

SCOPE

This standard applies to all North America Exploration drilling projects and equipment. Deviation or exceptions to this standard will require a documented risk assessment approved by North America Drilling Services Manager and Health & Safety.

OBJECTIVE

To provide standardization for all drills, supporting equipment and tasks that aligns with North America Exploration / Drilling Services procedures, Newmont Fatality Risk Management and Critical Operational Controls Procedures

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1 PRE-OPERATIONAL REQUIREMENTS

1.1 Contracts

All drilling contractors will be currently under contract and meet Newmont requirements prior to mobilization.

1.2 Personnel & Training

All drilling operations shall have a training program in place that ensures:

- 1.2.1 Trainees are supervised during training
- 1.2.2 Minimum 36 hours on drill / site training for all new hires
- 1.2.3 Training methods include instruction, demonstration, observation and evaluation with documentation indicating each signed by both trainer and trainee upon completion of the training
- 1.2.4 Personnel only operate equipment or conduct tasks they have been properly trained for and signed off as qualified / trained to safely operate the equipment or conduct the task
- 1.2.5 Personnel training is documented according to regulatory requirements and copies of training records are available in the work area (can be electronic)
- 1.2.6 Training program & records will be reviewed during pre-commencement activities prior to work beginning

1.3 Risk Assessments

The project manager/drilling services representative and contractor must complete a risk assessment for the drill type and project (a JHA template may be used), which will be reviewed during pre-commencement activities (copy provided to Newmont) and by employees conducting the drilling and drilling related activities. The risk assessment must include or consider:

- 1.3.1 Drill crew minimum competency and skill requirements,
- 1.3.2 Geotechnical aspects,
- 1.3.3 Access and egress,
- 1.3.4 Current adjacent operations,
- 1.3.5 First aid,
- 1.3.6 Emergency response,
- 1.3.7 Environmental conditions, and
- 1.3.8 Other factors with potential impacts.

1.4 Pre-commencement inspections

The following inspections shall occur at either the drill operator's yard/shop, or immediately prior to entering the project or mine site. Deficiencies will be corrected prior to placing the equipment into service. Copies of all inspections will be retained for no less than one year. Copies of the

previous year's mast inspections may be reviewed as a part of pre-commencement inspection process.

1.4.1 Inspection of all drilling and support equipment, including mobile equipment

1.4.2 Mast / Tower Inspections

1.4.2.1 Shall be conducted by a qualified person prior to placing drill rig into operation

1.4.2.2 Will include items identified in the OEM Operation and Maintenance manual recommendations as well as the self-retracting lanyard and anchor point

1.4.2.3 Will be documented and include date, inspector, rig number, deficiencies and any remedial actions taken

1.4.2.4 A copy of the most current inspection will be retained at the drill

1.5 Health & Safety Program Requirements

Drilling operations and contractors shall have a program defined by policies, procedures (JHAs, SOPs, etc.) in place to manage:

1.5.1 Fatigue Management and Fit for Duty

1.5.2 Emergency Response

1.5.3 Respiratory Protection

1.5.4 Hearing Conservation

1.5.5 Lightning Management

1.5.6 Environmental Management

1.5.7 Equipment Maintenance

1.5.8 Field Level Risk Assessments (FLRA)

1.5.9 Fatality Risk Management Program

1.5.9.1 Program that is comparable to Newmont's, in absence of drill operator program, Newmont Fatality Risk Management program will be used

1.5.10 Task Observation Program & Vital Behaviors Program

1.5.10.1 Shall be in place that ensures that employee behaviors are observed and feedback is given

1.5.11 Work at heights

1.5.11.1 Training, proper use, care and storage of fall arrest equipment, including anchor point requirements

1.5.11.2 Pre-use inspection requirements

1.5.11.3 Annual inspections by qualified person

1.5.11.4 Fall arrest equipment register

1.5.12 Handling drill rods

- 1.5.12.1 Tripping, adding, inspection, hand placement, proper glove use, transport and other tasks related to handling drill rods
- 1.5.13 Cycling tubes
 - 1.5.13.1 Latch heads shall be equipped with locking devices or mechanical advantage procedures will be used to prevent uncontrolled release of the core tube
 - 1.5.13.2 Daily inspection of wireline, latch head and core tube components
- 1.5.14 Changing hydraulic hose, valves, and fittings
 - 1.5.14.1 At a minimum meet OEM specifications
 - 1.5.14.2 Isolation and removal of stored / residual energy (LOTOTO)
 - 1.5.14.3 SOP for hose changing that identifies step by step process including environmental control
- 1.5.15 Vehicle operation that includes the risks and controls
 - 1.5.15.1 In areas of heavy mining equipment (HME)
 - 1.5.15.2 Highways & mine access roads
 - 1.5.15.3 In areas of pedestrian traffic
 - 1.5.15.4 On road grades
 - 1.5.15.5 Inclement weather
 - 1.5.15.6 Passing procedures
 - 1.5.15.7 Communication procedures
- 1.5.16 LOTOTO-Isolation (Lock Out, Tag Out, Try Out)
 - 1.5.16.1 Procedure must be at drill
 - 1.5.16.2 Personal Locks and keys shall be maintained by each individual while under LOTOTO
 - 1.5.16.3 Individual identification (on lock or tag)
 - 1.5.16.4 Placement or removal only by lock owner
 - 1.5.16.5 Visitors to site shall comply with LOTOTO
- 1.5.17 Clearing blockage, stuck rods, fishing
 - 1.5.17.1 Safe operating practice for clearing blockage in drill string, sample system, mud system that includes
 - 1.5.17.1.1 Energy Isolation – Lock Out, Tag Out, Try Out (LOTOTO)
 - 1.5.17.1.2 Proper tools & PPE for task
- 1.5.18 Emergency response & evacuation
- 1.5.19 Use of high pressure air
- 1.5.20 Refueling process

