

Pollution Incident Response Management Plan (PIRMP)

Penrose Quarry

Revision:	Date:	Status:	Prepared/Reviewed by:
9	04.05.2022	Issued for use	D Thiedeke
10	22.12.2022	Issued for use	D Thiedeke
11	25.04.2024	Issued for use	D Thiedeke
12	04.07.2024	Issued for use	L Attard/ M Rixon /J. John

Concrete & Aggregates

HTA-E-SOP-001

Hy-Tec Industries

Safety Management System

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Pollution Incident Response Management Plan (PIRMP)

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21. ENVIRONMENTAL INCIDENT RESPONSE – POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

21.1 PURPOSE

C&A Hy-Tec Quarries have systems in place to ensure all environmental/pollution incidents and hazards are controlled and monitored in line with the relevant state legislation.

21.2 SCOPE

This element applies to all C&A Hy-Tec Quarry employees, contractors, sub-contractors and visitors to ensure that all individuals are aware of requirements with regards to environmental incident issues. This element is used in conjunction with ABL-HSE-GSS-11 for reporting. If a pollution incident occurs in the course of an activity, so that material harm to the environment (within the meaning of **Part 5.7 – Duty to notify pollution incidents** - section 147 – NSW POEO Act) is caused or threatened, the person carrying on the activity must immediately implement the site's pollution incident response management plan in relation to the activity required by this Part and report any incident / incidents that cause or threaten material harm **Immediately** after becoming aware of the incident.

21.3 PROCEDURE

All hazards relating to human health or the environment will be described in the Environmental Hazard Management Matrix (**Appendix 8G**). The details of the pre-emptive action to be taken to minimize or prevent any risk of harm to human health or the environment arising out of the relevant activity will be recorded in a JHA (**Appendix 7C**) and/or a Risk Assessment (**Appendix 7D**). Risks will be minimised using the Risk Management Process (**Appendix 7K**).

An inventory of potential pollutants on the premises will be recorded in a Hazardous Substance Register (**Appendix 17B**). This register will also include the quantity and location of the pollutant.

A description of the safety equipment or other devices that are used to minimize the risks to human health or the environment and to contain or control a pollution incident are listed in the PPE Equipment Matrix (**Appendix 19B**) and Hazard Register (**Appendix 7F**).

The names, positions and contact details of key individuals at the quarry are kept in the Management Structure Register (**Appendix 4B**).

The contact details of each relevant authority are required to be available and displayed. Examples of required authorities are below:

- (a) EPA/OEH
- (b) Local Council
- (c) Local DPI office
- (d) Safe Work
- (e) Fire and Rescue
- (f) Water Catchment Authority
- (g) Ministry of Health
- (h) Department of Agriculture, Water and the Environment

A neighbourhood contact list will be maintained at the site. In an emergency incident, the appropriate neighbours will be contacted by the Quarry Manager or delegate and will be updated as required by the Quarry Manager / delegate. Constant communication such as 2-way radios, mobile phones and Business Communication (Toolbox) Meetings etc. (**Appendix 6B**) will be used as early warning mechanisms to communicate with site staff and management throughout the incident or other times.

Concrete & Aggregates

An Environmental Incident Definition and Response Flow Chart (**Appendix 21A**) has been produced for guidance on the process of dealing with a pollution incident. "Pollution" means:

- (a) water pollution, or
- (b) air pollution, or
- (c) noise pollution, or
- (d) land pollution.

Definition - "Pollution Incident" - means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

The mine plan (**Appendix 3B**) will show the location of the premises with the property boundary and any other relevant detail.

The qualifications and training competencies of all employees will be recorded as required in the Training Register (**Appendix 11F**).

It is a legislative requirement for this plan to be tested and updated on an annual basis and within one month of an incident. To complete this requirement a Pollution Incident Response Drill Report (**Appendix 21B**) has been prepared. The checklist includes the major elements of the plan that require testing. This PIRMP is to be reviewed and updated as required at least annually to ensure that incident response systems are fully functioning and are ready to be implemented if an incident occurs. This requirement shall be listed as an action item and scheduled on the environmental compliance planner. Training records should be stored on site and in the Hy-Tec Intranet data base.

The plan will be controlled and reviewed in accordance with Element 5. Any changes will be recorded along with the date in the SMS Amendment Sheet (**Appendix 1A**).

21.4 REFERENCES

- [Environmental Protection Act 1994](#)
- [Protection of the Environment Operations Act 1997](#)
- [Protection of the Environment Operations \(General\) Amendment \(Pollution Incident Response Management Plans\) Regulation 2012](#)

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"pollution incident" means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

Meaning of material harm to the environment

(1) For the purposes of this Part:

