VUL-SWP-125-Highwall Mining Operations

SAFE WORK PROCEDURE (SWP)	
Description	*Highwall Mining Operations*
Site	Vulcan Mine
Department	*Operations*

PPE Required	**Workplace Risk Assessment & Control Reference**
	Highwall Mining Operations Job Hazard Analysis 09/04/2025
	Other Relevant Information
	☒ Relevant OEM instructions & specifications available ☒ Pre-start Meeting ☒ OCE Report

VULCAN SOP/ PRO Reference	
VUL-SOP-116 (g) – Charging and Firing Explosives VUL-SOP-076-Using Mobile Plant VUL-SOP-065-Personal Protective Equipment VUL-SOP-144-Lighting VUL-TAR-003-Geotechnical Failure VUL-SOP-125(2)(a)- Highwall Mining Area Entry and Evacuation VUL-SOP-138(a)(b)-Work on or Near Stockpiles VUL-SOP-117-Spoil Dumps and Excavated Faces VUL-MOP-089-Dust Management and Monitoring VUL-SWP-144(1) Setup Lighting Plant VUL-MOP-144-Lighting	VUL-SOP-078-Isolation & Tagging VUL-SOP-021-Access to Exposed Electrical Conductors VUL-SOP-022(i)-Locating and Dealing with Electrical Faults VUL-FRM-11-19-Critical Task Observation VUL-PHMP-02-Vehicle Interaction VUL-TAR-011-Highwall Miner Geotechnical VUL-TAR-010 Highwall Mining Gas Management Recognised Standard 19 VUL-SOP-125(2)(a) Highwall Mining Operations Flooding (inrush outrush)

People, Equipment, Materials and Tool Required

People	Equipment	Materials	Tools
Operator	Highwall Mining Machine		
Deck hand	Highwall Mining Machine		
Maintainer	Highwall Mining Machine		
Operator	Loader		

Work area Setup
- Call up and traffic signage - Traffic management plan - Separation bunding to be installed where required to ensure separation between light vehicles and highwall mining beam loading work area. - CMW must maintain positive communications before entering the work area - Work area inspections to be completed prior to operations commencing - Adequate lighting as per **VUL-MOP-144-Lighting** - Safe Standoff distances must be maintained between personnel, Light Vehicles, HME - PPE shall be worn in accordance with **VUL-SOP-065-PPE** - Critical Task Observations are to be completed by all Supervisors
Geotechnical Hazard
- Standoff from walls as per **VUL-SOP-117-Spoil Dumps and Excavated Faces** or as per directed from a Geotechnical Hazard Alert. - Geotechnical signoff as part of the Permit to Mine for the area - Compliance to design - All personnel are to complete Work Area Inspections before commencing works or following an incident. - OCE Report - Adequate Lighting - Crest Inspection (conducted by OCE) - FOPs and HME - All personnel working on the ground must carry handheld radios to maintain clear and continuous communication with equipment operators and supervisors.
Active stockpiles causing engulfment
- Demarcate fall zone / stockpile footprint from stacker, ensure toe stop pile has a minimum stand-off of 5 metres from cable or highwall standoff bunding to allow safe egress to the machine and cable protection. - Supervisor to monitor stockpile size to ensure limits are not exceeded
Cable Installation
- Controls within **VUL-MOP-028-Cable Management** plan to be followed - HV Electrical workers to isolate and disconnect all HV Cables as per **VUL-SOP-021-Access to Exposed Electrical Conductors**

Nitrogen Plant/Water Infrastructure and Generator Setup

- Flat/Level and compacted work area
- Cable markers
- Drainage installed
- Cable crossover where required
- Dedicated channel
- Handheld radios for pedestrian, ensure POS COMMS with HME
- Dedicated no-go zones
- Delineated sub-station
- HV Switching access is restricted
- Watercarts to be made available upon request to ensure that exposure to respirable silica dust is kept to a minimum (<0.05mg/L)

Operation of Highwall Mining Unit – Tramming into Position

- Walk around inspection by spotter to be conducted before and after unit relocates
- Handheld radios for pedestrians
- Spotter x 2
- Cable Management as per **VUL-MOP-028-Cable Management** plan
- Designated travel path
- Audible alarm when unit is relocating
- Watercarts to be made available upon request to ensure that exposure to respirable silica dust it kept to a minimum (<0.05mg/L)
- Ensure Highwall standoff is has demarcation or hard barrier before walking the machine

Operation of Highwall Mining Unit

- Align to design heading using GPS or survey
- Ensure minimum 10 metre standoff is maintained
- Ensure dust is managed using water suppression when required
- Ensure gas monitors have been BUMP tested and operational before entry to each drive
- Ensure nitrogen machine is producing Inert atmosphere into each drive
- Cutter head to always be in the standoff zone or other isolated while not in use/or service
- Ensure power head exclusion zone is in place at the rear of the HWM

- All HWM operations and persons interacting with the HWM unit to be familiarised with location of isolation point and/or emergency stops to HWM Unit.

Relocating push beams or bucket

Suspended Loads

- Engineered lifting devices
- Travel and load as low as possible to ground
- Set travel path for loader/telehandler
- Maximum limit of 1 x push beam to be carried at any one time
- No personnel to be on the ground on the active side of the HWM machine while relocating the push beams, if no protective bunding is in place between the pedestrian and the beam loading machine.

Load and Haul from coal stockpile

Pedestrian Interaction and Dust Control

- Before coal stockpile activities are to commence, the loading unit shall make positive contact with the HWM operator on the dedicated HWM radio channel and communicate their intensions and confirm no pedestrians are the ground before starting loading activities.
- A sufficient amount of the coal stockpile is to remain in place to ensure a physical barrier separates the coal loading and HWM areas.
- Hard bunding is to be installed in the surrounding areas as well to ensure the separation of work areas is maintained.
- All pedestrians are to remain on the HWM while coal loading activities are conducted. If pedestrians are required on the ground, positive communication is to be made with the loading unit.
- Dust levels are to be monitored, and floor dust controlled by water cart suppression.
- If coal dust caused by the loading unit is blowing into the HWM area, the loading unit is to cease until controls can be put in place to ensure there are no unacceptable risk to persons.

Restarting after Maintenance or other delays

Ensuring operating area is clear

Before operations resume after delays, the deck hand is to complete a walk around inspection of the machine and then once back in the deck operations area, do a final scan around the machine for hazards before confirming with the HWM operator that mining operations can commence if no hazards are present.