- 1.5.21 Hair, Clothing & Jewelry Policy
- 1.5.22 Wireline / cable cutting & repair procedures
- 1.5.23 Hot work that includes a Hot Work permit
- 1.5.24 Work Near overhead powerlines that complies with Newmont Work Near overhead powerlines (in absence of a program Newmont SOP shall be utilized) with a permit that includes a risk assessment for the work and a diagram / sketch of the work area with positions of people, equipment and powerlines distances at 75 feet or less
- 1.5.25 Electrical safety that includes grounding, earth resistivity testing, electrical cord ground testing, inspection, and approved over current protection devices (GFCI or other approved overcurrent protection devices)

2 OPERATIONAL REQUIREMENTS

Operational activities will be performed per the following requirements and performance standards for each project.

2.1 Inspections (Safety, Health & Environmental Compliance)

- 2.1.1 Pre shift / Pre task and drilling equipment inspections shall be:
 - 2.1.1.1 Work area inspections are the responsibility of each person in the work area experienced in the task and/or equipment in the area
 - 2.1.1.2 Conducted prior to work commencing
 - 2.1.1.3 Shall involve all persons on the work site
 - 2.1.1.4 Deficiencies shall be noted and corrective actions shall be made
 - 2.1.1.4.1 Deficiencies not corrected that shift shall be identified and communicated to all affected personnel using appropriate methods such as signage or barricades and noted on the inspection record
 - 2.1.1.4.2 Upon completion of the corrective action, the date the deficiency was completed will be identified on the original record in which it was recorded.
 - 2.1.1.4.3 Shall be documented and inspection documents shall be maintained for a period of no less than 1 year. These documents shall be made available for review to client, supervision / management, and regulators.
 - 2.1.1.4.4 Mobile equipment inspections shall be completed prior to equipment use by each person operating the equipment and shall be documented.
 - 2.1.1.4.5 Safety defects will down the equipment until repairs are made and a Do Not Operate tag identifying the inspector, date and deficiency will be placed on the equipment.
 - 2.1.1.4.6 Shall be documented and inspection documents shall be maintained for a period of no less than 1 year. These documents shall be made available for review to client, supervision / management, and regulators.
 - 2.1.1.4.7 Contractor Management, supervisor, and / or HSE inspections will be conducted on a regular basis (monthly at minimum) to verify inspection program meets the requirement and will include a review of work area and mobile equipment inspection records.
- 2.1.2 Mast / Tower Inspections

- 2.1.2.1 Shall be conducted each time the mast is laid down by a qualified person
- 2.1.2.2 Will include items identified in the OEM Operation and Maintenance manual recommendations as well as the self-retracting lanyard and anchor point
- 2.1.2.3 Will be documented and include date, inspector, hole number, rig number, deficiencies and any actions taken
- 2.1.2.4 A copy of the most current mast inspection will be retained at the drill. Copies of all inspections will be retained for no less than one year

2.2 Communication

- 2.2.1 Each drill will have an effective method of communication available during operation (sat phones, lights, cell phones, mine radio, spot or in-reach) or identified location to establish communication with necessary resources
- 2.2.2 The drill shall have a method to communicate with other members of the drill crew that are retrieving supplies, water or other reasons they may travel away from the drill site
 - 2.2.2.1 In the event radio or cell signals are not available for the area, an estimated return time will be established. In the event the employee does not return in the established time, the driller will begin a search to verify employee's wellness

2.3 Personnel

- 2.3.1 Each drill rig will have a qualified and designated person responsible at all times during operation and maintenance of the drill rig. That person will be staffed by the Drilling Operator (contractor)
- 2.3.2 Each drill will have no less than 2 persons on site while the drill is in operation and shall comply with Newmont Working Alone on Surface Drills & Working Alone on Underground Drills SOPs

2.4 PPE

- 2.4.1 PPE will be managed by the drill operator (contractor) procedures
- 2.4.2 PPE will be compliant with Newmont PPE Standard, recognized safety standards (ANSI, MSHA or other applicable standards) and regulatory standards
 - 2.4.2.1 Gloves will be selected and worn for task specific risks. A minimum of cut level 3 or higher shall be worn when conducting tasks that have a potential of lacerations.
 - 2.4.2.2 Safety Glasses must have side protection and meet ANSI Z-87 Standard. Only safety glasses stamped with ANSI Z-87 standard are permitted.
 - 2.4.2.3 Persons wearing respirators will have no more than 1 days growth of facial hair where the respirator seals. Any other facial hair must not interfere with the operation of the valves.

