



# Exploration safety HIF audit

# Contents

1. Management.....	2
2. Safety plan.....	4
3. Occupational health .....	6
4. Training .....	8
5. Technical and operating hazards.....	10
6. Emergency preparedness .....	13
7. Isolation and tagging.....	16
8. Maintenance .....	18
9. Maintenance facilities.....	20

# 1. Management

Point	Standard	Guideline
1.1	An Exploration Manager has been appointed to have control of exploration activities.	<p><b>Intent:</b> To determine if an Exploration Manager has been appointed to have control of exploration activities in accordance with Section 47 of the Mines Safety &amp; Inspection Act 1994 (MSIR).</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. Sight documentation verifying appointment. The documentation should detail responsibilities and acknowledgement of appointment.</p>
1.2	A supervisor/s have been appointed to have control of site exploration activities.	<p><b>Intent:</b> To determine the identity of the person/s appointed in charge of site operations as provided for in Sections 44 and 47 (2) of the MSIA.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Supervisor/s.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager and Supervisor/s. Sight documentation verifying appointment. Documentation should detail responsibilities and acknowledgement of appointment.</p>
1.3	A record book is available at a location within the State.	<p><b>Intent:</b> To determine compliance with Regulation 3.2 of the Mines Safety &amp; Inspection Regulations 1995 (MSIR) and Section 89 of the MSIA.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. Sight documentation verifying location of record book and or site record book. The record book is to enter and record information pursuant to above-mentioned Regulation and Section.</p>
1.4	<p>The Registered Manager and or Exploration Manager has a copy of the following Acts and Regulations:</p> <ul style="list-style-type: none"> <li>• Mines Safety &amp; Inspection Act 1994 (MSIA)</li> <li>• Mines Safety &amp; Inspection Regulations 1995 (MSIR).</li> </ul>	<p><b>Intent:</b> To determine if the Exploration Manager is aware of the relevant Safety Legislation that they have duties and responsibilities under and have copies of the relevant Acts &amp; Regulations.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View copies of the Acts and Regulations at the company's premises and or above-mentioned personnel's offices.</p>

Point	Standard	Guideline
1.5	Notifications of exploration activities have been sent to the Senior Inspector of Mines for the Region/s at which the company is conducting exploration activities.	<p><b>Intent:</b> To determine compliance with Section 47 (2) of the MSIA.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View documentation.</p>
1.6	The notifications include the location, scope and nature of the exploration activities.	<p><b>Intent:</b> To determine compliance with Regulation 3.3 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View documentation.</p>
1.7	A program of remedial works (sight rehabilitation) is in progress as part of the company's exploration activities.	<p><b>Intent:</b> To determine compliance with Regulation 3.5 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View documentation and inspect sites representative of the rehabilitation program.</p>
1.8	The Principal Employer has a written policy statement, which sets out the Safety and Health Policy of the company.	<p><b>Intent:</b> To verify the existence of a policy statement.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View policy statement. A single copy of the statement displayed in a prominent position at the operation and or in the content of the company's safety induction will be sufficient to confirm compliance with this standard.</p>
1.9	The Principle Employer has an up to date organisation chart reflecting the management and supervision structure of the company.	<p><b>Intent:</b> To verify the existence of a chart, which reflects the current management structure of the company.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View organisation chart/s. A single chart is not necessary (multiple charts are acceptable). Compliance may be established by viewing a series of individual charts, which reflect the overall management structure.</p>

## 2. Safety plan

Point	Standard	Guideline
2.1	The Principal Employer has developed a safety plan for all exploration activities in this State.	<p><b>Intent:</b> To determine that a safety plan has been developed for all exploration activities in this State.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View documentation.</p>
2.2	<p>The Exploration Manager and Supervisor/s in control of exploration activities and site operations have been trained in key safety activities such as:</p> <ul style="list-style-type: none"> <li>• site inspection</li> <li>• hazard identification</li> <li>• risk management</li> <li>• accident investigation</li> <li>• regulatory requirements.</li> </ul>	<p><b>Intent:</b> To establish that person/s in control of exploration activities and site operations have basic safety knowledge.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Supervisor/s.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager and Supervisor/s. View training records and documentation.</p>
2.3	A hazard register has been developed for all exploration activities including drilling operations.	<p><b>Intent:</b> To establish if the company has a hazard identification process covering all aspects of its exploration activities.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View documentation. The company should be able to demonstrate familiarity with the MOSHAB-Drilling Hazards Report and at a minimum have considered the technical operating hazards mentioned in this report (refer also to Standard 2.4 in this audit).</p>