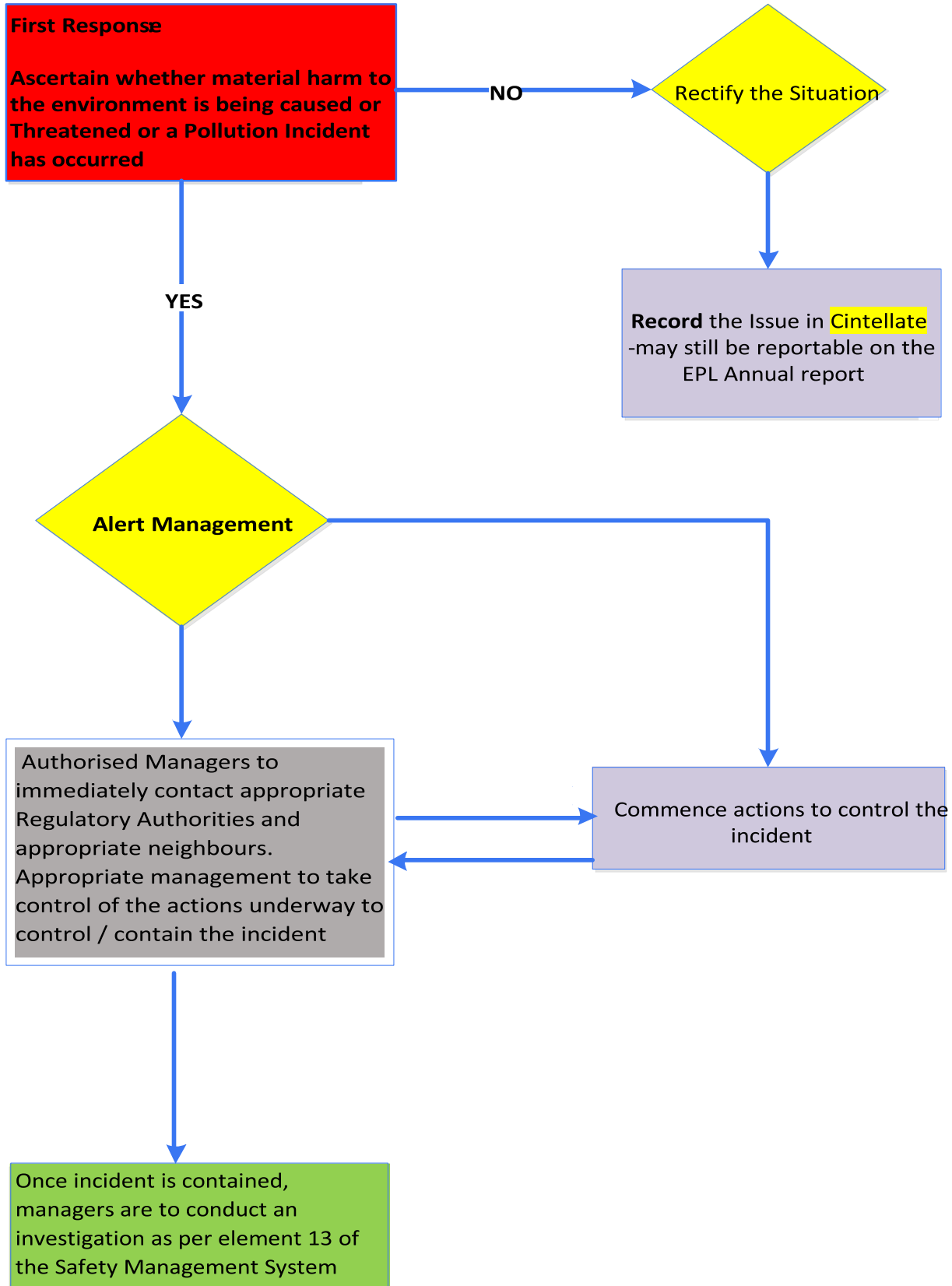
(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.





HTQY-E-SFT-024

Hy-Tec Industries – Penrose Quarry

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Appendix 21B

Environmental Response Plan Drill Report

Site/Location:		Date of Drill / Environmental Issue	
Method Used for initiating response:			
Time of Environmental incident:		Was Management contacted?	
Was Incident contained?		Method/equipment used?	
Was regulatory Authority notified?		Name of reporting person?	
Name of regulatory authority reported to		Contact person at Reg. Authority?	
Was incident adequately cleaned up?		Was waste disposed of correctly?	
Comments on the Drill / Environmental Emergency:			
Corrective actions to be adopted as a result of this Drill / Environmental Emergency			By whom
			By Date
Report Compiled by			Date