- 2.4.2.4 Safety boots must be at minimum ankle high and fully laced and tied (if equipped). Safety boots must be equipped with metatarsal protection underground.
- 2.4.2.5 Hard hats will be ANSI Z-89.1 rated and replaced following manufacture guidance. Fiberglass hard hats shall not be worn underground.
- 2.4.2.6 High visibility (orange/yellow or green) clothing shall be worn on surface with reflective stripes. Underground clothing shall have reflective striping that meets or exceed Newmont requirements.
- 2.4.3 PPE shall be worn as required per job hazards
- 2.4.4 PPE shall be inspected, maintained, and stored according to manufacturer's recommendations

2.5 Lightning protection/detection

- 2.5.1 Lightning procedures must meet Newmont SOP and communicated to all drill personnel
- 2.5.2 Lightning detection will be at all drill sites. This may include mine site radio warnings, individual lighting alert devices, and phone or weather apps

2.6 Audit schedule/requirements

- 2.6.1 Each Contractor and Drilling Services Health and Safety Representative will conduct a documentation audit no less than monthly.
- 2.6.2 Copies of audits shall be submitted to Newmont Drilling Services or Newmont Exploration Health & Safety Representative for review

3 DRILLING AND SUPPORT EQUIPMENT REQUIREMENTS

Equipment will be fit for purpose and maintained according to OEM recommendations. Add-on equipment such as interlocks, crown out devices or other safety devices will require a change management risk assessment and shall be maintained and function according to approved engineering design.

3.1 Emergency shut down switches

- 3.1.1 The drill will have at minimum 2 emergency stop switches. One must be on the drillers controls and one located in an area that is accessible by the assistant
- 3.1.2 Operable, visible and accessible
- 3.1.3 Tested each shift prior to work as part of pre-shift work area inspection
- 3.1.4 Communicated in drill site induction
- 3.1.5 Other equipment such as light plants, compressors, pumps, etc. shall have an accessible shut off switch
- 3.1.6 Will meet regulatory requirements (MSHA, OSHA, or applicable regional / national standards)

- 3.1.7 Each drill shall have a risk assessment that identifies the specific hazards and controls for that rig and support equipment as well as limitations (pull back, road grade, weight capacity for pipe and water trucks)

3.2 Hand and portable power tools

- 3.2.1 Shall be used only as designed and approved by the OEM
- 3.2.2 Shall not be modified without engineering design and approval
- 3.2.3 Properly inspected, stored and maintained
- 3.2.4 Pipe wrenches shall never be used under power unless a documented JHA has been completed, the wrench is secured and all persons are out of the swing and or break radius. Aluminum pipe wrenches are prohibited on Newmont projects
- 3.2.5 Hammers greater than 4 pounds must have a HRC rating of 50 or less
- 3.2.6 The use of pocket knives for work tasks is strictly forbidden

3.3 Lifting Equipment

- 3.3.1 Inspection requirements must comply with applicable federal, state regulations or requirements
- 3.3.2 Equipment with identification tags/labels that are legible and clear
- 3.3.3 Pulling plug, clevises, pins, retaining clips must be inspected and replaced when excessive wear is identified
- 3.3.4 Wire rope / slings will be inspected visually before each use by a qualified individual
- 3.3.5 Lifting chains will be tested annually or as needed
- 3.3.6 Tag lines should be available and used as needed

3.4 Guarding and Barriers

- 3.4.1 Machine Guards
 - 3.4.1.1 Rotating / moving parts such as pump shafts, fan blades, pulleys, belts, etc. that are accessible by persons or their clothing shall have guards to prevent accidental / unintentional contact
 - 3.4.1.2 Guards shall be constructed / installed in a manner that requires tools and effort to remove, and withstand the vibration / movement of the component being guarded
 - 3.4.1.3 Guards will be inspected, maintained and not create additional hazards
 - 3.4.1.4 Guards will meet regulatory requirements at minimum.
 - 3.4.1.5 Guards will only be removed during maintenance or testing
 - 3.4.1.6 An item is considered to be guarded by location if it is greater than 7 feet from walking or working surfaces / platforms

3.4.1.7 Drill motor decks shall have chains/railings and signs at access points. Sign shall indicate no entry during operation.

3.4.2 Rotation Barriers

3.4.2.1 Surface Diamond Drills

3.4.2.1.1 Shall be equipped with a barrier that prevents accidental contact with rotating pipe

3.4.2.1.2 A positive latching mechanism that prevents accidental / unintentional opening must function if equipped

3.4.2.1.3 If OEM equipped with barrier interlocks that stop or reduce rotation to 30 RPM or less, the interlock must be maintained, function and be tested each shift

3.4.2.1.4 Rotating pipe that is easily accessible from the working / walking surfaces between foot clamp and collar will have a barrier to prevent persons from contacting the rotating pipe

3.4.2.2 Surface RC drills

3.4.2.2.1 Will have a barrier that prevents accidental contact between table and rotating pipe

3.4.2.2.2 Rotating pipe that is accessible between table and collar will have a barrier to prevent persons from contacting the rotating pipe

3.4.2.3 Underground Diamond Drills

3.4.2.3.1 No person shall approach rotating pipe to a distance of 3 feet. (See Underground Drilling Distance of Approach Limitation STP)

3.4.2.3.2 A chain with a sign that prohibits access to the pipe, head and feed frame

3.4.2.3.3 Chain will be positioned in a manner that a person cannot physically contact rotating pipe with any part of their body

3.4.2.3.4 Chain latches/hook points will be such that they require a person's actions to open and will be visible to the driller from control panel

3.4.2.3.5 For drills equipped with a laser device, the laser shall be positioned across the length of the access point and at a minimum height of 3 feet and a maximum height of 4 feet. It shall be tested each shift. An area sign shall also be in place that prohibits access.