Point	Standard	Guideline
2.4	<p>Risk assessments have been undertaken on the following well documented identified hazards including:</p> <ul style="list-style-type: none"> <li>• collection systems for drill cuttings and exhaust discharge systems.</li> <li>• dust attenuation</li> <li>• prevention of fires and fire fighting.</li> <li>• noise attenuation</li> <li>• training requirements (includes) shift rosters, schedules and emergency preparedness)</li> <li>• emergency shutdown facilities</li> <li>• high operating pressures</li> <li>• rod handling systems</li> <li>• protection from rotating/moving parts</li> <li>• adverse climatic conditions</li> <li>• lack of infrastructure at remote sites</li> <li>• remote travel to and from sites</li> </ul>	<p><b>Intent:</b> To determine if the company has a risk management system assessing well documented identified hazards.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager. View documentation. Generic hazards listed in this standard are considered the minimum to be addressed. The company should have a copy and be familiar with the MOSHAB-Drilling Hazards Report.</p>
2.5	<p>Safe systems of work have been developed and documented for exploration activities including drilling operations.</p>	<p><b>Intent:</b> To determine if the company is developing safe systems of work.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View documentation. At a minimum there should be safe systems of work for activities associated with the hazards in the above-mentioned standard. The company should be able to demonstrate that it has considered the recommendations contained in the MOSHAB-Drilling Hazards Report.</p>
2.6	<p>The safety plan includes a provision to forbid entry into disused mine workings unless specific procedures are developed.</p>	<p><b>Intent:</b> To determine compliance with Regulation 3.8 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View documentation including training material, which must address this topic.</p>

### 3. Occupational health

Point	Standard	Guideline
3.1	<p>Occupational health hazards have been identified such as:</p> <ul style="list-style-type: none"> <li>• atmospheric contaminants e.g. asbestos</li> <li>• noise emissions</li> <li>• hazardous substances e.g. chemicals and toxic material</li> <li>• exposure to ultraviolet radiation from the sun</li> <li>• exposure to heat and cold</li> </ul>	<p><b>Intent:</b> To determine if occupational health hazards at exploration sites have been identified.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View documentation. The hazards listed in this standard should be considered the minimum unless verified as not applicable to the operation.</p>
3.2	<p>Control measures are in place to reduce identified occupational health hazards.</p>	<p><b>Intent:</b> To determine if measures have been implemented to reduce occupational health hazards.</p> <p><b>Personnel:</b> Registered Manager or Exploration Manager and Employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager or Exploration Manager and a selection of Employees. View documentation. Inspect drilling operations and check measures in effect e.g. dust suppression systems, noise enclosures etc.</p>
3.3	<p>Control measures in place to reduce the occupational health hazards are effective.</p>	<p><b>Intent:</b> To determine if actions taken to reduce the hazards appear to be effective.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of Employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration and a selection of Employees. Inspect the measures implemented and gauge their effectiveness. View any records, which show “before” and “after” results.</p>
3.4	<p>Employees have been educated in the occupational health hazards identified.</p>	<p><b>Intent:</b> To determine if employees are provided with information in respect to identified occupational health hazards.</p> <p><b>Personnel:</b> Registered Manager or Exploration Manager and a selection of Employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager or Exploration Manager and a selection of Employees. View training material and records.</p>

Point	Standard	Guideline
3.5	The exposure of employees to the occupational health hazards identified has been and is continually evaluated.	<p><b>Intent:</b> To determine if the employee's exposure to the health hazards has been and is continually evaluated.</p> <p><b>Personnel:</b> Registered Manager or Exploration Manager and a selection of Employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager or Exploration Manager and a selection of Employees. View results of monitoring programs or assessments e.g. noise report, contaminant monitoring etc.</p>
3.6	Where necessary appropriate personal protective equipment (PPE) is provided and used reduce exposure to identified occupational health hazards.	<p><b>Intent:</b> To determine compliance with Regulation 4.1 of the MSIR and if Employees wear PPE where it is necessary to reduce occupational exposure to the health hazards.</p> <p><b>Personnel:</b> Selection of Employees.</p> <p><b>Method:</b> Interview a selection of Employees. View range of PPE made available. During site inspection observe employees to determine if PPE is being worn.</p>