ABL-HSE-GSS-12-03

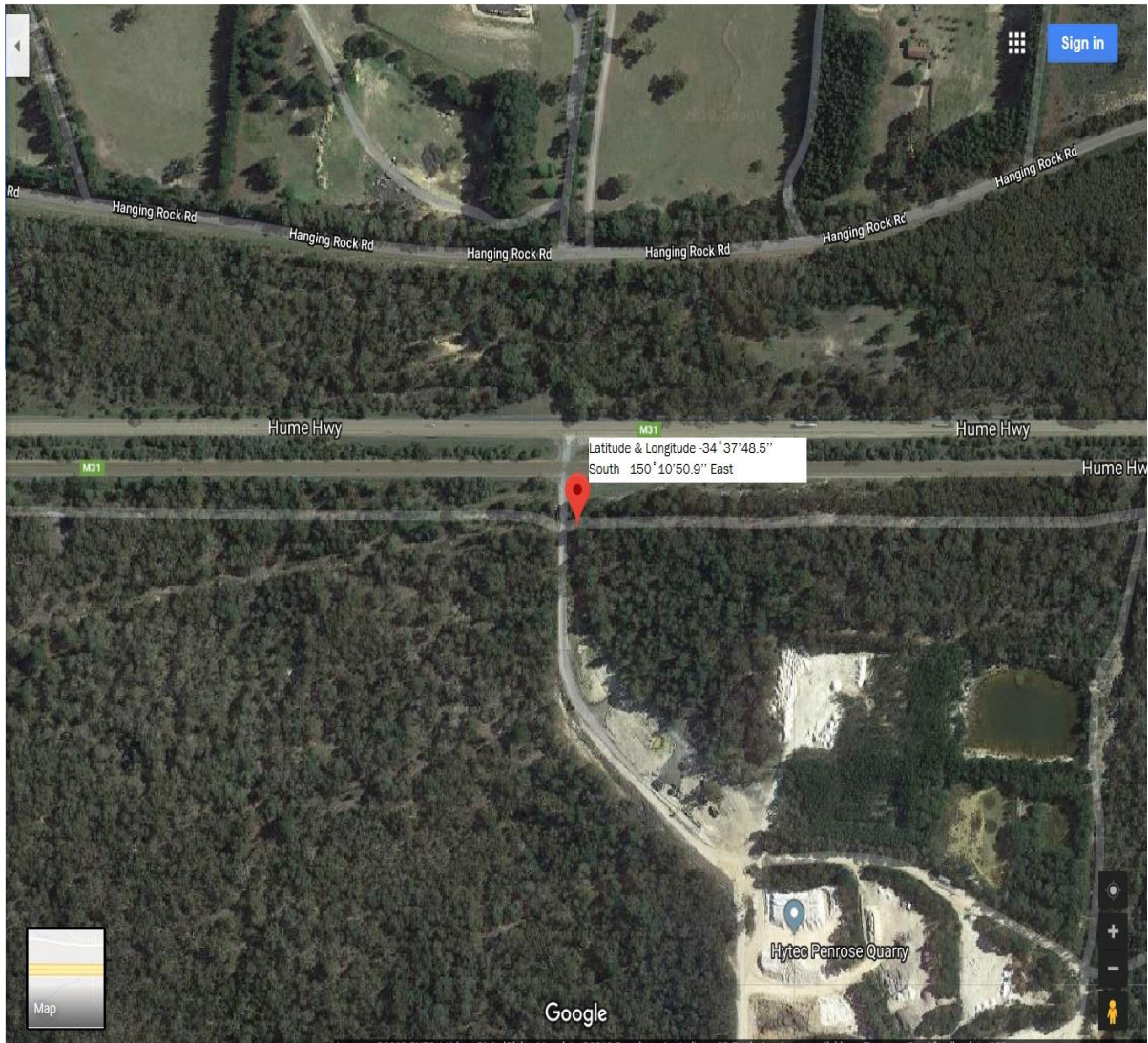
EMERGENCY RESPONSE CONTACT – PENROSE QUARRY

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EXTERNAL EMERGENCY RESPONSE ORGANISATIONS			
Service	Emergency Contact	General Enquiry	Address
Ambulance	000		
Bowral Hospital – (Ambulance)	000	02 4861 0200	Mona Rd, Bowral
Department of Industry – Water	02 93386600	0293386600	www.industry.nsw.gov.au/water
Department Planning & Environment	1300 305695		www.planning.nsw.gov.au
Depart. P & E – Resources Regulator	1300 814609		www.resourcesregulator.nsw.gov.au
Doctor, Moss vale medical centre	N/A	02 4868 1500	61 Elizabeth st, Moss vale
E.P.A	131555		
Fire Brigade	000	02 4877 1551 02 4841 1555	Wilkinson St, Berrima Hume street Marulan South
Ministry of Health		02 93919000	www.health.nsw.gov.au
Poisons Information Centre	N/A	13 11 26	www.poisonsinfo.nsw.gov.au
Police	000	02 4868 1222	Elizabeth street Moss Vale
SafeWork	N/A	13 10 50	contact@safework.nsw.gov.au
State Emergency Service	13 25 00	N/A	
Wingecarribee Council	N/A	02 4868 0888	68 Elizabeth Street Mose Vale

If any emergency service (**Police, Fire or Ambulance**) is called to site, a nominated employee must meet the response team at the front gate (**13601 Hume Hwy, Paddys River**) to the Quarry and escort them to the required location.

List of Neighbourhood contacts to be maintained at the Quarry – **For privacy reasons, this list is not to be published.**



Helicopter Directions For emergency purposes

Latitude & Longitude 34° 37' 48.5" South 150° 10' 50.9" East

Being 34 degrees, 37 minutes and 48.5 seconds south / 150 degrees, 10 minutes and 50.9 seconds East



HTQY-S-HSE-072

Hy-Tec Industries – Penrose Quarry

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Appendix 4B

Register of persons occupying positions in the Management Structure

Position	Name	Start Date	Responsible for activating Incident Response Plan (Y/N)	Responsible to Manage Pollution Incident (Y/N)	Authority to Notify (Y/N)	Finish Date
Chief Operation Officer	Andrew Dell (0417 607 450)	N/A	N	Y	N	
National Planning & Development Manager	Darryl Thiedeke (02 9751 7130 / 0409 652 022)	N/A	N	N	Y	
Group Manager HSE Adelaide Brighton	Stephen De Musso (0439 740 293)	N/A	N	N	Y	
NSW General Manager	David Cilento (0418 162 498 / 02 9751 7143)	N/A	N	N	Y	
Hy-Tec HSE Advisor	Joe Perulero (0479 188 381)	N/A	N	N	Y	
Quarry Operations Manager NSW	Lee Attard (0497 603 401)	N/A	Y	Y	Y	
Quarry Manager	Michael Rixon (0407 107 247)	N/A	Y	Y	Y	
Quarry Supervisor	Mitch Moroney (0403 256 426)	N/A	Y	Y	N	
Quarry Supervisor	Kieron Whitlock (0460 322 199)	N/A	Y	N	N	
Quarry Operator	Neil Van Oosterum	N/A	Y	N	N	
Quarry Operator	Scott Harrison	N/A	Y	N	N	
Quarry Operator	Ellie Clarke	N/A	Y	N	N	
Quarry Operator	Steve O’Donnell	N/A	Y	N	N	
Quarry Operator	Leah Trinder	N/A	Y	N	N	



HTQY-S-HSE-072

Hy-Tec Industries – Penrose Quarry

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Appendix 4B

Register of persons occupying positions in the Management Structure

Quarry Operator	Victor Adamson	N/A	Y	N	N	
Quarry Operator	Dylan Lord	N/A	Y	N	N	
Quarry Operator	Lindley Price	N/A	Y	N	N	
Weighbridge/administration	Helene Robson	N/A	Y	N	N	