3.4.2.3.6 Exclusion zones shall be adjusted and maintained according to drill angles / azimuths

3.4.2.4 Underground Diamond Drills used for surface drilling / Horizontal Drill rigs

3.4.2.4.1 A chain with a sign that prohibits access to the pipe, head and feed frame

3.4.2.4.2 A barrier will be positioned in a manner that a person cannot physically contact rotating pipe with any part of their body

3.4.2.5 Barrier latches/hook points will be such that they require a person's actions to open and will be visible to the driller from control panel

3.4.2.5.1 For drills equipped with a laser device, the laser shall be positioned across the length of the access point and at a minimum height of 3 feet and a maximum height of 4 feet. It shall be tested each shift. An area sign shall also be in place that prohibits access.

3.4.2.5.2 A barrier shall be installed for exposed rotating pipe between the foot clamp and the collar. The barrier will be located at a distance that will prevent a person from contacting the pipe and no less than 5 feet from the pipe. Stock panels, chain link fence may be used. A sign shall also be placed on the barrier that prohibits access. Surface casing can be used to prevent contact with rotating pipe. If casing is used, it shall be set from collar to foot clamp.

3.4.2.6 Underground RC Drills

3.4.2.6.1 Drill shall be equipped with pull cord / emergency stop device positioned adjacent to the feed frame where persons access. The pull cored / emergency stop device shall be tested each shift.

3.4.3 Heat sources

3.4.3.1 Heat sources that have potential to cause burns such as mufflers and turbos that are accessible will be positioned or have shields / covers that prevents accidental contact if not guarded by location

3.4.3.2 Portable heaters will be positioned to prevent accidental access. The portable heaters shall be maintained with all protective shields and covers in place.

3.5 Hoses: Manufacture and Securing

3.5.1 Shall have a wire reinforced sample hose with a minimum pressure rating of 500 psi working pressure when new and restraining requirements see 6.23 below (RC sample return hose aka big blue hose) sample return hose shall be secured with chains attached to approved rated anchor points 180 degrees apart on air rigs (RC rigs)

3.5.1.1 Pressure relief hose will be secured on the open (discharge) end in a manner that prevents uncontrolled movement

3.5.2 All high pressure air hoses 1 inch in diameter or greater will be secured with whip checks or safety socks

3.5.2.1 Whip checks will be positioned across connections to minimize/control movement in the event of unplanned decoupling

3.5.3 Cam-lock connections will be secured using manufactured protectors, wire, pins, or other methods to prevent accidental release

3.6 Drill Controls

3.6.1 Will be positioned to allow driller to maintain unobstructed view of drill rods and head when practical

3.6.2 Control levers will be maintained to prevent unintentional movement (creep)

3.6.3 Will not be actuated while a person is working at the rods, table or head unless the task requires it and communication procedures have been identified and reviewed according to FLRA, JSA / JHA or SOP's

3.6.4 Drill operator will maintain a hands-off position on the controls for any task that does not require movement of pipe or head while work is occurring at table, heads or rods / tooling

3.6.5 All gauges shall function as designed and be maintained

3.7 Pressure Vessels, Boosters and Pressurized System Requirements

3.7.1 Pressure vessels must meet ASME (U.S.) or equivalent standards

3.7.2 Shall be equipped with an approved air bypass system

3.7.3 Must be maintained according to OEM standards with parts that meet OEM specifications

3.7.3.1 A record of maintenance shall be maintained that includes oil / air separator maintenance.

3.7.4 Equipped with over pressure (pop-offs) devices directed away from persons and / or activities and secured

3.7.5 Must be inspected and certified according to regulatory requirements with copies of current certifications made available for review

3.7.6 The positive displacement pump (BEAN pump) will be equipped with an over pressure device / pressure relief system and set to not more than 800 psi. The discharge will be directed away from persons and / or activities and secured

3.7.7 All water manifolds shall have a minimum rating of 1000 psi. Hoses and piping system shall be equipped with steel valves and rated accordingly

3.8 Lock Out Capability

3.8.1 Drills and ancillary equipment will be equipped with a switch or other device that provides a positive lock out

3.8.2 Drill crews will be trained on the location of all lockout switches on the drill and ancillary equipment

3.8.3 Drills employees will be equipped with lock out locks and tags. The LOTOTO policy will be available at each drill sites. LOTOTO will be followed according to Energy Isolation Procedures.

