

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
RISK MANAGEMENT WORKSHEET

SW CO

1. Organization and Location <b>Interagency Fire Units – BLM, FS, NPS &amp; BIA</b>			2. Page <u>1</u> of <u>4</u>		
3. Operation / Task <b>Responding to Wildfires in/near Oil and Gas Fields</b>		4. Beginning Date:	5. Ending Date: Indefinite	6. Date Prepared	

7. Prepared by (Name / Duty Position)  
Cliff Hutton, BLM Fire Operations Specialist and Sandy Bearden, BLM Safety Specialist

8. Identified Hazards	9. Assess the Hazards: Initial Risk	10. Control Measures Developed for Identified Hazards: (Specific measures taken to reduce the probability of a hazard) <b>Include all PPE</b>	11. Assess the Hazard's Residual Risk:	12. How to Implement the Controls: (May Be Filled in By Hand)	13. Supervisors and Evaluation by: (Continuous Leader Checks, Buddy System, etc.)
<ul style="list-style-type: none"><li>Exposure to <u>Hazardous Gas (Hydrogen Sulfide H2S, or Methane Gas CH4)</u></li></ul>	<div></div> <div></div> <div></div> <div></div> <div>X</div>	<ul style="list-style-type: none"><li>If at all possible, avoid working in those areas where <u>Hazardous Gases are</u> present</li><li>Exposed personnel will be removed immediately from the exposure area and <u>the appropriate medical attention</u> will be administered to anyone who exhibits signs of asphyxia or loss of consciousness.</li><li><u>Remove from area and seek medical attention if needed if</u> H2S/CH4 exposure is suspected.</li><li>Rescue attempts will only be accomplished when proper safety equipment is available.</li></ul>	<div>X</div> <div></div> <div></div> <div></div> <div></div>	<ul style="list-style-type: none"><li>Check for H2S/CH4 wells before accepting assignment, <u>or</u> arrange for appropriate training and PPE for H2S prior to working in an Oil &amp; Gas Field.</li><li>CPR and 1<sup>st</sup> Aid training will be provided to all fire personnel <u>per Agency Policy</u>.</li></ul>	<ul style="list-style-type: none"><li>Ensure personnel have appropriate training for working in a <u>Hazardous Gas</u> area.</li><li>Ensure PPE training is suitable and adequate.</li><li>Supervision will perform compliance checks for all training requirements.</li></ul>

- Deleted: H2S
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14. Remaining Risk Level After Control Measures Are Implemented: (CIRCLE HIGHEST REMAINING RISK LEVEL)	<b>LOW</b> (Line Supervisor)	<b>MEDIUM</b> (Branch Chief)	<b>HIGH</b> (District Manager)	<b>EXTREMELY HIGH</b> (Must be State Director/Associate)
15. RISK DECISION AUTHORITY: <b>(Approval/Authority Signature Block)</b> (If Initial Risk Level is Medium, High or Extremely High, Brief Risk Decision Authority at that level on Controls and Control Measures used to reduce risks) <b>(Note:</b> if the person preparing the form signs this block, the signature indicates only that the appropriate risk decision authority was notified of the initial risk level, control measures taken and appropriate resources requested; and that the risk was accepted by the decision authority.)				
<div>(Signature)</div>				