PENROSE QUARRY

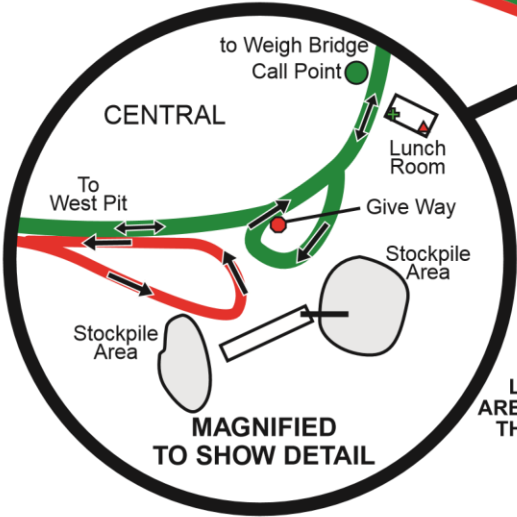
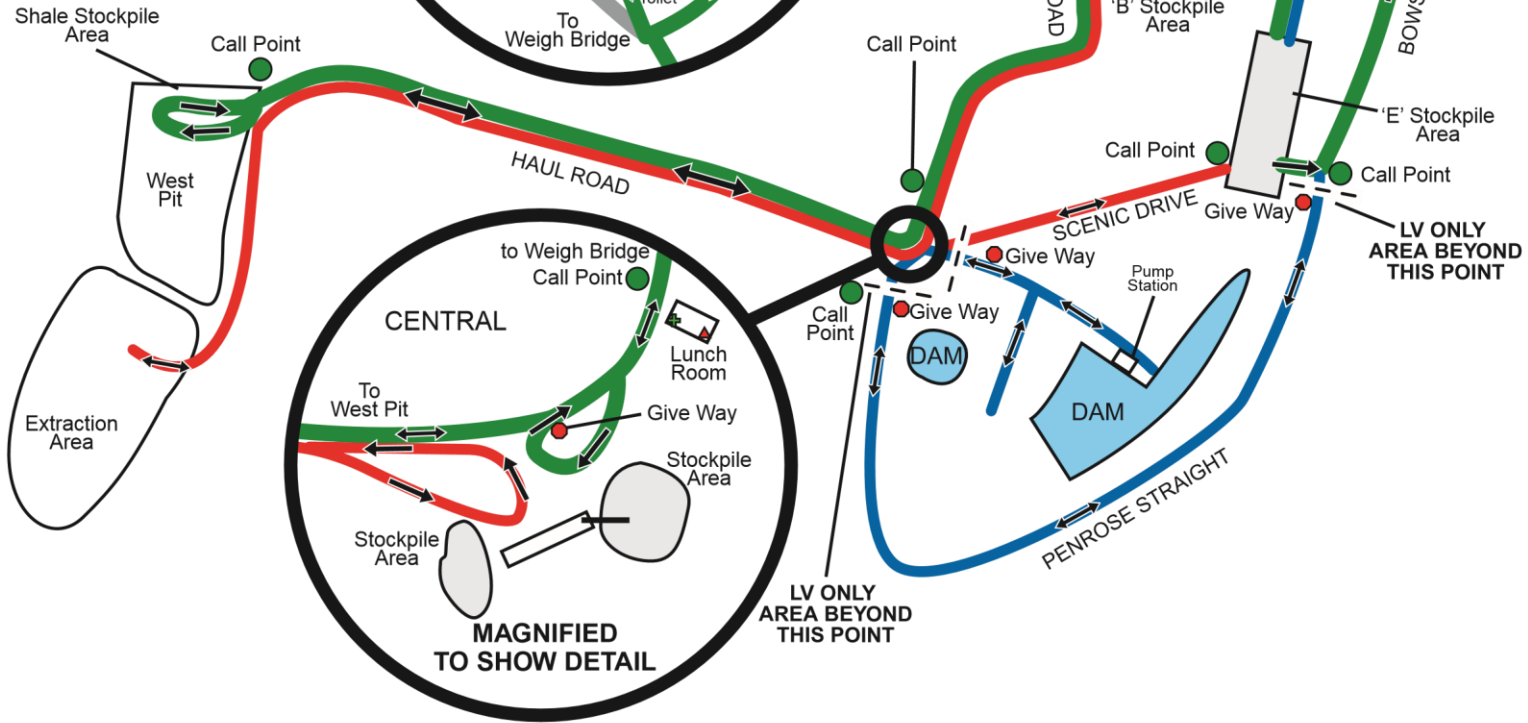
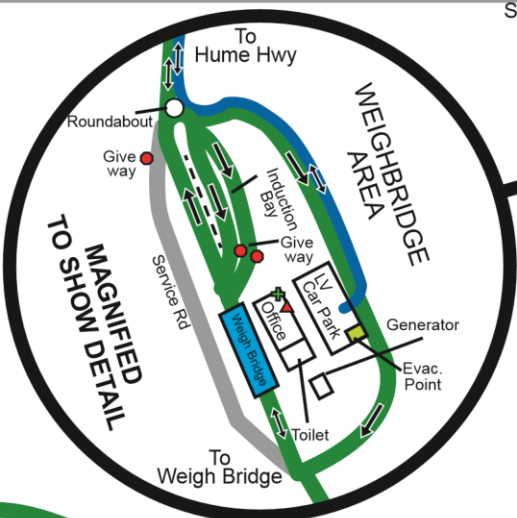
LOT 1-5 HUME HIGHWAY

HUME HWY

Stop Call Point HUME HWY

LEGEND

	FIRE EXTINGUISHER		ROAD TRUCKS QUARRY ACCESS/LOAD/ EXIT
	FIRST AID KIT		DUMP TRUCKS QUARRY ACCESS/LOAD/ EXIT
	STOP/ GIVE-WAY		LV/Pedestrian Access road
	CALL POINT		EMERGENCY EVACUATION AREA
	GENERAL TRAFFIC DIRECTION		





ChemAlert's distinct colour rating system allows for an easy visual interpretation of the hazard level associated with chemical substances.

The three distinct colours and their meaning are as follows:

GREEN

Low Health Hazard with normal use.

User Check List:

- Read the SDS and ChemAlert report thoroughly before using the product
- Clarify any concerns you might have about the product or its application
- If PPE is specified, are workers experienced in its use?

AMBER

Moderate Health Hazard with normal use.

User Check List:

- Read the SDS and ChemAlert report thoroughly before using the product
- Clarify any concerns you might have about the product or its application
- Is there a safer substitute?
- Is the area adequately ventilated?
- Does the area of application need to be isolated?
- Is air monitoring required to evaluate exposure levels?
- Have safe work practices or procedures been established?
- If PPE is specified, are workers experienced in its use?

RED

High Health Hazard with normal use.

User Check List:

- Read the SDS and ChemAlert report thoroughly before using the product.
- Clarify any concerns you might have about the product or its application.
- Does the product need to be used (can the product or task be eliminated)?
- Is there a safer substitute?
- Is the area adequately ventilated?
- Does the area of application need to be isolated?
- Is there a first aid officer or nurse available?
- Is air monitoring required to evaluate exposure levels?
- Have safe work practices or procedures been established?
- Are medical records kept for those handling this product?
- If PPE is specified, are workers experienced in its use?