## 4. Training

Point	Standard	Guideline
4.1	The company has a training and assessment program for its employees.	<p><b>Intent:</b> To determine compliance with Regulation 4.13 of the MSIR. Ensuring that employees are given instruction, training and assessments through a formal training process before going out to site and receive on going training.</p> <p><b>Personnel:</b> Registered Manager or Exploration and a selection of Employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager or Exploration Manager and a selection of employees. Sight training documentation records.</p>
4.2	The company has records of training for its employees.	<p><b>Intent:</b> To determine compliance with the above-mentioned Regulation. Ensuring that records are kept for instruction, training and assessments given to employees.</p> <p><b>Personnel:</b> Registered Manager or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager or Exploration Manager and a selection of employees. View training documentation and records.</p>
4.3	Training documentation includes information on hazards in remote sites.	<p><b>Intent:</b> To determine compliance with Regulation 3.6 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager and a selection of employees. View training documentation for topics e.g. covering outback survival, fitness for work, navigation skills, communications, remote travel etc.</p>
4.4	Training documentation includes information on adverse climatic conditions.	<p><b>Intent:</b> To determine compliance with Regulation 3.6 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager and a selection of Employees. View training documentation and records.</p>

Point	Standard	Guideline
4.5	Training documentation includes safety procedures for the systems of work used in exploration activities.	<p><b>Intent:</b> To determine that persons are trained in safe work practices.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> View training documentation. Interview where practicable Registered Manager and or Exploration Manager and a selection of employees.</p>
4.6	Training documents include safety information for the driving of vehicles.	<p><b>Intent:</b> To determine that persons are trained in the driving of vehicles.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> View training documentation and procedures. Interview where practicable Registered Manager and or Exploration Manager and a selection of employees.</p>
4.7	Where applicable training documents include safety information relating to the use of helicopters.	<p><b>Intent:</b> To determine compliance with Regulation 4.14 of the MSIR. Ensuring that persons are trained in safety procedures relating to the use of helicopters.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> View training documentation and procedures. Interview where practicable Registered Manager and or Exploration Manager and a selection of employees.</p>

## 5. Technical and operating hazards

Point	Standard	Guideline
5.1	<p>Plant and work practices associated with the following recognized technical operating hazards have been subjected to a risk assessment process:</p> <ul style="list-style-type: none"> <li>• collection systems for drill cuttings and exhaust discharge systems</li> <li>• dust attenuation</li> <li>• prevention of fires and fire fighting</li> <li>• noise attenuation</li> <li>• training requirements (includes) shift rosters, schedules and emergency preparedness)</li> <li>• emergency shutdown facilities</li> <li>• high operating pressures</li> <li>• rod handling systems</li> <li>• protection from rotating/moving parts</li> <li>• adverse climatic conditions</li> <li>• lack of infrastructure at remote sites</li> <li>• remote travel to and from sites</li> <li>• falls from height e.g. mast and other plant.</li> </ul>	<p><b>Intent:</b> To determine compliance with Regulation 6.2 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View risk assessments for plant such as drill rigs, auxiliary compressors, booster compressors, service vehicles etc and work practices associated with the listed technical operating hazards in this standard.</p>
5.2	<p>Safe work procedures for work practices associated with the above-mentioned technical operating hazards have been developed.</p>	<p><b>Intent:</b> To determine compliance with Regulation 6.2 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> Interview Registered Manager and or Exploration and a selection of employees. View documentation. Inspect site.</p>