3.9 Make Up / Break Out Drill Tooling

3.9.1 All Drills

3.9.1.1 Contractor shall ensure proper tools and methods for make-up and break out of drill tooling are available and used

3.9.1.2 Cheater bars are prohibited

3.9.1.3 The head and foot clamp will be used to make or break connections

3.9.1.4 Pipe wrenches will be used only when

3.9.1.4.1 There are no other options and a documented JHA / FLRA has been completed

3.9.1.4.2 Drillers hands are removed from the controls and the controls are positioned to prevent unintentional movement of drill pipe during positioning / securing & removal of the wrench

- 3.9.1.4.3 Power will be applied only when the wrench has been restrained and all persons are out of the break and or swing radius of the wrench (only approved engineered wrenches shall be used)
- 3.9.1.4.4 Surface RC (Air –Reverse Circulation) Drills Tools such as spanners, break out wrenches will be equipped with handles for positioning unless hydraulically operated for positioning

3.10 Lighting requirements

- 3.10.1 All drill sites will be illuminated adequately in all areas that work occurs during dark hours. If necessary, light plants will be utilized

3.11 Deck & Work Area requirements

- 3.11.1 Be maintained free of tripping / slipping hazards
- 3.11.2 Have no defects or openings in working / walking / access areas
- 3.11.3 Decks may be equipped with removable sections to accommodate drilling various angles
- 3.11.4 Removable sections shall be installed in a manner that maintains integrity during operation
- 3.11.5 Access to elevated work areas appropriately equipped with steps or ladders. Steps and ladders will be constructed with materials that are substantial, secured from movement, and equipped with handrails where more than 3 steps are used

3.12 Specific Drill Rig Requirements

- 3.12.1 Diamond drill rigs
 - 3.12.1.1 Wireline requirements
 - 3.12.1.1.1 Wirelines will be inspected and maintained according to section 5.2
 - 3.12.1.2 Core removal process/ system
 - 3.12.1.2.1 Each drill shall have an approved method to retrieve and collect core that will consider ergonomic, mechanical and physical injury potentials.
 - 3.12.1.2.2 Each drill shall utilize a hydraulic core press. In the event the core press is not functioning, a water pumping system may be used the core press / water pump shall be used to extrude the core from the inner tube without damaging or causing any loss of the core. The press/pump will extrude core directly into a plastic tube, core tray or core box. Core will be placed into core box with great care in order to maintain the best possible sample. All core boxes will be legibly labelled according the current depth of the borehole and correct borehole identification (borehole number). Labelling must be done in neat and orderly fashion. (Note: a direct swivel connection is required for pumping core NO QUICK CONNECTS.)
 - 3.12.1.3 Overshot tube securing system
 - 3.12.1.3.1 The overshot and tube shall be secured using a locking pin or other approved locking device

3.12.1.3.2 In the absence of a positive locking device, a mechanical advantage device shall be utilized that prevents uncontrolled release of the tube from the overshot

3.12.2 Helicopter Transportable Diamond Drill Rigs

3.12.2.1 Componentry size / weight

3.12.2.1.1 All components shall have the weights clearly marked

3.12.2.1.2 Must be able to be transported in sections that will not exceed maximum lift weight of helicopter

3.12.2.1.3 Lifting lugs must be approved by certified engineer and re-approved every 12 months.

3.12.2.2 SOP for assembly / disassembly

3.12.2.2.1 Must have an approved SOP or JHA that identifies safe order of assembly / disassembly for drill rig

3.12.2.2.2 SOP / JHA will be reviewed and available to all persons conducting the work prior to the task.

3.12.2.3 Transport by helicopter

3.12.2.3.1 A pre-job JHA / risk assessment review will be conducted with all persons involved in the task.

3.12.2.3.2 All transport of drill rig and drilling supplies will be conducted according to standard Helicopter External Load Operation SOP (long line procedures)

3.12.3 SKID MOUNTED DRILL RIGS / Equipment

3.12.3.1 Towing Requirements

3.12.3.1.1 Towing connection points requirements shall be clearly identified and inspected for defects prior to use.

3.12.3.1.2 Towing connection points will be constructed according to approved engineering designs.

3.12.3.1.3 When towing skid mounted rigs, all fire prevention measures shall be followed (See Drill Road & Pad Construction Brush Fire Prevention STP)

3.12.3.1.4 Only designed shackles and approved tow straps/cable shall be used for towing drills / equipment. Chains shall not be used for towing

3.12.4 Mobile mounted drill rigs and rod carriers

3.12.4.1 Requirements

3.12.4.1.1 Shall be designed for the equipment, capable of transport within DOT regulations requirements

3.12.4.1.2 Shall have vehicle weight limitations identified

3.12.4.1.3 Shall have a restraint system for rods / parts

3.12.4.1.4 Shall not exceed the vehicles GVW limits

4 DRILL SITE REQUIREMENTS

4.1 Layout (insert diagram for example in bid package)

- 4.1.1 Drill and support equipment (mud tanks, pipe racks/trucks, water truck, storage areas) will be set up to control risks related to:
 - 4.1.1.1 Vehicle to vehicle interaction and vehicle to pedestrian interaction risks
 - 4.1.1.2 Pipe handling
 - 4.1.1.3 Sample handling
 - 4.1.1.4 Mud storage and mixing
 - 4.1.1.5 Fire prevention / risks
 - 4.1.1.6 Drill sumps
 - 4.1.1.7 Environmental management
 - 4.1.1.8 Other routine tasks

