



VUL-SWP-008-Conduct Drilling Operations

STANDARD WORK PROCEDURE (SWP)			
Description	Production Drilling		
Site	Vulcan Mine		
Department	Drill and Blast – Technical Services		
PPE Required		Job Step Analysis Reference	
 Safety helmets must be worn in this area  Ear protection must be worn  Protective footwear must be worn  Protective gloves must be worn  High visibility clothing must be worn in this area  Eye protection must be worn		Blackrock drilling – Conduct drill operations – Reich drill C550	
		Other Relevant Information	
		☐ Relevant OEM instructions & specification available	
VUL SOP Reference	ERT resources available on-site during operations.		
The purpose of this SWP is to provide a documented way of working to achieve an acceptable level of risk. The steps outlined pertain to the titled task only. All other SHMS requirements such as SOPs must be followed eg VUL-SOP-065-PPE, VUL-SOP-089-Dust etc.	All Drill operators are to be trained and assessed as competent. This competence must be current and equivalent to Certificate III in Drilling Operations		
	All Drill operators must be authorised to operate before conducting drilling operations at the Vulcan mine.		
People, Equipment, Materials and Tools Required			
People	Equipment	Materials	Tools
Competent and authorised operator.	Reich Drill C-550 drill	Drill pre start and equipment check list	Drill signage
	Sandvik DK25	Personal Hazard identification tool - Take 5	Drill hole dipping tape
	Atlas Copco L8	Drill plan sheet	Drill hole markers
		Drill hole data sheet	



1. Planning and preparation
1.1 Attend daily pre-start Meeting 1.2 Read OCE report. 1.3 Confirm Drill location and access. 1.4 Confirm tasks with supervisor including drill plan 1.5 Ensure that there is adequate tooling and materials
2. Work area inspection
2.1 Complete personal hazard id tool (take five). 2.2 Ensure correct signage is in place 2.3 Check for wet or boggy areas. 2.4 Check for high wall cracking and bunding height. 2.5 Ensure drill pattern has enough mark up. 2.6 Ensure VUL-FRM-16-04-Drill & Blast Pad Checklist has been completed and signed. 2.7 Ensure appropriate controls such as TMP are in place for any interaction on the drill bench IE: Multiple drills, LV parking, Blast crew, Watercart etc 2.8 Ensure lighting is adequate for your work area.
3. Conduct drill pre-start inspection
3.1 Complete personal hazard id tool (take five). 3.2 Complete walk around inspection undercarriages and tracks. 3.3 Isolate drill and test for dead. 3.4 Check fluid levels, oils, and coolant. 3.5 Check hoses and retainer pins for damage or leaks. 3.6 Check for equipment damage, walkways ETC. 3.7 Check walkways for obstructions.
4. Drill start up and checks
3.1 Ensure all personnel and mobile equipment are clear of drill work area. 3.2 Ensure all drill controls are set at neutral before startup. 3.3 Ensure all gauges are working correctly. 3.4 Ensure drill is in neutral mode. 3.5 Test all control functions are working correctly. 3.6 Ensure all paperwork has been completed correctly. 3.7 Ensure defects have been recorded and reported as per VUL-SOP-098-Reporting & Rectifying Defects.



5. Tramming
5.1 Before tramming ensure drill lead rod is in the deck spanner 5.2 The jack legs are fully retracted 5.3 Ensure loose objects on the drill deck or walkways are secured. 5.4 Ensure drill is in tram mode.
6. Drill set up
6.1 Ensure drill mast is set to correct angle. 6.2 Drill is correctly parked on the drill hole marker. 6.3 Lower jack legs and level drill. 6.4 When drilling presplit holes, tail room to outside bunding maybe compromised. If this is the case ensure spotter is used so no contact is made to the bunding by the tail of the drill. Presplit holes are to be completed on dayshift to aid with vision.
7. Commence drilling operations
7.1 Ensure drill is in drill mode to enable drilling functions. 7.2 Remove deck spanner from lead rod and lower to the ground. 7.3 Switch on drill air/water and set depth counter. 7.4 Apply rotation and collar hole to the approximately the first metre. 7.5 Drill lead rod down full length to deck spanner. 7.6 Remove rotary head from lead rod and raise to top of mast. 7.7 Move carousel in fully, engage rod support and attach rotary head to rod. 7.8 Retract carousel fully and lower and attach to lead rod. 7.9 Retract rod support and deck spanner switch on air and water. 7.10 Repeat process until the hole has reached required depth. 7.11 Leave on bottom for a few 30 seconds to clear hole and pull rod back to tool joint and apply deck spanner. 7.12 Switch air and water off, reverse rotate rod and break off lead rod. 7.13 Lift rod up to height of carousel and engage carousel fully out. 7.14 Reverse rotate to drop rod into carousel pot, lift rotary head clear of carousel. 7.15 Move carousel out and disengage rod support. 7.16 Repeat process until all rods have been removed from drill hole and the lead rod is in the deck spanner



8. Long distance tramming
8.1 Ensure all loose objects are secured on decks and walkways. 8.2 Lead rod is secured in deck spanner. 8.3 Rotate Carousel to the spare pot position and move fully into the lead rod. 8.4 Disengage mast locking pins and lower mast to the mast rack. 8.5 Retract jacks fully and switch to tram mode. 8.6 Ensure two radio is working correctly and is on the correct channel. 8.7 Contact OCE and road users to advise them that you are moving. 8.8 Use escort if necessary.
9. Bit change
9.1 Refer to VUL-SWP-09-Drill Bit Change.
10. Housekeeping – End of Shift
10.1 Ensure all paperwork has been completed correctly at end of shift. 10.2 Park drill in a safe area away from high wall crest and jacked up level. 10.3 Remove any rubbish from cab drill deck and walkways. 10.4 Stow away equipment in correct storage area. 10.5 Secure any loose objects on deck or walkways. 10.6 Clean cab, windows and wash drill deck off. 10.7 Place rubbish in correct bins at end of shift. 10.8 Ensure drill is isolated before leaving. If no operator is taking over from your shift, ensure mask is in the lowered position.
11. Weather
11.1 Trigger actions for weather events can be found in VUL-TAR-004-Severe Weather & VUL-TAR-005-Lightning. Note: Level 2 Lightning - Cease operations and prepare for Red Level 3 Alert. Lower masts/booms, minimise operations on equipment, move plant and park in safe location outside exclusion zones