Point	Standard	Guideline
5.3	Standards are established for the provision, selection, maintenance and use of High-pressure hoses/pipes, connections and restraint devices/anchors.	<p><b>Intent:</b> To determine if hazards associated with High-pressure air hoses, connections and restraint devices/anchors etc are being managed. To prevent injuries from hose, pipe bursts and flaying hoses.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of employees.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager and a selection of Employees. View documentation. Inspect drill rig and establish presence of hose restraints/anchors e.g. cable stockings, whip checks, internal flow control device, etc. Two-eyed cable stockings anchored to purpose designed lugs with rated shackles are the preferred method in most applications.</p>
5.4	The company has a program to reduce noise emissions at drilling operations.	<p><b>Intent:</b> To determine compliance with Regulations contained in Part 7 of the MSIR e.g. Regulations 7.4 &amp; 7.5 of the MSIR. Ensuring there is a program to reduce noise emissions at work places.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View documentation demonstrating compliance with Regulations contained in Part 7 of the MSIR e.g. noise reports, action plan and before and after data.</p>
5.5	Employees are provided with hearing protection.	<p><b>Intent:</b> To determine compliance with Regulation 7.6 of the MSIR. Ensuring that hearing protection is provided to Employees as appropriately determined by a Noise Report.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of Employees</p> <p><b>Method:</b> Interview where practicable a selection of Employees. During inspection observe hearing protection in use. View documentation e.g. Noise Report containing recommendations for appropriate hearing protection.</p>
5.6	Classified plant such as pressure vessels have been registered and inspected.	<p><b>Intent:</b> To determine compliance with Regulations 6.34 and 6.40 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Maintenance Supervisor.</p> <p><b>Method:</b> View documentation demonstrating compliance with above-mentioned Regulations e.g. classified plant register and record/log books, registration letters and inspection reports.</p>

Point	Standard	Guideline
5.7	Rotating machine parts are guarded.	<p><b>Intent:</b> To determine compliance with Regulations 4.4, 6.2 &amp; 6.27 of the MSIR. Ensuring guarding of fans, shafting and other moving parts appears adequate.</p> <p><b>Personnel:</b> NA</p> <p><b>Method:</b> During inspection examine drill rig, auxiliary compressors and any other plant which may have moving parts requiring guarding etc.</p>
5.8	The dangers of working in the vicinity of power lines are addressed.	<p><b>Intent:</b> To determine if potential contact with power lines is addressed in safe work practices.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Field Personnel.</p> <p><b>Method:</b> View documentation. Interview where practicable Registered Manager and or Exploration Manager and Field Personnel. During inspection observe vicinity of drilling equipment to power lines.</p>
5.9	Procedures have been developed for the changing and repair of tyres and wheels.	<p><b>Intent:</b> To determine if safe work practices have been developed for dealing with punctures etc in the field.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of Field Personnel.</p> <p><b>Method:</b> View documentation e.g. safe work practices, training material and records. Interview Field Personnel.</p>
5.10	Areas being drilled are assessed with respect to intersecting hazards.	<p><b>Intent:</b> To determine if safe work practices have been developed to address drilling through zones of potential hazard e.g. underground electrical and communication cables, gas lines, water lines, high pressure water from aquifers, mineralogical hazards (asbestos), gases etc.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and a selection of Drilling and Field Personnel.</p> <p><b>Method:</b> View documentation e.g. safe work procedures, training material and records. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p>
5.11	Drill site design is assessed with regard to hazards due to location.	<p><b>Intent:</b> To determine if drill site location and layout is assessed for hazards e.g. uneven ground, subsidence etc.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p> <p><b>Method:</b> View documentation e.g. procedures, site inspection reports etc. Interview where practicable Registered Manager and or Exploration Manager, Drilling Field Personnel. Inspect drill site for ease of access, slope, drill operation, cleanliness, fire hazards and underfoot conditions.</p>

## 6. Emergency preparedness

Point	Standard	Guideline
6.1	An emergency plan procedure has been developed for all exploration operations.	<p><b>Intent:</b> To determine if an emergency plan has been prepared as required by Regulation 4.30 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p> <p><b>Method:</b> View documentation. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p>
6.2	The emergency plan identifies the types of incidents which may occur at drilling operations.	<p><b>Intent:</b> To determine if possible incidents likely to result in an emergency have been identified e.g. motor vehicle accidents, outbreaks of fire, falls from height, explosions, caught by moving parts, spinal injuries, broken bones, cuts, lacerations, amputations, head injuries, crush injuries etc.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager.</p> <p><b>Method:</b> View the emergency plan documentation. Interview where practicable Registered Manager and or Exploration Manager.</p>
6.3	Personnel are familiar with the emergency plan and their responsibilities.	<p><b>Intent:</b> To determine if Personnel are aware of their responsibilities and actions in an emergency.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Supervisor/s, Drilling and Field Personnel.</p> <p><b>Method:</b> View training records. Interview where practicable Registered Manager and or Exploration Manager, Supervisor/s, Drilling and Field Personnel. Assess their familiarity with the emergency plan and their responsibilities in an emergency.</p>
6.4	A communication system has been provided.	<p><b>Intent:</b> To determine if an effective means of communication is provided to Personnel working in remote areas.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Supervisor/s, Drilling and Field Personnel.</p> <p><b>Method:</b> View communication system and procedures. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Field Personnel. During inspections observe and assess if radio or telephonic communication devices are available and operable.</p>