4.2 Size & Construction

- 4.2.1 Sites will be assessed to accommodate the various drill programs and equipment needs for:
 - 4.2.1.1 Mine site
 - 4.2.1.2 Exploration site (overland access)
 - 4.2.1.3 Exploration site (helicopter access)

4.3 Drill Site Demarcation Barriers

- 4.3.1 Drill sites will have a barrier that separates them from adjacent activities. Barriers may be windrows, berms, chains, cones or other appropriate methods.
- 4.3.2 Entry point will be identified with a sign that instructs all personnel to get drill crews attention prior to entry and receive a site induction for visitors.
- 4.3.3 Drill site barriers will have openings for entry / exit. The exit point will be at a 90 degree angle to adjacent roads where practical. When exiting a drill site, a stop will be required prior to entry onto adjacent roads.

4.4 Emergency/First Aid Support

- 4.4.1 All drill crew members will be required to have basic first aid training. First aid training will be updated annually
- 4.4.2 Drill sites will have at minimum three 1 liter bottles of eyewash solution
- 4.4.3 Drill sites will have fire extinguishers located at strategic locations on the drill site to control minor fires. The extinguishers will be inspected, operable, accessible and visible at all times. Locations will be determined according to risk exposure.
- 4.4.4 Drill sites shall have a first aid kit(s) capable for basic first aid. Kit shall be verified on site daily and contents inspected monthly.
- 4.4.5 Drill site will have emergency contact information and the emergency response plan at the drill site.

4.5 Hazardous Material Storage and Management

- 4.5.1 Hazardous materials must be stored and handled according to SDS / MSDS recommendations and regulatory requirements. SDS / MSDS sheets shall be available. All products shall be approved according to Newmont Product Approval Procedures.
- 4.5.2 Flammable liquids must be separate from flammable gasses (i.e. oxygen & acetylene, propane)
- 4.5.3 Gas cylinders shall be secured against movement and capped when not in use
 - 4.5.3.1 Oxygen & acetylene gauges / regulators shall be equipped with back flow preventers and appropriate protection for valves
 - 4.5.3.2 When not in use, valves will be closed, hoses and gauges shall be cleared of any gasses (depressurized)
 - 4.5.3.3 Will be transported according to regulatory procedures
- 4.5.4 Appropriate signage shall be placed in a readily visible location
- 4.5.5 Environmental controls shall be utilized in storage areas
- 4.5.6 Appropriate fire prevention/protection measures shall be in place
- 4.5.7 Flammables shall not be used for cleaning or as solvents

4.6 Elevated Platforms and Ladders

- 4.6.1 Elevated platforms shall be equipped with railings / chain railings / enclosure devices capable of sustaining minimum of 200 pounds -OSHA -CFR 1910.29 b (3)
- 4.6.2 Will be maintained with decking free of deficiencies and clear access
- 4.6.3 Drill mast / tower shall be equipped with a self-retracting lanyard securely affixed to an anchor point rated at 5000 pounds if persons are climbing the mast / tower
- 4.6.4 An engineered and approved mobile man-lift device may be used for access to tower and all Work at Height procedures will be followed

4.7 Exclusion Zones (people and equipment)

- 4.7.1 Exclusion zones shall be communicated to visitors in site inductions that includes expected Vital Behaviors
- 4.7.2 Exclusions zones will be marked with cones, signs, fencing or other barriers for work in the mast or other elevated areas
- 4.7.3 Exclusion zones for specific tasks (cycling tube, tripping, adding pipe, survey, etc.) will be communicated to all visitors prior to task commencing. All persons not actively engaged in the task will remain outside exclusion zone
- 4.7.4 Exclusion zones for hi-walls, banks, sumps, etc. will be identified with a barrier such as a berm, fence, stock panels or other appropriate methods
- 4.7.5 Exclusion zones for underground 0 to +90 degree drilling will be identified and followed according to established STPs and Distance of Approach Limitations STP

4.8 Parking / Staging Areas

- 4.8.1 Vehicles will be parked in a manner that does not create a hazard to persons working at the drill site
- 4.8.2 All vehicles on the drill site shall be secured with the appropriate sized chocks. Dual chocks shall be used and park brake shall be applied

4.9 Smoking Areas

- 4.9.1 Shall be identified and located a minimum of 25 feet away from flammable, combustible storage & use areas and hazardous materials with appropriate disposal facilities for used smoking materials. Smoking in Newmont owned or leased vehicles is prohibited (including E-cigarettes/vaping)

4.10 Visitor Induction

- 4.10.1 All visitors will receive site inductions by a member of the drill crew
- 4.10.2 All visitors will acknowledge the site induction and both the inductor and inductee will initial and sign the induction sheet
- 4.10.3 The induction will identify specific location, rig number and include the following items:
 - 4.10.3.1 Ground control awareness specific for current location / activities
 - 4.10.3.2 Current activities and areas to avoid
 - 4.10.3.3 Review of and verification that visitors have the required PPE for site
 - 4.10.3.4 Emergency procedures and equipment (fire extinguishers, first aid kits, eyewash and, contact list location, muster point, mayday or other emergency calls procedures)
 - 4.10.3.5 Newmont's Vital Behaviors; No complacency, No assumptions, Stay focused, No short cuts and Speak up
 - 4.10.3.6 Fatality Risk Management (FRM) Critical Controls and expected compliance (Identify applicable fatal risks and appropriate controls for site / project)

