

| | | | |
|---|---|----------------------------------|--|
| Issued by: Global Operations Manager | Variations, which may have regional or locational significance, are contained in SOP Documents as specific appendices. | | |
| HSEC | Pages 1 of 19 | Issue No. 003 Date Sept. 2003 | Global SOP BHPB Exploration |



Standard Operating Procedure for Drilling

Standard Operating Procedure for Drilling

| | |
|---|---|
| <p>1. DEFINITION AND INTRODUCTION</p> <p>This standard operating procedure and the BHP Billiton Global Standard on Drilling comprise the minimum requirements that should be carried out during drilling activity. These SOP's must be applied where BHP Billiton is the owner or operator, otherwise so far as influence with our partners allows.</p> <p>Drilling is any exploration activity that involves the use of mechanized boring equipment. For the purpose of this document the word "should" is understood as recommended and the word "must" is understood as a minimum requirement.</p> <p>This SOP is intended to ensure the health, safety, and well being of drill-site personnel by:</p> | <p>Project: <input type="text"/></p> <p>Location: <input type="text"/></p> <p>Date: <input type="text"/></p> <p>Reviewer: <input type="text"/></p> <p style="text-align: center;">Comments</p> |
| <ul style="list-style-type: none"> ▪ The provision and maintenance of appropriate equipment and facilities to Company guidelines, by persons with clearly defined responsibilities. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ The provision of training and supervision of all contractor personnel. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Ensuring compliance with the standard terms and conditions of the BHP Exploration Drilling Contract. | <input type="checkbox"/> |
| <p>This standard covers all forms of reverse circulation (RC), core (diamond), rotary air blast (RAB), air-core, percussion (hammer), vacuum and mechanized auger drilling, whether performed by BHP Billiton or a contractor.</p> | <input type="checkbox"/> |
| <p>The operator will perform the services in accordance with the site-specific safety and emergency response plan. A Job Safety Analysis (JSA) will be completed for all unusual or infrequently performed jobs or when the normal working conditions are altered.</p> | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| 2. OPERATOR PRE-QUALIFICATION | Comments |
|--|--------------------------|
| As a matter of due diligence, all drill operators and companies will be pre-qualified and BHP Billiton staff and contractors should, as a minimum, implement the following. | |
| <ul style="list-style-type: none"> ▪ Drilling contractors will be selected based upon the criteria in this document as well as the criteria in the Contractor Management SOP. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Prior to the commencement of any work, the drilling contractor must submit a site-specific safety plan to the BHP Billiton Project Manager or designate and have the plan approved. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Operators will be selected and retained based on their safety performance and commitment to all relevant BHP Billiton Safety Standards and SOP's or equivalent. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All operators must comply with the terms and conditions of the BHP Billiton Drilling Contract. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Operators need to be competent in their assigned task. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Prior to the commencement of any work, the drill rig and associated support equipment must be in safe operable order and may be required to pass a safety inspection by a BHP Billiton representative. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Detailed and up to date maintenance registers are required for the drill rig and associated support equipment. The registers must be available for viewing by a BHP Billiton representative. | <input type="checkbox"/> |
| 3. TRAINING | Comments |
| <ul style="list-style-type: none"> ▪ The operator will ensure that all their personnel, including local hires, receive safety and emergency training in accordance with local legislation and with the approved site-specific safety plan. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|---|--------------------------|
| <ul style="list-style-type: none"> ▪ As a minimum, all personnel, including local hires, must receive a site induction that includes instruction in the following topics, if applicable: | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ BHP Billiton policies. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Vehicle operating procedures. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Communication equipment and emergency procedures. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Aviation safety. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Fire prevention and suppression. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Personal protective equipment. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Locations of all first aid equipment. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Proper manual handling techniques. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ All relevant safe work procedures. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All on-site personnel should have available First Aid, see the First Aid section. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All on-site personnel working with any hazardous substance must be trained in Workplace Hazardous Materials Information System (WHMIS), or other applicable hazardous materials management standards. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ The person(s) designated to operate and/or service equipment must be fully competent to do so. | <input type="checkbox"/> |