Point	Standard	Guideline
6.5	First aid and emergency equipment is provided.	<p><b>Intent:</b> To determine if suitable first aid and emergency equipment is provided at exploration operations.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p> <p><b>Method:</b> View documentation regarding provision of first aid and emergency equipment. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Field Personnel. Inspect first aid and emergency equipment provided at exploration sites and in vehicles.</p>
6.6	At least two persons trained in first aid are provided at exploration sites.	<p><b>Intent:</b> To determine if two trained persons are provided at each exploration site in case one person is injured and or unavailable.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p> <p><b>Method:</b> View emergency plan and training documents. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p>
6.7	A list of emergency telephone contacts is available for Management, Supervisors, Drilling and Field personnel in the event of an emergency.	<p><b>Intent:</b> To determine if Personnel have emergency telephone contacts available.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Supervisors, Drilling and Field Personnel.</p> <p><b>Method:</b> View document. Interview where practicable Registered Manager and or Exploration Manager, Supervisors, Drilling and Field Personnel. At a minimum the document should be provided at exploration sites and in vehicles and Drilling and Field Personnel should be familiar with its location.</p>
6.8	Fire extinguishers are provided on all vehicles and drilling rigs.	<p><b>Intent:</b> To determine if fire extinguishers are provided on all vehicles and drilling rigs.</p> <p><b>Personnel:</b> Drilling and Field Personnel.</p> <p><b>Method:</b> View available fire extinguishers on drilling rigs and vehicles during inspections.</p>
6.9	Personnel have been trained in the use of fire extinguishers.	<p><b>Intent:</b> To determine if Personnel have received training and are competent to use fire extinguishers.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p> <p><b>Method:</b> View training documents. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Field Personnel.</p>

Point	Standard	Guideline
6.10	Emergency stop buttons are located within reach of the Drilling Personnel.	<p><b>Intent:</b> To determine compliance with Regulation 6.2 (2) of the MSIR.</p> <p><b>Personnel:</b> Drilling Personnel.</p> <p><b>Method:</b> Interview Drilling Personnel. During inspections examine Drilling Rig.</p>

## 7. Isolation and tagging

Point	Standard	Guideline
7.1	There is a documented isolation and tag-out system established.	<p><b>Intent:</b> To determine if a documented isolation and tag-out system is established.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel. View documentation verifying existence of system.</p>
7.2	“OUT OF SERVICE” tags are used to warn against the use of plant, which is unsafe to be used or which may be damaged if it is used.	<p><b>Intent:</b> To determine if OUT OF SERVICE tags are being used when required.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Drilling Personnel.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel. View procedures. During inspections observe the presence of tags at drilling operations.</p>
7.3	PERSONAL “DANGER OUT OF SERVICE” (DANGER) tags are used to prohibit the use of plant on which an employee is undertaking work.	<p><b>Intent:</b> To determine if PERSONAL DANGER tags are being used when required.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel.</p> <p><b>Method:</b> View procedures. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel. Observe the presence of PERSONAL DANGER tags at drilling operations and maintenance facilities.</p>
7.4	Each employee removes his own PERSONAL DANGER tag after completing the work and prior to leaving the work site at the end of the shift.	<p><b>Intent:</b> To emphasize that the display of a PERSONAL DANGER tag means that the person who has attached the tag is now working on the plant (and his/her safety will be jeopardized if the plant is used).</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel.</p> <p><b>Method:</b> View procedures. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel. If possible observe employee's tagging practices during inspections.</p>