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Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)

(Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		

Location: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY/ 12FT CONTAINER															
2347	32A-LINE DULUX METALSHIELD EPOXY ENAMEL SPRAYPAK GLOSS - COLOURS						DULUX GROUP (AUSTRALIA) PTY LTD (1800 220 770/ 0800 220 770)								
	Yes	DG 2.1	UN 1950	-	2YE	None	No	1	300 mg		0 Kg		-	27-Feb-2020	
411	BELTGRIP (AEROSOL)						CRC INDUSTRIES (AUST) PTY LIMITED (13 11 26 (PIC))								
	Yes	DG 2.1	UN 1950	-	2Y	Approved	No	12	400 mg		0 Kg		Available	31-Jul-2020	
2340	BP KOMATSU HYDRAULIC OIL 46						KOMATSU AUSTRALIA (+61 13 11 26)								
	No	No	-	-	-	Approved	No	1	205 L		205 L		-	01-Nov-2019	
836	BRAKE AND CLUTCH FLUID						AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)								
	No	No	-	-	-	Approved	No	1	5 L		5 L		-	PRODUCT OBSOLETE	
2343	CLEAN-R-CARB						CRC INDUSTRIES (AUST) PTY LIMITED (13 11 26 (PIC))								
	Yes	DG 2.1	UN 1950	-	2Y	Approved	No	1	40 L		40 L		-	30-Jul-2020	
2349	EPG INDUSTRIAL GEAR OIL 320						VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)								
	No	No	-	-	-	Approved	No	1	20 L		20 L		-	23-Aug-2022	
1630	GENIUS GUN FLEXIBLE INSULATION EXPANDING FOAM						SODAL AUSTRALIA PTY LTD (1300 507 011)								
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	10	750 mL	36 L	7.5 L		-	20-Jul-2021	
885	GLITZ OUTDOOR CLEANER CONCENTRATE						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)								
	Yes	DG 9	UN 3082	PG III	•3Z	Approved	No	1	5 L		5 L		-	31-Dec-2021	
2345	HEAVY DUTY DEGREASER						HI-TEC OIL TRADERS PTY LTD / HI-TEC BATTERIES (1300 796 009)								
	Yes	DG 3	UN 1268	PG III	3Y	Approved	No	1	20 L		20 L		-	03-Apr-2023	
2344	LITHPLEX TAC GREASE						HI-TEC OIL TRADERS PTY LTD / HI-TEC BATTERIES (1300 796 009)								
	No	No	-	-	-	Approved	No	40	2.5 Kg		100 Kg		-	02-Nov-2021	
2351	LOCTITE SF 7850 CLEANING KNOWN AS YUK OFF ORANGE HAND CLEAN 400ML						HENKEL AUSTRALIA PTY LTD (1800 032 379)								
	Yes	No	-	-	-	Approved	No	1	15 L		15 L		-	20-Nov-2023	
2346	MAXI TIMBER RESTORER CONCENTRATE						GSB CHEMICAL CO. ((03) 9457 1125)								
	Yes	No	-	-	-	Approved	No	1	2.5 L		2.5 L		-	10-Mar-2023	
2348	MULTIBOND SMX35 - SEAL & STRETCH						SODAL AUSTRALIA PTY LTD (1300 507 011)								
	No	No	-	-	-	Approved	No	5	290 mL	3.48 L	1.45 L		-	18-Jan-2023	

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)

(Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
2342	NORTHFORK TRUCK WASH						ACCO BRANDS AUSTRALIA PTY LTD (13 11 26 (Poisons Information Centre))							
	Yes	No	-	-	-	Approved	No	1	20 L		20 L		-	23-Apr-2021
2479	PESTXPRT DIY PEST CONTROL LIKE THE PROFESSIONALS PRO-SPRAY INDOOR-OUTDOOR MULTI INSECT CONTACT AND RESIDUAL BARRIER SPRAY						SUMITOMO CHEMICAL AUSTRALIA PTY LTD (1800 024 973 (24 hours))							
	No	DG 9	UN 3082	PG III	•3Z	Approved	No	1	2 L		2 L		-	19-May-2021
2350	PINK PEARL HAND SOAP						NOWCHEM (0413 809 255; (02) 4421 4099)							
	Yes	No	-	-	-	Approved	No	1	15 L		15 L		-	11-Jan-2021
2352	SELLEYS BBQ TOUGH CLEAN						SELLEYS, A DIVISION OF DULUXGROUP (AUSTRALIA) PTY LTD (1800 033 111)							
	Yes	DG 2.1 / 8	UN 1950	-	2YE	Approved	No	2	400 g	4 Kg	0.8 Kg		-	02-Jul-2021
1161	SELLEYS NO MORE GAPS MULTIPURPOSE (CHINA EXPORT)						SELLEYS, A DIVISION OF DULUXGROUP (AUSTRALIA) PTY LTD (1800 033 111)							
	Yes	No	-	-	-	Approved	No	40	475 g	19 Kg	19 Kg		-	02-Jul-2021
2480	SLASHER ORGANIC WEEDKILLER READY TO USE						ORGANIC CROP PROTECTANTS PTY LTD (13 11 26/ 1800 033 111)							
	No	No	-	-	-	Approved	No	1	1 L		1 L		-	31-May-2023
1259	WINDEX GLASS & MORE MULTI-SURFACE						S.C. JOHNSON & SON, INC. (+1 866 231 5406)							
	No	No	-	-	-	Approved	No	1	40 L		40 L		Available	20-Jun-2019