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(Be Specific)	L	M	H	E	(Be Specific)	L	M	H	E	(Be Specific)	(Be Specific)
<ul style="list-style-type: none"> <li>Exposure to H2S (cont)</li> </ul>				X	<ul style="list-style-type: none"> <li>Personnel must know symptoms of H2S exposure               <ul style="list-style-type: none"> <li>at lower concentrations smells like "rotten eggs" can cause headaches, eye disorders, nausea, vomiting, and chronic bronchitis</li> <li>at higher concentrations it deadens sense of smell, at 1000 ppm can paralyze the respiratory system and result in coma or death, and can cause convulsions</li> </ul> </li> <li>H2S is explosive – as much as so possible, avoid sparks or ignition sources</li> <li>Avoid enclosed areas</li> </ul>		X			<ul style="list-style-type: none"> <li>Provide training to personnel about the dangers of H2S exposure.</li> <li>Review this RMA, the BLM Oil and Gas Safety Message and the "6 Minutes for Safety" topics dealing with H2S and Oil &amp; Gas Fields</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate adequacy of training.</li> <li>Perform checks by questioning fire personnel about their knowledge of H2S and its' hazards.</li> </ul>
<ul style="list-style-type: none"> <li>Exposure to other Hazardous Gases or Chemicals(drilling mud caustics, solvents, glycol, CO2, fuels, etc.)</li> </ul>				X	<ul style="list-style-type: none"> <li>Look for warning labels and signs.</li> <li>Avoid areas where hazardous chemicals are stored.</li> <li>Look for warning signs on Oil &amp; Gas pads.</li> <li>Use personnel protective equipment</li> <li>Avoid low-lying areas such as ravines, ditches, or gullies – higher concentrations of deadly gases tend to accumulate in these areas.</li> <li>Avoid enclosed areas</li> <li>Provide MSDS's for any hazardous chemicals</li> </ul>		X			<ul style="list-style-type: none"> <li>Provide Hazardous Material Training</li> <li>Provide appropriate PPE and provide training on the proper wear and care.</li> <li>Review MSDS to ensure all safety precautions are followed.</li> </ul>	<ul style="list-style-type: none"> <li>Supervision will perform compliance checks for all training requirements.</li> <li>Perform periodic inspections of PPE</li> </ul>
<ul style="list-style-type: none"> <li>Monitoring and Detection Equipment</li> </ul>			X		<ul style="list-style-type: none"> <li>Provide gas-monitors as well as training for use of monitors.</li> <li>Users will be qualified to perform prior-to-use calibration/testing on gas-monitors</li> <li>Personnel must watch wind socks located at well pads to check wind direction.</li> </ul>	X				<ul style="list-style-type: none"> <li>Provide training</li> <li>Review manufacturer's instructions for test equipment</li> </ul>	<ul style="list-style-type: none"> <li>If equipment is unit owned, supervision will ensure all calibration and testing requirements are met.</li> <li>If equipment is contracted, management will ensure contractor is performing all calibration and testing requirements.</li> </ul>

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(Be Specific)	L	M	H	E	(Be Specific)	L	M	H	E	(Be Specific)	(Be Specific)
• <b>Drilling Locations</b>			X		<ul style="list-style-type: none"> <li>Look for open holes and ditches, such as rat and mouse holes, well cellars, and drainage ditches – mark locations to make others aware of their danger.</li> <li>Watch for high pressure production lines, valves, and separation vessels – warn others of their locations.</li> <li>Look and listen to detect possible leaks from vessels, valves, and lines.</li> <li>Wildland firefighters will NOT engage in suppressing oil and gas facilities that have caught fire.</li> </ul>	X				<ul style="list-style-type: none"> <li>Inspect well location layouts for danger spots.</li> <li>If leaks are detected, all personnel will be removed from the area immediately and will not return until cleared to do so.</li> <li>No oil and gas facilities or equipment fires will be fought by wildland firefighters.</li> </ul>	<ul style="list-style-type: none"> <li>Supervision will perform compliance checks for all training requirements.</li> </ul>
• <b>Hazardous Gas Fires</b>			X		<ul style="list-style-type: none"> <li>Fire from ignition of hazardous gases can cause burns and melt synthetic clothing – wear only cotton or Nomex shirts, pants, and undergarments.</li> <li>Do NOT wear polypropylene or other synthetic materials next to the skin.</li> </ul>		X			<ul style="list-style-type: none"> <li>Review uniform orders to ensure policy is being followed.</li> <li>Stress the importance of wearing the proper clothing on a fire.</li> </ul>	<ul style="list-style-type: none"> <li>Supervisor or crew boss will perform compliance checks, any personnel wearing unauthorized clothing will be removed from the fire immediately.</li> </ul>
• <b>Oil &amp; Gas Employees</b>		X			<ul style="list-style-type: none"> <li>Initiate and maintain communication with Oil &amp; Gas employees to keep everyone other informed about what each party is doing.</li> <li>Fire personnel need to question Oil &amp; Gas employees if it appears they are working on lines, vessels, or valves.</li> <li>Communicate with Oil &amp; Gas workers to prevent the inadvertent or intentional venting or release of hazardous gases.</li> </ul>	X				<ul style="list-style-type: none"> <li>Stress the importance of open communication, at all times between firefighters and Oil &amp; Gas workers.</li> <li>Supervision will make immediate contact with Oil &amp; Gas company employees on fires.</li> </ul>	<ul style="list-style-type: none"> <li>Accomplish checks to ensure contact information is current for Oil &amp; Gas Co.</li> <li>Coordinate training with Oil &amp; Gas crews and firefighters to ensure procedures are consistent and applicable to all.</li> </ul>

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\_\_\_\_\_  
(Supervisor)

\_\_\_\_\_  
(Employee)