| 4. SUPERVISION | Comments |
|--|--------------------------|
| <ul style="list-style-type: none"> ▪ All drilling operations will have qualified and experienced on-site supervisors to ensure workers follow safe work procedures. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|--|--------------------------|
| <ul style="list-style-type: none"> ▪ A risk assessment will be performed to determine if additional supervisory staff are required. The following areas must be considered: | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Scope of work. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Work conditions. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Experience level of personnel. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Number of personnel. As a minimum, there must be no fewer than 2 competent operators present whilst drilling is taking place, at any rig which is not specifically deigned to be one person operation, and in any event there must be no access to moving parts whilst any part of the machinery is in motion, other than by specific design intention for maintenance and operation.. | <input type="checkbox"/> |

| 5. PERSONAL PROTECTIVE EQUIPMENT (PPE) | Comments |
|---|--------------------------|
| Personal protective equipment and its use are described in the BHB Billiton Exploration Standard Operating Procedure for Personal Protective Equipment and BHP Billiton staff and contractors should follow that SOP and the following requirements as a minimum. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Operators will use safety hats, safety glasses, safety footwear and hearing protection during drilling or when at risk. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel within 30 metres of the drill setup must wear safety hats, safety glasses, safety footwear and hearing protection. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Where required, additional PPE will be used (e.g. gloves, dust masks, fall protection, protective clothing, etc.). | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel performing work on equipment above the height of 1.5 metres must use a personal fall arrest system. This system includes the following: | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Full body harness (body belts are prohibited). | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|---|--------------------------|
| ➤ Shock-absorbing lanyard. | <input type="checkbox"/> |
| ➤ Proper anchorage. | <input type="checkbox"/> |
| ▪ Signs designating mandatory PPE must be displayed in all relevant work areas. | <input type="checkbox"/> |

| 6. COMMUNICATION | Comments |
|---|--------------------------|
| Communication requirements are described in the BHB Billiton Exploration Standard Operating Procedure for Communications and BHP Billiton staff and contractors should follow that SOP and the following requirements as a minimum. | |
| ▪ Provide a reliable and suitable communication system for emergency purposes. | <input type="checkbox"/> |
| ▪ Establish reliable communication procedures in line with project/regional requirements, e.g. daily contact with BHP Billiton base camp and/or base office for field crews when working away from camp. | <input type="checkbox"/> |
| ▪ A regular communication's schedule between the drill site and base station will be established. | <input type="checkbox"/> |
| ▪ Communication procedure including radio frequency(s) and or telephone numbers are be displayed in a prominent place. | <input type="checkbox"/> |
| ▪ All operators must be instructed in the use of communications equipment. | <input type="checkbox"/> |
| ▪ Copies of the operating manual and field communications procedures must be posted at or attached to each radio and satellite telephone. | <input type="checkbox"/> |