Location: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY/ CRIB ROOM

966	AIR WICK AEROSOL AIR FRESHENER - LAVENDER						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	1	237 g	0.47 Kg	0.24 Kg		-	01-Mar-2023
2355	AIR WICK AEROSOL AIR FRESHENER - VANILLA						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	2	237 g	1.42 Kg	0.47 Kg		-	01-Mar-2023
2354	BLU TACK						BOSTIK AUSTRALIA PTY LTD (1800 033 111)							
	No	No	-	-	-	None	No	2	79 g	0.47 Kg	0.16 Kg		-	23-May-2022
2035	CUSSONS MORNING FRESH DISHWASH LIQUID - LIME FRESH						PZ CUSSONS PTY LTD (13 11 26)							
	Yes	No	-	-	-	None	No	1	900 mL	1.8 L	0.9 L		-	01-Nov-2019
2357	DUCK TLT FRSHPIE LIQ FRML						S.C. JOHNSON & SON PTY. LTD. (AU) (13 11 26 (Poisons Information Centre)/ (02) 9428 9111)							
	Yes	No	-	-	-	Approved	No	2	500 mL	2 L	1 L		-	PRODUCT OBSOLETE
2233	EXIT MOULD						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 8	UN 3266	PG II	2X	None	No	1	500 mL	1.5 L	0.5 L		-	26-May-2023

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)

(Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
870	GLEN 20 ALL IN ONE SPRAY DISINFECTANT - ORIGINAL (AU)						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	4	300 g	1.8 Kg	1.2 Kg		-	26-May-2023
2358	GLITZ BATHROOM CLEANER						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)							
	No	No	-	-	-	None	No	1	750 mL		0.75 L		-	30-Jun-2023
2338	GLITZ HAND WASH						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)							
	No	No	-	-	-	Approved	No	3	500 mL	1.5 L	1.5 L		-	22-Feb-2024
2282	JIF CREAM						DIVERSEY AUSTRALIA PTY. LIMITED (1800 033 111 (24 hrs))							
	Yes	No	-	-	-	Approved	No	1	375 mL	0.75 L	0.38 L		-	PRODUCT OBSOLETE
1108	LIQUEFIED PETROLEUM GAS (LPG)						ELGAS LTD (1800 819 783 (24 hours))							
	Yes	DG 2.1	UN 1075	-	2YE	Approved	No	2	45 Kg	180 Kg	90 Kg		-	01-Sep-2023
2360	LIQUID BLEACH						QUALCHEM (13 11 26)							
	Yes	DG 8	UN 1791	PG III	2X	Approved	No	1	5 L	20 L	5 L		-	14-Feb-2017
206	METHYLATED SPIRITS						RECOCHEM INC ((07) 3308 5200; 1300 131 001 (After hours)/ 0800 764 766)							
	Yes	DG 3	UN 1170	PG II	•2YE	Approved	No	1	1 L	2 L	1 L		Available	31-Jan-2022
2353	MORTEIN FAST KNOCKDOWN FLY & MOSQUITO KILLER LOW ALLERGENIC AEROSOL						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	1	350 g	0.7 Kg	0.35 Kg		-	31-Dec-2019
1226	MORTEIN FAST KNOCKDOWN MULTI INSECT KILLER						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	2	300 g	0.9 Kg	0.6 Kg		Available	08-Jun-2021
2283	PALMOLIVE REGULAR DISHWASHING HAND LIQUID DRY SKIN						COLGATE-PALMOLIVE PTY LTD ((02) 9037 2994)							
	Yes	No	-	-	-	None	No	1	400 mL	1.6 L	0.4 L		-	07-Oct-2022
2422	PINE O CLEEN DISINFECTANT LIQUID PINE						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	No	-	-	-	None	No	1	1.25 L	2.5 L	1.25 L		-	29-Jul-2019
811	QUARTET WHITEBOARD CLEANER						ACCO BRANDS AUSTRALIA PTY LTD (13 11 26 (Poisons Information Centre))							
	No	No	-	-	-	None	No	2	500 mL	2.5 L	1 L		-	23-Apr-2021
2481	SODIUM CHLORIDE						SILFORM PTY LTD (+61 7 4126 3631)							
	No	No	-	-	-	Approved	No	1	500 g		0.5 Kg		-	01-Oct-2016
2356	TOMCAT RAT & MOUSE BAIT						BARMAC, A DIVISION OF AMGROW PTY LTD (13 11 26)							
	Yes	No	-	-	-	Approved	No	2	1 Kg		2 Kg		-	31-Mar-2020

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)
 (Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
Location: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY/ DIESEL BUND														
497	AUTOMOTIVE DIESEL FUEL						AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)							
	Yes	No	-	-	-	Approved	No	1	20000 L		20000 L		-	23-Jun-2021
Location: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY/ WEIGHBRIDGE														
2354	BLU TACK						BOSTIK AUSTRALIA PTY LTD (1800 033 111)							
	No	No	-	-	-	None	No	4	79 g	0.47 Kg	0.32 Kg		-	23-May-2022
2035	CUSSONS MORNING FRESH DISHWASH LIQUID - LIME FRESH						PZ CUSSONS PTY LTD (13 11 26)							
	Yes	No	-	-	-	Approved	No	2	900 mL	2.7 L	1.8 L		-	01-Nov-2019
2035	CUSSONS MORNING FRESH DISHWASH LIQUID - LIME FRESH						PZ CUSSONS PTY LTD (13 11 26)							
	Yes	No	-	-	-	None	No	1	900 mL		0.9 L		-	01-Nov-2019
2337	DETTOL ANTIBACTERIAL MULTIPURPOSE CLEANER TRIGGER SPRAY - CITRUS LEMON LIME						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	No	-	-	-	Approved	No	2	750 mL		1.5 L		-	06-Jan-2023
870	GLEN 20 ALL IN ONE SPRAY DISINFECTANT - ORIGINAL (AU)						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	None	No	1	300 g	0.6 Kg	0.3 Kg		-	26-May-2023
2338	GLITZ HAND WASH						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)							
	No	No	-	-	-	Approved	No	1	500 mL		0.5 L		-	22-Feb-2024
2338	GLITZ HAND WASH						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)							
	No	No	-	-	-	Approved	No	1	500 mL	1.5 L	0.5 L		-	22-Feb-2024
2339	GLITZ WATERLESS HAND SANITISER						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)							
	Yes	DG 3	UN 1170	PG II	•2YE	Approved	No	8	500 mL		4 L		-	31-Dec-2019
2282	JIF CREAM						DIVERSEY AUSTRALIA PTY. LIMITED (1800 033 111 (24 hrs))							
	Yes	No	-	-	-	Approved	No	1	375 mL	0.75 L	0.38 L		-	PRODUCT OBSOLETE
206	METHYLATED SPIRITS						RECOCHEM INC ((07) 3308 5200; 1300 131 001 (After hours)/ 0800 764 766)							
	Yes	DG 3	UN 1170	PG II	•2YE	Approved	No	1	0 L	0 L	0 L		Available	31-Jan-2022

