

## Risk Assessment Check List

Employee Name: \_\_\_\_\_ Reviewed: (Employee Initial) \_\_\_\_\_

Position Title: \_\_\_\_\_ Date: \_\_\_\_\_

Area or Division: Parashant

Job element	Risk	Recommended Protective Measures
Specific Job Element, Pre-Trip Preparation/ Equipment Check	Unprepared/ Equipment Failure	<p>Before Your Cave Trip</p> <ul style="list-style-type: none"> <li>* Obtain a cave map</li> <li>* Know the location of physical and legal access</li> <li>* Locate information on risk</li> <li>* Tell someone where you are going and when you should return</li> <li>* Inspect and test equipment before using. Be sure all equipment is adequate for the cave trip</li> </ul> <p>Recommended Protective Equipment:</p> <ul style="list-style-type: none"> <li>* cave map</li> <li>* gate keys or combination</li> <li>* pencil</li> <li>* small tablet</li> <li>* three reliable independent light sources</li> <li>* if carbide light is a source, extra carbide and a lamp repair kit</li> <li>* extra batteries and bulb</li> <li>* hard hat with chin strap or preferably a caving or climbing helmet equipped with a light</li> <li>* boots</li> <li>* knee/elbow pads</li> <li>* face dust mask</li> <li>* gloves</li> <li>* fluorescent flagging</li> <li>* compass</li> <li>* small first aid kit</li> <li>* 20 feet of 1 inch nylon webbing</li> <li>* personal medication</li> <li>* 1 quart drinking water</li> <li>* adequate quick energy food supply</li> <li>* large garbage bag or space blanket</li> <li>* small candle</li> </ul> <p>For vertical caves, vertical climbing gear and knowledge and <u>experience</u> of its proper use, cave pack. Vertical work can have extreme inherent risks!</p>
Caving Trip	No communications	Leave an itinerary with your supervisor or dispatch.

Job element	Risk	Recommended Protective Measures
	with office resulting in premature launch of search/rescue effort	Information should include: * Cave location (and interior destination in the case of large caves) * Directions to get to the cave * Accompanying personnel * Location of extra keys or lock combinations * Expected time of exiting the cave and arrival at the office * Time when a search team should be activated * Other locations you may be found including other caves, restaurants, etc.
	Encounters with snakes, rodents, insects, bats	* Use standard snake avoidance procedures * Avoid rodent concentration areas; do not disturb bat roosts * Utilize a NIOSH/MSHA approved respirator in caves having potential Hanta Virus, Histoplasmosis or other airborne hazards * Wear gloves and when necessary seal clothing to prevent entry of insects
	Lost vehicle keys.	* Place your car's ignition keys in a safe location <u>before</u> entering the cave * Each party member should be told the location of vehicle keys
	Bodily injury from gate operation	* Use proper lifting techniques, use caution, request help when necessary (gates should be designed to minimize these dangers)
	Lost cave gate key and/or trapping other party in cave	* After entering cave, lock gate behind you and place gate key in a safe location
	Uneven, slippery terrain when crawling, climbing and walking; loose rock/breakdown material; danger of injury from falling	* sturdy hiking boots with adequate ankle support and non-marking soles * knee pads * elbow pads * gloves * hard hat with a chin strap or a climbing helmet * Move carefully with caution, so as not to dislodge loose rocks.
	Intense darkness with a danger of tripping	* Have an adequate, reliable light source, move slowly * Do not exceed physical capabilities

Job element	Risk	Recommended Protective Measures
	Getting lost and/or disoriented	<ul style="list-style-type: none"> <li>* Sign the cave registers when entering and leaving cave areas</li> <li>* Use group tactics to avoid disorientation</li> <li>* Continually look back and establish landmarks</li> <li>* Flag route when uncertain of location</li> <li>* Carry map and compass, look for survey markers and refer to cave map</li> <li>* Have a minimum of one experienced caver per group of four</li> <li>* Stay within your <u>group's</u> ability and experience</li> <li>* Never attempt to go further into a cave than a point from which you can safely find your way out</li> <li>* Mark your trail at frequent intervals with removable markers such as reflective tape or engineer's tape</li> <li>* Check your back trail frequently</li> <li>* Always remove your trail markers on the way out</li> </ul>
	Psychological problems, claustrophobia, intense silence	<ul style="list-style-type: none"> <li>* Discuss "natural fears" with novices before entering</li> <li>* Work as a team, take your time, talk to group members</li> <li>* Provide reassurance to those in need</li> <li>* Escort afflicted person from cave if necessary</li> </ul>
	Water: danger of falling in resulting in exposure accelerated hypothermia, giardia from drinking	<ul style="list-style-type: none"> <li>* Use caution when traversing wet areas</li> <li>* Don't enter caves that are known to be flooded or affected by seasonal water flow conditions or caves located in washes or canyon bottoms when weather conditions may threaten flooding</li> <li>* Keep up to date on local weather conditions</li> <li>* Don't drink from cave water sources</li> </ul>
	Exertion/exhaustion, hypothermia, wind exposure	<ul style="list-style-type: none"> <li>* Recommend proper physical conditioning. The group leader should inquire about people with known potentially dangerous physical conditions and treatment needs before entering the cave</li> <li>* Adequate clothing should be worn in layers</li> <li>* Quick energy foods should be consumed to keep up with calorie utilization</li> <li>* Avoid overexertion</li> <li>* The group should pace itself for the slowest member</li> </ul>
	Breathing difficulty from dust, histoplasmosis, hydrogen sulfide (H <sub>2</sub> S), Carbon dioxide (CO <sub>2</sub> ), or other gases in some caves	<ul style="list-style-type: none"> <li>* Avoid dusty areas when practical</li> <li>* Use a dust mask</li> <li>* Move slowly to lower respiration rate and reduce dust</li> <li>* Avoid known H<sub>2</sub>S and CO<sub>2</sub> risk areas</li> <li>* Test oxygen level and other suspected gas levels with appropriate monitoring equipment</li> <li>* Stay alert to breathing rates in lower parts of caves</li> </ul>
	Exposure to unsafe	<ul style="list-style-type: none"> <li>* Measure radon levels to determine acceptable exposure limits</li> </ul>