| 7. EMERGENCY RESPONSE PLAN (ERP) | Comments |
|--|--------------------------|
| Emergency response requirements are described in the BHB Billiton Global Standard for Emergency Response Plans and BHP Billiton staff and contractors should follow that Global Standard and the following requirements as a minimum. | |
| <ul style="list-style-type: none"> ▪ All operations will have a site specific ERP. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ A site survey should be undertaken to establish risks and an evacuation plan should be formulated and line tested. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel and visitors to the drill site must receive an ERP induction and be fully conversant in their personal responsibilities, i.e. knowledge of evacuation plan, communications equipment, fire drills, designated site safety officer. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ ERP procedures must be posted close to all communication hardware. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ ERP procedures should be formatted onto wallet size laminated cards and distributed to all personnel. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ ERP procedures must cover all probable contingencies. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Appropriate emergency equipment, including emergency communication equipment, will be kept at all drill sites. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All remote drill sites must have the following emergency equipment: | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Survival kit suitable for the climatic conditions and number of people. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Emergency shelter suitably equipped for the climatic conditions. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Signalling devices such as, smoke pots, flares, mirror, etc. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Where necessary site personnel will be trained in the use of the emergency equipment. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| 8. SITE LOCATION | Comments |
|---|--------------------------|
| <p>During the planning of the drill locations selection of the site can help reduce risks from many areas. The following are some items to consider during drill planning.</p> | |
| <ul style="list-style-type: none"> ▪ Address site problems such as manual handling, confined working space, the need for special platforms for steep terrain, guard barriers to prevent falls into old open mine works, adequate access and parking space for service vehicles and equipment, aircraft, etc. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Plan the site layout for clear escape routes from all areas in case of emergency (e.g., fire). | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Plan around power lines, underground utility cables and pipelines. If it is necessary to drill near these hazards, notify the appropriate authorities and use extreme caution while drilling. Where no regulations exist, apply a minimum of 20 metres distance setback from all power lines. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Plan for old mine sites and dumps. Watch out for possible unidentified or unmapped raises and stopes, old machinery or rails, rotting wood from supports, etc. Watch out for dumps that may contain toxic materials, etc | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Where sumps are required, ensure they are of sufficient volume to contain all circulation fluids. Calculate the volume from the depth and diameter of the proposed hole. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Locate the sample and core viewing areas (core shack) well clear of operating machinery, cyclones and high-pressure hoses. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ If it is necessary to construct drill pads on steep slopes using "cut and fill" methods, do not locate drilling equipment on the area of fill until it is properly compacted and sufficient drainage is in place. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Consider other hazards, which may include extreme climate and/or terrain (Arctic, desert or mountainous regions), wildlife (e.g., venomous snakes, insects, bears) and cultural, language or security issues. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| 9. HOUSEKEEPING | Comments |
|---|--------------------------|
| <p>Having a clean drill site will benefit BHP Billiton in a number of ways including maintaining our reputation with communities, workers, government agencies, and visitors who see our operational drill sites; maintaining a good attitude towards health and safety by the drilling contractor; and by keeping our environmental cleanup costs down by not creating a mess in the first place. All BHP Billiton staff and contractors should follow that Global Standard and the following requirements as a minimum.</p> | |
| <ul style="list-style-type: none"> ▪ Ensure housekeeping is conducted in accordance to meet BHP Billiton Health, Safety and Environment standards. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Ensure that there are a sufficient number of garbage disposal containers positioned around the drill site. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Separate disposal containers constructed of metal and containing sand are required for cigarettes. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Separate containers are required for aerosol cans. This is to prevent accidental incineration. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All garbage will be removed from the drill site daily. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Suitable and adequate space must be provided for the orderly storage of all supplies and equipment. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Personnel must be assigned responsibility and accountability for maintaining drill site tidiness. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Supervisors must ensure that all tasks are performed in a tidy and orderly manner. | <input type="checkbox"/> |
| 10. HEALTH AND HYGIENE | Comments |
| <ul style="list-style-type: none"> ▪ All personnel must follow the BHP Billiton Medical recommendations for disease prevention. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|--|--------------------------|
| <ul style="list-style-type: none"> ▪ When in areas with the potential for water borne parasites, swimming in fresh water must be avoided. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Potable water must be provided on the site for drinking water. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel must bathe frequently. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel must wash their face and hands prior to eating. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel must wash their hands after using the toilet facilities. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Personnel wearing greasy and/or significantly dirty clothing should wash and change before taking meals. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ When in malarial areas all personnel, with the exception of locals, should take anti-malaria medication. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel must take precautions to avoid being bitten by mosquitoes. These precautions include the following: | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Wear light coloured clothes that cover most of the body. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Applying mosquito repellent to uncovered areas of the skin. The clothing may be treated as well. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Wear mosquito proof clothing (e.g. bug jacket, head net, etc.) | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Sleep under mosquito netting. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Limit time spent outdoors after sundown. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All personnel who are required to take prescription medication must ensure that they bring a sufficient supply to last for their entire time on site. Site management and/or site medical personnel must be informed of all personnel taking prescription medication and identity of medication. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| 11. ENVIRONMENT | Comments |
|---|--------------------------|
| All drilling operations must be laid out and operated to minimise environmental effects. | |
| <ul style="list-style-type: none"> ▪ Drill sites will be designed and operated in a manner consistent with BHP Billiton HSEC Policy and Guidelines. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Minimize land disturbance. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Minimize disturbance to flora and fauna. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Retain cut and removed flora for replacement on drill site upon abandonment. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ When digging any pits retain topsoil separate from subsoil for proper replacement upon abandonment of drill site. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Stationary storage of petroleum products and other substances that have the potential to cause harm to the environment must be within a secondary containment structure that will prevent the accidental contact of the petroleum products with the ground. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Large quantities of substances that have the potential to cause harm to the environment must not be stored at the drill site. The substances must be stored at the campsite under controlled and observed conditions. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ An emergency response spill kit will be kept at each drill site. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All spills of substances that have the potential to cause harm to the environment must be immediately cleaned up and reported to project management. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Implement procedures to avoid and contain fuel spillage during refuelling. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Contain all petroleum products when equipment maintenance is carried out. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All petroleum products leaking from stationary equipment will be contained in drip pans. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|--|--------------------------|
| <ul style="list-style-type: none"> All petroleum product leaks on equipment will be repaired as soon as possible. | <input type="checkbox"/> |
|--|--------------------------|