4.11 Drill Leveling System Use

- 4.11.1 Leveling jacks shall be placed on firm footings such as large metal plates, wooden blocks or other equivalent devices to maintain stability of the drill
- 4.11.2 Where used hydraulic jacks must be fitted with locking valves (anti back flow / check valve) and over center valves to prevent accidental activation. The hydraulic jacks must also be free of oil leaks in the leveling system.
 - 4.11.2.1 Drills equipped with hydraulic jacks may be equipped with a mechanical back up device alongside the jack or a pin lock device on the jack shaft

4.12 Environmental Controls

- 4.12.1 All drills will have on hand a spill kit that contains absorbent diapers or materials

- 4.12.2 Drills motor decks / carriers shall be placed over a liner that will contain any minor leaks
- 4.12.3 Appropriate preventative actions will be used when changing hoses, fittings, valves or other items that have a potential to result in a release.
- 4.12.4 The nozzle / valve shall be manned at all times during fueling and maintained free of leaks and drips
- 4.12.5 Hydrocarbon liquid storage will be located in a contained area using a method to contain any spillage / drippings equal to 110% of largest container being stored
- 4.12.6 Portable cans for diesel, gasoline, oil, hydraulic fluids or other hydrocarbons shall:
 - 4.12.6.1 Be in good condition
 - 4.12.6.2 Be labeled with contents and hazards
 - 4.12.6.3 Safety cans used for diesel / gasoline or other flammable liquids will be equipped with a self-closing lid and a spark / flame arrestor
 - 4.12.6.4 All containers / fuel tanks will not be filled to a level of greater than 90% to allow for expansion

4.13 Sumps (Active)

- 4.13.1 Will be monitored and not allowed to overflow. In the event a sump is filling it is the responsibility of the driller to notify Newmont Drill Services or the sump evac contractor as designated by Newmont Drill Services
- 4.13.2 Will be signed 'Danger Sump', 'Keep Out' or other appropriate signage
- 4.13.3 Will have a barricade or barrier (stock fencing, berm, or other physical barrier) located to prevent access from active work areas
- 4.13.4 Will be sloped on one end for egress (wildlife)
- 4.13.5 Will have a life ring, life jacket or knotted rope for emergency egress
- 4.13.6 Sumps will be monitored for any hydrocarbons. Hydrocarbons in the sump will be reported and cleaned by the contractor
- 4.13.7 Sumps will not be used for trash disposal

5 DOCUMENTATION AND RETENTION

5.1 Vehicle registration and insurance records

- 5.1.1 Contractors will maintain a copy of vehicle registration and proof of insurance in the vehicle accessing the site
- 5.1.2 Vehicle registration and insurance verification will be reviewed as a part of the contractor on-boarding process

5.2 Winch, wire ropes & chains

- 5.2.1 Drill Operators (Contractor Company) will have a winch rope, hold back / wire rope or chain replacement program
- 5.2.2 Program will be based upon annual Inspections, use, or testing per contractor's policies
- 5.2.3 Wire ropes, winch lines and chains will have a documented inspection program

5.3 SDS / MSDS

- 5.3.1 SDS's for all materials on site shall be current and accessible by all persons on drill site.
- 5.3.2 Location shall be communicated to visitors during inductions.

6 SAMPLES AND SURVEYS

6.1 Care and Transport

- 6.1.1 Samples (Core & RC) will be secured for transport per National Transportation Safety Board and DOT requirements.
- 6.1.2 Samples shall be secured in a manner that will not result in loss or damage

6.2 Collection and labeling

- 6.2.1 Samples will be collected & labeled according to Drilling Services Agreement (DSA)

6.3 Drill Hole Surveys

- 6.3.1 Drill hole surveys shall be conducted according to established procedures (see references)

7 RESPONSIBILITIES

7.1 Group Executive North America Exploration

- 7.1.1 Ensure standard is current

7.2 North America Drilling Services Manager

- 7.2.1 Ensure this standard is communicated to Drill Services SME's, supervisors, technicians, and all contractors as a part of contract bid & review for all projects
- 7.2.2 Ensure this standard is reviewed and updated every 3 years