Job element	Risk	Recommended Protective Measures
	levels of radon gas (potential cause of lung cancer)	<ul style="list-style-type: none"> <li>* Exposure to radon should not exceed maximum allowable rates</li> <li>* Document radon exposure time in log book</li> </ul>
	Disease causing agents in rodent/bird droppings, cactus spines in rat nests	<ul style="list-style-type: none"> <li>* Avoid rodent concentration areas and bat roosts</li> <li>* Wear gloves</li> <li>* Use a NIOSH/MSHA approved respirator</li> </ul>
Search and rescue (getting injured out of cave)	Additional lost or injured people	<ul style="list-style-type: none"> <li>* Refer to Cave Search and Rescue Plan</li> <li>* Implement Incident Command System in the event of a rescue</li> <li>* Attend/host cave search and rescue training on a regular basis</li> </ul>
Post Cave Trip Notification and Cleanup	Launch of premature search effort, explosion, corrosion, dead batteries	<ul style="list-style-type: none"> <li>* Check in with dispatcher or office. After office hours, notify supervisor by telephone</li> <li>* Properly store carbide to assure that water will not contaminate resulting in released gas</li> <li>* Charge lamp batteries or change when necessary. When charging batteries it is essential that proper ventilation be maintained and a log kept of their use. Batteries are considered a hazardous waste and should be disposed of properly</li> <li>* Clean all equipment and make it ready for next trip</li> <li>* Store equipment in a dry location</li> <li>* Store batteries and carbide separate from other caving equipment</li> </ul>
Documentation of Effort to Notify Cave Users of Risks and Recommended Protective Measures	Uninformed Cave Users Exposure to Unsafe Conditions	<ul style="list-style-type: none"> <li>* Complete Risk Management Worksheet</li> <li>* Document risks and safety concerns</li> <li>* Develop and utilize (through distribution to cave users) a Check List of the Recommended Protective/Safety Measures for a safe cave trip</li> </ul>

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

1. Organization and Location			2. Page		
3. Operation / Task		4. Beginning Date:	5. Ending Date:	6. Date Prepared	

7. Prepared by (Name / Duty Position)

8. Identified Hazards	9. Assess the Hazards: Initial Risk				10. Control Measures Developed for Identified Hazards: <i>(Specific measures taken to reduce the probability of a hazard)</i>	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.)
(Be Specific)	L	M	H	E	(Be Specific)	L	M	H	E	(Be Specific)	(Be Specific)

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)
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15. RISK DECISION AUTHORITY: **(Approval/Authority Signature Block)** (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) **(Note:** 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.)

\_\_\_\_\_ (Signature)



## RISK MANAGEMENT WORKSHEET INSTRUCTIONS

1. Organization conducting the Risk Assessment and the location of the operation.
2. If more than one page is used, indicate number of pages. (For example: Page 1 of 3)
3. In general terms, identify the operation/task(s) to be performed.
4. Enter the date that the operation/task(s) is to begin.
5. Enter the date that the operation/task(s) is to end.
6. Enter the date that the Risk Assessment was prepared.
7. Enter the name and duty position of the person completing the form.
8. Identify specific hazards associated with the operation/task(s). It is important to be specific and start at the beginning, the preparation phase (equipment draw/transportation of equipment) of the operation. (For example: unfamiliar equipment, inexperienced operators, improperly configured equipment, challenging terrain, natural hazards, hazardous chemical use, span of supervision, location of work, types of roads, confined spaces, pinch points.)
9. Assess the initial risk using the risk assessment matrix.
10. Identify control measures for each identified hazard in block 8.
11. Assess the residual risk, the risk remaining after control measures are taken into consideration, using the risk assessment matrix.
12. Identify how the controls will be implemented (For example: SOPs, tailgate safety briefings, written/oral policy statements/directions, familiarization training, Right to Know training, use of PPE, use of spotters.)
13. Enter the specific individual(s) or method(s) used to supervise and evaluate the provisions of the Risk Assessment. (For example: supervisor/leader on site, buddy system, employee crosstalk.)
14. Circle the appropriate remaining level of risk.
15. The authority accepting the risk should sign this block; however, if the authority is notified and accepts the risk, the person completing the form can note same sign block 15. (See "Note" in block 15.)