| 12. DRILL RIG SAFETY DEVICES | Comments |
|--|--------------------------|
| <p>This is defined as any device engineered to prevent injury to people or damage to equipment and the environment. Examples include high-pressure hose whip-checks, safety relief valves on all pressurized vessels, machine guarding, etc.</p> | |
| <ul style="list-style-type: none"> These devices will be fitted in accordance with industry and the BHP Billiton Exploration Drilling Contract specifications. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> High pressure air hoses must be equipped as follows (see attachment on last page): | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Correctly installed high-pressure hose clamps and couplings. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Correctly installed whip-checks. “Cable–Stocking” whip-checks are required at both ends of airline hoses identified at risk. Required strength of cable-stockings will vary according to hose diameter and operating pressure. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Whip-checks must not be attached at a coupling location. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ➤ Whip-checks must have two opposing attaching cable legs (max. length 45cm.). These legs should have formed eyelets and must be shackled to secure opposing mounting points. Shackles and mounting points must be rated to the same strength of, or greater than, that of the whip-check. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All couplings, hoses and other safety devices must be selected for their intended duty, installed properly, regularly inspected for signs of wear and replaced as necessary. | <input type="checkbox"/> |
| <p>Drills shall be provided with automated drill rod handling devices wherever possible. Such drill equipment shall be sought in preference for BHPB drilling work.</p> | <input type="checkbox"/> |

| 13. FIRE PROTECTION | Comments |
|----------------------------|-----------------|
|----------------------------|-----------------|



Standard Operating Procedure for Drilling

| | |
|---|--------------------------|
| <ul style="list-style-type: none"> ▪ Prior to the commencement of any drilling operation, an analysis of all potential fire risks must be undertaken and management procedures implemented. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All sites must have the appropriate equipment and procedures in place to deal with identified risks. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All drill and associated personnel must receive training to deal with these risks. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ A minimum of one large dry powder (multi-purpose) fire extinguisher must be kept on the drilling rig. There must be at least one fire extinguisher in each support vehicle and structure. These units should be mounted in conspicuous locations out of harms way. If the units are exposed to the elements they should have a fluorescent fire extinguisher cover. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Combustible fuel lighting must not be used inside structures. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Store and label all flammable and/or hazardous materials appropriately. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All compressed gas cylinders must be accurately labelled and separately stored as to type in a secured upright position. | <input type="checkbox"/> |