7.3 North America Drilling Services SME's, Supervisors & Technicians

- 7.3.1 Be familiar with standard and monitor compliance in field

7.4 Exploration Health & Safety

- 7.4.1 Monitor compliance to standard

7.5 Contractors: Management, Operations, & Health & Safety

7.5.1 Communicate requirements to all employees and comply with standard

7.6 Employees / Contractors

7.6.1 All employees will adhere to the standards

8 DEFINITIONS

- ANSI - American National Safety Institute
- ASME - American Society of Mechanical Engineers
- DOT - Department of Transportation
- FLRA - Field Level Risk Assessment
- GFCI -Ground Fault Circuit Interrupter
- GVW - Gross Vehicle Weight
- HSE - Health, Safety & Environmental
- JHA - a Job Hazard Analysis
- JSA - Job Safety Analysis
- FRM - to Fatality Risk Management
- HME - Heavy Mining Equipment (shovels, track hoes, dozers, graders, Water trucks, haul trucks)
- HSS- Health Safety & Security
- HRC - a metal hardness rating-Rockwell Hardness rating on C Scale.
- In-Reach is a device similar to a SPOT that provides more flexibility in emergency communication using satellite connection. The device can be linked to a cell phone to provide for emergency texting capabilities.
- LOTOTO - Lock out, Tag Out, Try Out
- Mechanical Advantage is a device that connects or maintains connection between the overshot and core tube and spans the latch head / latching device.
- MSDS - Material Safety Data Sheet for chemical products / hazardous materials.
- MSHA - Mine Safety and Health Administration a US federal mine safety and health enforcement agency
- OSHA - Occupational Safety & Health Administration a US Federal occupational safety and health enforcement agency.
- OEM - Original Equipment Manufacturer
- PPE - Personal Protective Equipment such as safety glasses, safety boots, hard hat, gloves, etc.
- RPM - rotations per minute
- SAT Phone is a telephone used in remote areas for emergency communication utilizing a connection with a satellite
- SDS - Safety Data Sheet for chemical products/ hazardous materials
- Shall - must be adhered to, a mandatory requirement
- SME - Subject Matter Expert
- SOP - a Standard Operating Procedure
- SPOT is a device used for emergency communications via satellite and is set up with basic messages.
- STP - Standard Task Procedure

- Stock Panels are metal fence sections used for directing stock such as cows or sheep and are portable in nature and can be joined to use as barriers or fences.

9 REFERENCES

- Fatality Risk Standard – Cranes and Lifting NEM-HEA-STA-004
- Fatality Risk Standard – Electrical Safety NEM-HEA-STA-007
- Fatality Risk Standard –Isolation NEM-HEA-STA-001
- Fatality Risk Standard –Management of Stored energy NEM-HEA-STA-006
- Fatality Risk Standard –Vehicles and Driving NEM-HEA-STA-003
- Fatality Risk Standard –Working at Heights NEM-HEA-STA-005
- Construction of Exploration Drill Projects Near Sensitive Areas-North America - NA-NNA-EXP-STP-303
- Drill Pad Construction-High Walls and Benches –HSLP-AD-EX-NV-522
- Cycling Tubes-Mechanical Advantage -45 to -90 Degree Holes NA-NNA-EXP-STP-143
- Deep Exploration Drilling and Sumps – North America NA-NNA-EXP-SOP-298
- Diamond Drill Drilling Bore Holes Greater Than +20 Degrees SOP - NA-NNA-EXP-SOP-605
- Exploration Native Wildlife Procedure NA-NNA-EXP-SOP-1734
- Exploration Underground Lock Out Tag Out-Nevada NA-NNA-EXP-STP-261
- Inspection of Quad Latch Down Hole Tools-NA-NNA-EXP-STP-264
- Loading the Quad Latch System- NA-NNA-EXP-STP-263
- North American Exploration Drill Pad and Road Construction Brush Fire Prevention – NA-NNA-EXP-STP-195
- North American Open Bore Hole Policy –NA-NNA-EXP-POL-607
- Setting Casing on -45° to + 90° Boreholes North America Underground Exploration- NA-NNA-EXP-STP-608
- North America Exploration Surface Borehole Plugging SOP- NA-NNA-EXP-SOP-609
- Bore Hole Plugging for Underground Diamond Drill Holes SOP- NA-NNA-EXP-SOP-611
- Underground Drill Hole Survey Nevada- NA-NNA-EXP-STP-145
- Underground Drilling Distance of Approach Limitations- NA-NNA-EXP-STP-196
- Underground RC Borehole Plugging SOP- NA-NNA-EXP-SOP-613
- Underground RC Borehole Plugging STP –NA-NNA-EXP-STP-612
- Up Hole Borehole Plugging STP – NA-NNA-EXP-STP-614
- Conditioning HQ Drill Holes using Bentonite –NA-NNA-EXP-STP-265
- Working Alone on Surface Exploration Drills - NA-NNA-EXP-STP-177
- Working Alone on Underground Exploration Drills – NA-NNA-EXP-STP-176
- Core Sample Collection SOP-Nevada NA-NNA-GEO-SOP-384
- Down Hole Survey Guideline- North America NA-NNA-GEO-GUIDE-1481
- Downhole Survey for Underground SOP-North America NA-NNA-GEO-SOP-1501
- North America Reverse Circulation Sampling SOP- NA-NNA-GEO-SOP-386
- Surface Downhole Survey SOP-North America- NA-NNA-GEO-SOP-1480
- Electrical Storms- NA-NNA-HSLP-SOP-39
- Personal Protective Equipment and Rules Compliance -NAA-SOP-0010
- Helicopter External Load Operation SOP NEM-SAF-SOP-102
- IMS North America Regional Risk Management Procedure- NA-NNA-IMS-PROC-2645