conditions.
6. Explosive concentrations of airborne dust can occur in confined areas.
7. Values for Threshold Limit Value-Time Weighted Average (TLV-TWA) are OSHA Permissible Exposure Limits except where noted in Items 8 and 12.
8. TLV-TWA adopted by the American Conference of Governmental Industrial Hygienists (ACGIH), which is lower than the OSHA's Permissible Exposure Limit (PEL).
9. TLV-TWA recommended by the National Institute of Occupational Safety and Health (NIOSH). A TLV or PEL has not been adopted by the ACGIH or OSHA.

**10. Hazard Properties**

- A – Corrosive
- B - Flammable
- C – Toxic
- D – Volatile
- E – Reactive
- F – Radioactive
- G – Carcinogen
- H – Infectious

**11. Dermal toxicity data are summarized in the following three categories:****a. Skin Penetration**

- A - Negligible penetration (solid-polar)
- B - Slight penetration (solid-nonpolar)
- C - Moderate penetration (liquid/solid-nonpolar)
- D - High penetration (gas/liquid-nonpolar)

**HAZARDOUS PROPERTY INFORMATION****EXPLANATIONS AND FOOTNOTES  
(continued)****b. Systemic Potency**

E - Slight hazard ( $LD_{50} = 500 - 15,000$  mg/kg)  
Lethal dose for 70 kg man = 1 pint to 1 quart

F - Moderate hazard ( $LD_{50} = 500 - 15,000$  mg/kg)  
Lethal dose for 70 kg man = 1 ounce to 1 pint

G - Extreme hazard ( $LD_{50} = 500 - 15,000$  mg/kg)  
Lethal dose for 70 kg man = drops to 20 ml

**c. Local Potency**

H - Slight = reddening of the skin

I - Moderate = irritation/inflammation of skin

J - Extreme = tissue destruction/necrosis

**12. Acute Exposure Symptoms**

A - Abdominal pains

B - Central nervous system

C - Comatose

D - Convulsions

E - Confusion

F - Dizziness

G - Diarrhea

H - Drowsiness

J - Fever

K - Headache

L - Nausea

M - Respiratory system irritation

N - Skin irritation

O - Tremors

P - Unconsciousness

Q - Vomiting

R - Weakness

<b>ACTON • MICKELSON • ENVIRONMENTAL, INC.</b> <b>SITE HEALTH AND SAFETY PLAN (SHSP)</b> <b>DAILY REVIEW AND ATTENDANCE RECORD</b>			
Location:		Date/Time:	
Temperature:		Wind Speed/Direction:	
General Weather Conditions:			
<b>SIGNATURES OF FIELD CREW/REVIEWERS/SUBCONTRACTORS</b>			
Signature indicates that this person has reviewed and understands all segments of the SHSP, agrees to abide by the SHSP safety rules and guidelines, and has received and completed the appropriate training as required by the SHSP. Note the issuing authority (or type) of the identification card used to verify identity.			
Name	Signature	Company	Identity Verified
<b>Meeting Conducted By:</b> Name _____ Print Name		<b>Site Safety Officer (SSO) or Field Team Leader:</b> Name _____ Print Name	
Signature _____		Signature _____	
Tracking: <input type="checkbox"/> SSO <input type="checkbox"/> Site Tailgate Safety Meeting File <input type="checkbox"/> Project File			





**ROUTE 1**

- |  |         |
|--|---------|
| 1. HEAD WEST ON E PAVILLION RD   | 2.1 MI  |
| 2. TURN LEFT ONTO GABES RD   | 2.0 MI  |
| 3. TURN RIGHT ONTO WY-134 W/MISSOURI VALLEY RD                                     | 1.9 MI  |
| 4. TURN LEFT ONTO WY-133 S   | 4.1 MI  |
| 5. TURN LEFT ONTO US-26 E  | 17.0 MI |
| 6. TURN LEFT ONTO COLLEGE VIEW DR  | 0.5 MI  |
| 7. TAKE THE 3RD RIGHT ONTO W SUNSET DR,<br>2100 W SUNSET DRIVE WILL BE ON THE LEFT | 469 FT  |



**ROUTE 2**

- |  |        |
|--|--------|
| 1. HEAD EAST ON E PAVILLION RD TOWARD OCEAN VIEW DR                                | 1.9 MI |
| 2. TURN RIGHT ONTO WILLIAMS RD   | 1.9 MI |
| 3. CONTINUE ONTO TUNNEL HILL RD  | 0.8 MI |
| 4. TURN LEFT ONTO WY-134 E/MISSOURI VALLEY RD/TUNNEL HILL RD                       | 2.0 MI |
| 5. TURN RIGHT ONTO 8 MILE RD   | 9.0 MI |
| 6. TURN LEFT ONTO US-26 E  | 6.7 MI |
| 7. TURN LEFT ONTO COLLEGE VIEW DR  | 0.5 MI |
| 8. TAKE THE 3RD RIGHT ONTO W SUNSET DR,<br>2100 W SUNSET DRIVE WILL BE ON THE LEFT | 469 FT |

FIGURE 2  
ROUTES TO HOSPITAL

Pavillion, Wyoming Area



**AME**  
Engineers and Earth Scientists

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