| 14. ELECTRICAL | Comments |
|--|--------------------------|
| All drilling operations must be laid out and operated with safe electrical practices in mind. | |
| <ul style="list-style-type: none"> ▪ Ensure all electrical systems are grounded. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Residual current devices/ground fault circuits are to be used. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Minimize hazards caused by electrical cabling (bury, elevate, barricade). | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Only authorized personnel are to perform electrical maintenance and repair work. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Comply with the BHP Billiton Fatal Risk Control Protocol for Isolation. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| 15. FUEL HANDLING | Comments |
|--|--------------------------|
| <ul style="list-style-type: none"> ▪ All fuel containers must be clearly labelled indicating fuel type. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Hand or power pumps must be used to transfer fuel. Siphoning by mouth is prohibited. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All hand and power pumps should be fitted with a replaceable fuel filter. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Eye protection and gloves must be worn whenever pouring fuel. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Smoking is not permitted near fuel storage areas or near where fuel is being transferred. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Initiate steps to contain possible spills prior to commencement of fuel transfer. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Waste oil/fuel must be contained in marked barrels appropriate for petroleum product storage, and removed from site to a proper disposal facility. | <input type="checkbox"/> |

| 16. FIRST AID | Comments |
|--|--------------------------|
| <ul style="list-style-type: none"> ▪ First Aid kit(s) and supplies appropriate for the location and number of personnel will be located at all drill sites. All drill personnel must know the location of all first aid equipment. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ Contents of first aid kits must be checked regularly and the contents kept fully stocked with in date supplies (it is recommended that you keep a daily record of all drugs and supplies used). | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ An eyewash bottle must be located at all drill sites. The bottle must be mounted in a conspicuous location and ready for immediate use. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All on-site personnel should have access to trained in First Aid facilities at all times | <input type="checkbox"/> |
| <ul style="list-style-type: none"> ▪ All work groups must have an adequate number of people trained in First Aid to an equivalent level of St. Johns Ambulance Standard First Aid as required in the local regulations, with a minimum of one if there are no local requirements. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|--|--------------------------|
| <ul style="list-style-type: none"> All supervisors must be trained in First Aid to an equivalent level of St. Johns Ambulance Standard First Aid. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All injuries requiring any first aid treatment must be reported. | <input type="checkbox"/> |

| 17. MAINTENANCE | Comments |
|---|--------------------------|
| <ul style="list-style-type: none"> The operator will ensure that all machinery, tools and equipment are maintained in a good and safe operating condition. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All machinery or equipment to be repaired will have any source of energy isolated in accordance with BHP Billiton Fatal Risk Control Protocol on Isolation before repairs are affected. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Detailed and up to date maintenance registers are required for the drill rig and associated support equipment. The maintenance registers must be kept at the drill rig and be available for viewing by a BHP Billiton representative. | <input type="checkbox"/> |

| 18. STORAGE/STACKING/HANDLING | Comments |
|--|--------------------------|
| <ul style="list-style-type: none"> All hazardous materials will be stored in a safe condition and in accordance with the BHP Billiton Environmental Policies and Guidelines, and any local legislation. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All hazardous materials must be clearly labelled and accompanied by material safety data sheets (MSDS). | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Site preparation plans will include provision for all layout, storage/stacking and handling procedures. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All items that are likely to be handled manually and are over 9kg in weight must be stored below 2 metres in height. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

| | |
|--|--------------------------|
| <ul style="list-style-type: none"> Any item that exceeds 23kg in weight must be lifted with mechanical aid or by more than one person. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Mechanical devices will be used whenever and wherever possible to reduce or eliminate the need for the manual handling of drill pipe. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Large quantities of substances that have the potential to cause harm to the environment should not be stored at the drill site. The substances must be stored under controlled and observed conditions in a location that is a minimum of 50 metres from any water source. | <input type="checkbox"/> |