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)

(Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
2353	MORTEIN FAST KNOCKDOWN FLY & MOSQUITO KILLER LOW ALLERGENIC AEROSOL						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	1	0 g		0 Kg		-	31-Dec-2019
1226	MORTEIN FAST KNOCKDOWN MULTI INSECT KILLER						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	None	No	1	300 g	0.6 Kg	0.3 Kg		Available	08-Jun-2021
2422	PINE O CLEEN DISINFECTANT LIQUID PINE						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	No	-	-	-	None	No	3	1.25 L	3.75 L	3.75 L		-	29-Jul-2019
811	QUARTET WHITEBOARD CLEANER						ACCO BRANDS AUSTRALIA PTY LTD (13 11 26 (Poisons Information Centre))							
	No	No	-	-	-	None	No	2	500 mL	2.5 L	1 L		-	23-Apr-2021
2356	TOMCAT RAT & MOUSE BAIT						BARMAC, A DIVISION OF AMGROW PTY LTD (13 11 26)							
	Yes	No	-	-	-	Approved	No	1	1 Kg		1 Kg		-	31-Mar-2020

Location: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY/ WEIGHBRIDGE/ BATHROOM

966	AIR WICK AEROSOL AIR FRESHENER - LAVENDER						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	1	237 g	0.95 Kg	0.24 Kg		-	01-Mar-2023
2355	AIR WICK AEROSOL AIR FRESHENER - VANILLA						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	1	237 g	0.95 Kg	0.24 Kg		-	01-Mar-2023
2357	DUCK TLT FRSH PINE LIQ FRML						S.C. JOHNSON & SON PTY. LTD. (AU) (13 11 26 (Poisons Information Centre)/ (02) 9428 9111)							
	Yes	No	-	-	-	Approved	No	3	500 mL	2 L	1.5 L		-	PRODUCT OBSOLETE
2233	EXIT MOULD						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 8	UN 3266	PG II	2X	None	No	2	500 mL	1 L	1 L		-	26-May-2023
870	GLEN 20 ALL IN ONE SPRAY DISINFECTANT - ORIGINAL (AU)						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	4	300 g	1.8 Kg	1.2 Kg		-	26-May-2023
2358	GLITZ BATHROOM CLEANER						PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)							
	No	No	-	-	-	None	No	4	750 mL	3 L	3 L		-	30-Jun-2023
2359	HARPIC LIQUID FRESH POWER - TROPICAL BLOSSOM						RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))							
	Yes	No	-	-	-	Approved	No	1	700 mL	1.4 L	0.7 L		-	31-Jan-2020
2360	LIQUID BLEACH						QUALCHEM (13 11 26)							
	Yes	DG 8	UN 1791	PG III	2X	Approved	No	1	5 L	20 L	5 L		-	14-Feb-2017

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)

(Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
Location: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY/ WORKSHOP														
2341	4251 - ENGINE OIL SHPD 15W-40						77 B.V. (+31 78 652 7652)							
	No	No	-	-	-	Approved	No	1	205 L		205 L		-	14-Aug-2019
2449	ACETYLENE, DISSOLVED						SUPAGAS PTY LIMITED (1300 651 106)							
	Yes	DG 2.1	UN 1001	-	2SE	None	No	2	0 None		0		-	08-Mar-2024
1649	ADBLUE						AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)							
	No	No	-	-	-	None	No	2	1000 L	2000 L	2000 L		-	18-Jan-2022
2074	ADBLUE						AUSBLUE (1300 287 258)							
	No	No	-	-	-	Approved	No	1	1000 L	2000 L	1000 L		-	05-Oct-2020
2445	ADBLUE DIESEL EXHAUST FLUID						BIOBLUE AUSTRALIA PTY LTD (13 11 26)							
	No	No	-	-	-	Approved	No	2	1000 L	4000 L	2000 L		-	15-Jul-2022
2446	ANTIFREEZE/COOLANT 50/50 PREMIXED						RECOCHEM INC. CANADA (613 996 6666 (CANUTEC))							
	Yes	DG 9	UN 3082	PG III	•3Z	Approved	No	2	205 L		410 L		-	16-Nov-2020
2444	BOSTON PENETRATING MULTILUBE SPRAY, 400GM						CW BRANDS PTY LTD ((08) 9353 3354)							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	1	400 g	2 Kg	0.4 Kg		-	08-Apr-2021
836	BRAKE AND CLUTCH FLUID						AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)							
	No	No	-	-	-	None	No	1	5 L		5 L		-	PRODUCT OBSOLETE
2127	BRAKLEEN (AEROSOL)						CRC INDUSTRIES (AUST) PTY LIMITED (13 11 26 (PIC))							
	Yes	DG 2.1	UN 1950	-	2YE	None	No	12	500 g		6 Kg		-	13-Jul-2021
1728	CHEMTECH CT18 SUPERWASH						ITW POLYMERS & FLUIDS PTY LTD (1800 385 556 / 0438 465 960/ 1800 039 008/ (03) 9573 3112)							
	Yes	No	-	-	-	Approved	No	1	25 L	50 L	25 L		-	PRODUCT OBSOLETE
2065	DY-MARK LINE MARKING PAINT SOLVENT BASED - ALL COLOURS						DY-MARK AUSTRALIA ((07) 3327 3099)							
	Yes	DG 3	UN 1263	PG II	•3YE	Approved	No	2	500 g	2.5 Kg	1 Kg		-	20-Aug-2021
2443	ENGINE DEGREASER - 15 OZ						CRC INDUSTRIES, INC. (USA) (+1 800 424 9300)							
	Yes	DG 2.1	UN 1950	-	2Y	Approved	No	3	500 g		1.5 Kg		-	23-Apr-2020
2443	ENGINE DEGREASER - 15 OZ						CRC INDUSTRIES, INC. (USA) (+1 800 424 9300)							
	Yes	DG 2.1	UN 1950	-	2Y	Approved	No	6	500 g	6 Kg	3 Kg		-	23-Apr-2020