Point	Standard	Guideline
7.5	OUT OF SERVICE tags are attached prior to removing PERSONAL DANGER tags when work on plant is not completed.	<p><b>Intent:</b> Employees are required to remove their PERSONAL DANGER tag prior to leaving the work site, and a mechanism is required to prevent the use of equipment, which is unsafe. OUT OF SERVICE tags are used for this purpose.</p> <p><b>Personnel:</b> Registered Manager and or exploration Manager, Drilling and Maintenance Personnel.</p> <p><b>Method:</b> View procedures. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel. If possible observe employee's tagging practices during inspections. The significance of the words "prior to" is to eliminate an unprotected period.</p>
7.6	The effectiveness of devices used to isolate plant is proven prior to attaching a PERSONAL DANGER or OUT OF SERVICE tags.	<p><b>Intent:</b> To verify as far as is practicable the plant is isolated from the respective energy sources. Accidents have occurred as a result of switching the wrong isolating device, incorrect labeling, and isolating mechanism failures.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel.</p> <p><b>Method:</b> View procedures. Interview where practicable Registered Manager and or Exploration Manager, Drilling and Maintenance Personnel. If possible observe employee's isolation practices during inspections. Discuss with employees undertaking work, and assess the method/s adopted for proving that the isolations are effective e.g. may be accomplished by visual inspection, opening drain valves, attempting to start the equipment, observe indicators, use of test instruments or other appropriate means.</p>

## 8. Maintenance

Point	Standard	Guideline
8.1	There is a system of maintenance for drilling equipment and associated plant, vehicles etc.	<p><b>Intent:</b> To determine if mobile plant is subject to a system of maintenance.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager, Maintenance Supervisor and Drilling Personnel.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager, Maintenance Supervisor and Drilling Personnel. View documentation verifying existence of maintenance system.</p>
8.2	A competent person is formally appointed to supervise maintenance (Maintenance Supervisor).	<p><b>Intent:</b> To determine if a competent person supervises maintenance.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Maintenance Supervisor.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager and Maintenance supervisor. View documentation verifying appointment and acknowledgement e.g. appointment acknowledgement letters and or Record Book. View Maintenance Supervisor's CV if available.</p>
8.3	A competent person/s are formally appointed to conduct statutory inspections of Classified Plant pursuant to the General Exemption issued for Reg. 6.40 of the MSIR.	<p><b>Intent:</b> To determine if a competent person/s are formally appointed to conduct statutory inspections of Classified Plant pursuant to the General Exemption issued for Reg. 6.40 of the MSIR.</p> <p><b>Personnel:</b> Registered Manager and or Exploration Manager and Maintenance Supervisor.</p> <p><b>Method:</b> Interview where practicable Registered Manager and or Exploration Manager, Maintenance Supervisor and Competent Person/s. View documentation verifying appointment and acknowledgement e.g. appointment acknowledgement letters, Classified Plant Record Book (refer to attached copy of General Exemption for Reg. 6.40).</p>
8.3	Records are kept for maintenance of drilling equipment and associated plant, vehicles etc.	<p><b>Intent:</b> To determine if details of maintenance work carried out is recorded and retained.</p> <p><b>Personnel:</b> Maintenance Supervisor.</p> <p><b>Method:</b> Interview Maintenance supervisor. View maintenance records.</p>

Point	Standard	Guideline
8.4	There is a procedure to report operational faults on drilling equipment and associated plant including vehicles etc.	<p><b>Intent:</b> To determine if there is a procedure to report operational faults on drilling equipment, associated plant including vehicles etc.</p> <p><b>Personnel:</b> Maintenance Supervisor and Drilling Personnel.</p> <p><b>Method:</b> Interview Maintenance Supervisor and Drilling Personnel. View documentation verifying existence of procedure. View sample of records of reported faults and remedial action. During site inspection check for visible defects and determine if procedure is being observed.</p>
8.5	The faults are rectified in an acceptable time frame.	<p><b>Intent:</b> To determine if faults are rectified within an acceptable time frame.</p> <p><b>Personnel:</b> Maintenance Supervisor and Drilling Personnel.</p> <p><b>Method:</b> Interview Maintenance Supervisor and Drilling Personnel. View sample fault reports and maintenance records to determine if faults are rectified within a reasonable time.</p>
8.6	There is a pre-start check system for drilling equipment, associated plant and vehicles etc.	<p><b>Intent:</b> To determine if there is a pre-start check system for drilling equipment, associated plant and vehicles etc.</p> <p><b>Personnel:</b> Maintenance Supervisor and Drill Personnel.</p> <p><b>Method:</b> Interview Maintenance Supervisor and Drilling Personnel. View pre-start check documentation to verify existence and adherence to system.</p>
8.7	ROPS, where necessary, is provided.	<p><b>Intent:</b> To determine if items of mobile earthmoving plant are fitted with ROPS and other vehicles have been assessed in terms of provision for ROPS.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> View documentation. Inspect earthmoving plant and inspect sample of ROPS structures.</p>
8.8	Drilling equipment, associated plant and vehicles inspected appears to be in a satisfactory condition.	<p><b>Intent:</b> To determine if drilling equipment, associated plant and vehicles etc. appear in satisfactory condition.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> Inspect a sample of the drilling equipment, associated plant and vehicles on site and assess condition.</p>