| 19. COMMUNITY RELATIONS | Comments |
|--|--------------------------|
| Community relation's requirements are described in the BHB Billiton Global Standard for Community Relations and BHP Billiton staff and contractors should follow that Global Standard and the following requirements as a minimum. | |
| <ul style="list-style-type: none"> Local inhabitants will be informed and conferred with regarding the locating of drill sites. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Local inhabitants will be informed and conferred with regarding the abandonment and rehabilitation of drill sites. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> When required and appropriate local inhabitants, suitable for employment, will be recruited. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Local personnel will be actively encouraged to use good health and safety practices at home and to promote them amongst their community. | <input type="checkbox"/> |

| 20. SECURITY AND SAFETY PRECAUTIONS | Comments |
|---|----------|
| Risk assessment requirements are described in the BHB Billiton Exploration Standard Operating Procedure for Risk Assessments and BHP Billiton staff and contractors should follow that Standard Operating Procedure and address any undue risk as well as implementing the following requirements as a minimum. | |



Standard Operating Procedure for Drilling

| | |
|---|--------------------------|
| <ul style="list-style-type: none"> A perimeter demarcation line will be established to cordon off the drill site. The line will be complete with no entry warning signs in the local dialect(s). | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Where and when required, personnel will be assigned to ensure that unauthorized personnel do not enter the drill site. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Personnel at the drill site should be limited to those that have direct jobs to perform. Visits to the drill site by other authorized, but non-essential personnel should be discouraged. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All appropriate hazard warning and authorization signs in the local dialect(s) must be posted where applicable. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All personnel must receive the driller's permission before approaching the immediate work area of the drill rig. Eye contact must be established with the driller. | <input type="checkbox"/> |

| 21. INCIDENT REPORTING AND SUSPENSION OF WORK | Comments |
|--|--------------------------|
| <ul style="list-style-type: none"> All accidents and any significant incidents will be reported immediately to the BHP Billiton site designate(s) and investigated promptly. All near misses are considered reportable incidents. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> Drilling operations must be suspended immediately upon the occurrence of an incident that causes or had the potential to cause a death, serious injury or significant environmental or property damages. Resumption of activities will only happen after a full investigation has been conducted, all recommendations in the incident report are implemented and approval is obtained from the BHP Billiton Program Manager. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All spills of substances that have the potential to cause harm to the environment must be immediately reported to project management. | <input type="checkbox"/> |
| <ul style="list-style-type: none"> All injuries requiring any first aid treatment must be reported. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

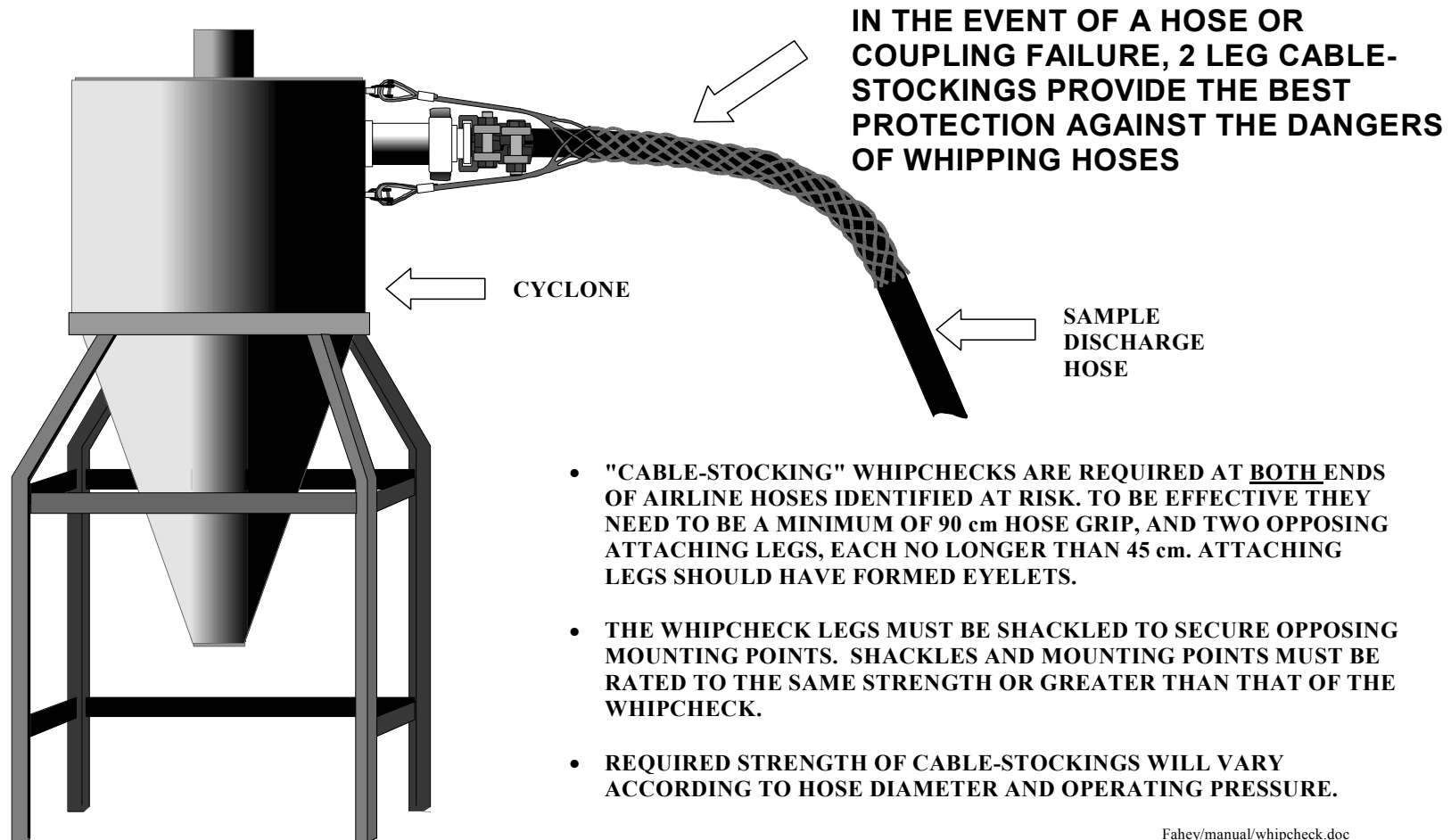
| 22. MEETINGS AND DOCUMENTATION | Comments |
|--|--------------------------|
| Safety meeting requirements are described in the BHB Billiton Exploration Standard Operating Procedure for Safety Meetings and BHP Billiton staff and contractors should follow that Standard Operating Procedure and the following requirements as a minimum. | |
| ▪ Site safety meetings will be held weekly and whenever there has been a change in plans or procedures. | <input type="checkbox"/> |
| ▪ Records of all meetings, changes in plans/procedures and accident/incident investigations will be kept on site. | <input type="checkbox"/> |
| ▪ A job safety analysis will be conducted and documented before any new or infrequently performed task is carried out. | <input type="checkbox"/> |
| 23. ATTACHMENTS | Comments |
| The next page contains a copy of the Recommended Arrangement For Restraining High Pressure Airline Hoses On Drill Rigs. | <input type="checkbox"/> |



Standard Operating Procedure for Drilling

RECOMMENDED ARRANGEMENT FOR RESTRAINING HIGH PRESSURE AIRLINE HOSES ON DRILL RIGS

(This example shows the cyclone end of an RC sample discharge hose)



Fahey/manual/whipcheck.doc