## 9. Maintenance facilities

Point	Standard	Guideline
9.1	A workshop and storage facility is provided for the maintenance and storage of drilling equipment, associated plant, vehicles and supplies etc.	<p><b>Intent:</b> To verify that there is a workshop building/s provided for use as a workshop and store facility for maintenance and storage of drilling equipment, associated plant, vehicles and supplies etc.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> View workshop building/s. Consideration must be given to the location of the drilling site and scope of work in terms of the facilities provided.</p>
9.2	The workshop and storage facility is appropriate for the types of tasks undertaken.	<p><b>Intent:</b> To determine if the workshop and storage facility is appropriate in respect of construction, size, layout, and equipment for the task required at the workshop.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> Inspect workshop. Consideration must be given to the location and scope of work in terms of the type of facilities provided.</p>
9.3	The workshop and storage facility is maintained in a tidy condition.	<p><b>Intent:</b> To determine if there is attention to housekeeping in the workshop and storage facility.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> Inspect workshop.</p>
9.4	Signs are displayed to warn of possible eye, hearing and other hazards.	<p><b>Intent:</b> To determine if appropriate signage is displayed to warn of possible eye, hearing and other hazards.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> Inspect workshop.</p>
9.5	Fire control equipment is available at the workshop.	<p><b>Intent:</b> To verify that fire control equipment e.g. fire extinguishers are located about the workshop.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> Inspect workshop for fire control equipment e.g. extinguishers.</p>
9.6	Maintenance machinery and equipment is maintained on a regular basis.	<p><b>Intent:</b> To determine if workshop machinery and equipment is maintained on a regular basis.</p> <p><b>Personnel:</b> Workshop Supervisor and Maintenance Personnel.</p> <p><b>Method:</b> Check maintenance records. Interview Supervisor and Maintenance Personnel to determine how often maintenance is done.</p>

Point	Standard	Guideline
9.7	Electrical tools and equipment at the workshop is periodically checked and tagged.	<p><b>Intent:</b> To verify that quarterly inspection and tagging of electrical tools and equipment is carried out.</p> <p><b>Personnel:</b> Workshop Supervisor, Maintenance Personnel, and Electrician.</p> <p><b>Method:</b> View maintenance records. Interview Workshop Supervisor, Maintenance Personnel and Electrician. Inspect a sample of power tools to check that tagging is attached and is current.</p>
9.8	Electrical welding machines are maintained in safe condition.	<p><b>Intent:</b> To verify that electric welding machines are regularly tested and inspected e.g. leads, accessories, earth leakage circuit etc.</p> <p><b>Personnel:</b> Maintenance Supervisor, Maintenance Personnel, and Electrician.</p> <p><b>Method:</b> View maintenance records. Interview Maintenance Supervisor, Maintenance Personnel and Electrician. Inspect welding machines to check if tagging is attached and current. Check for welding leads, accessories etc for visible damage/defects.</p>

**Reference Material:**

- MOSHAB-Drilling Hazards Report
- Mines Safety and Inspection Act 1994
- Mines Safety and Inspection Regulations 1995
- Resources Safety website: [www.docep.wa.gov.au/ResourcesSafety](http://www.docep.wa.gov.au/ResourcesSafety)
- Australian Drilling Industry Association (ADIA)-Guideline for Safe Performance in Drilling Industry in Western Australia