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)

(Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
2447	ETHOXYACETYLENE SOLUTION (271365)						MERCK LIFE SCIENCE PTY LTD (1800 862 115 (24/7)/ +61 2 9037 2994/ 13 11 26)							
	Yes	DG 3	UN 1993	PG II	•3YE	Approved	No	1	0 None		0		-	27-Nov-2023
2451	FLEETMASTER 30						HI-TEC OIL TRADERS PTY LTD / HI-TEC BATTERIES (1300 796 009)							
	No	No	-	-	-	Approved	No	1	20 L	40 L	20 L		-	28-Nov-2021
1726	KOMATSU ANTIFREEZE COOLANT SUPERCOOLANT AF-NAC						KOMATSU AUSTRALIA (+61 13 11 26)							
	No	No	-	-	-	Approved	No	1	205 L		205 L		-	01-Nov-2019
2344	LITHPLEX TAC GREASE						HI-TEC OIL TRADERS PTY LTD / HI-TEC BATTERIES (1300 796 009)							
	No	No	-	-	-	Approved	No	2	180 Kg	540 Kg	360 Kg		-	02-Nov-2021
2344	LITHPLEX TAC GREASE						HI-TEC OIL TRADERS PTY LTD / HI-TEC BATTERIES (1300 796 009)							
	No	No	-	-	-	Approved	No	1	20 Kg		20 Kg		-	02-Nov-2021
2448	OXYGEN, COMPRESSED						SUPAGAS PTY LIMITED (1300 651 106)							
	Yes	DG 2.2 / 5.1	UN 1072	-	2S	None	No	2	9.5 m ³	9500 L	19000 L		-	08-Mar-2024
2479	PESTXPRT DIY PEST CONTROL LIKE THE PROFESSIONALS PRO-SPRAY INDOOR-OUTDOOR MULTI INSECT CONTACT AND RESIDUAL BARRIER SPRAY						SUMITOMO CHEMICAL AUSTRALIA PTY LTD (1800 024 973 (24 hours))							
	No	DG 9	UN 3082	PG III	•3Z	Approved	No	1	2 L		2 L		-	19-May-2021
2480	SLASHER ORGANIC WEEDKILLER READY TO USE						ORGANIC CROP PROTECTANTS PTY LTD (13 11 26/ 1800 033 111)							
	No	No	-	-	-	Approved	No	1	1 L		1 L		-	31-May-2023
2442	SOUDAL ROOF & GUTTER SILICONE						SOUDAL AUSTRALIA PTY LTD (1300 507 011)							
	No	No	-	-	-	Approved	No	12	300 mL		3.6 L		-	10-Mar-2022
2453	SPILL STATION CHEMICAL ABSORBENT						SPILL STATION AUSTRALIA PTY LTD (1300 664 266)							
	No	No	-	-	-	None	No	1	0 None		0		-	13-Mar-2018
2452	SUKERUP INDUSTRIAL ORGANIC ABSORBENT						SPILL STATION AUSTRALIA PTY LTD (1300 664 266)							
	No	No	-	-	-	Approved	No	1	0 None		0		-	20-Mar-2023
2450	SUPASHIELD 52						SUPAGAS PTY LIMITED (1300 651 106)							
	Yes	DG 2.2	UN 1956	-	2TE	None	No	1	4.9 m ³	9800 L	4900 L		-	08-Mar-2024
2356	TOMCAT RAT & MOUSE BAIT						BARMAC, A DIVISION OF AMGROW PTY LTD (13 11 26)							
	Yes	No	-	-	-	Approved	No	2	1 Kg		2 Kg		-	31-Mar-2020
2438	ULTRAMAX 46 HYDRAULIC OIL						VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)							
	No	No	-	-	-	Approved	No	1	206 L		206 L		-	15-Nov-2021

Stock Inventory By Location

(Location Name: Adbri Limited/ CONCRETE & AGGREGATES/ NEW SOUTH WALES/ HY-TEC/ PENROSE QUARRY, Child Locations Included)
 (Sort By: Product Name, Filter By: None)

Stock Number	Product Name						Supplier (Emergency Contact)							
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	Container Tracking	Number of Containers	Container Size	Quantity (Kg/L)			Risk Assessment	SDS Date
										Max	Container	Actual		
2439	ULTRAMAX HVI 68						VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)							
	No	No	-	-	-	Approved	No	1	25 L		25 L		-	14-Feb-2022
2221	VALVOLINE AW 68 HYDRAULIC OIL						VALVOLINE LLC (1800 825 8654)							
	No	No	-	-	-	Approved	No	1	205 L		205 L		-	06-Jul-2023
2440	WHITE KNIGHT SQUIRTS GLOSS BLACK AEROSOL						PPG ARCHITECTURAL COATINGS (1800 883 254/ 0800 000 096)							
	Yes	DG 2.1	UN 1950	-	2YE	Approved	No	3	310 g	3.1 Kg	0.93 Kg		-	25-Aug-2020

Stock Inventory By Location

Appendix

Max Quantity	Max Quantity is calculated by multiplying the Max value of the Stock Inventory Item with the Container Size of the Stock Inventory Item, where the Max value is available.
Container Quantity	Container Quantity is calculated by multiplying the Number of Containers of the Stock Inventory Item with the Container Size of the Stock Inventory Item.
Actual Quantity	Actual Quantity is calculated by adding the available quantities in all the Container Items of a Stock Inventory Item where Individual Container Tracking is switched on, and Container Item is active.

SAFETY MANAGEMENT SYSTEM

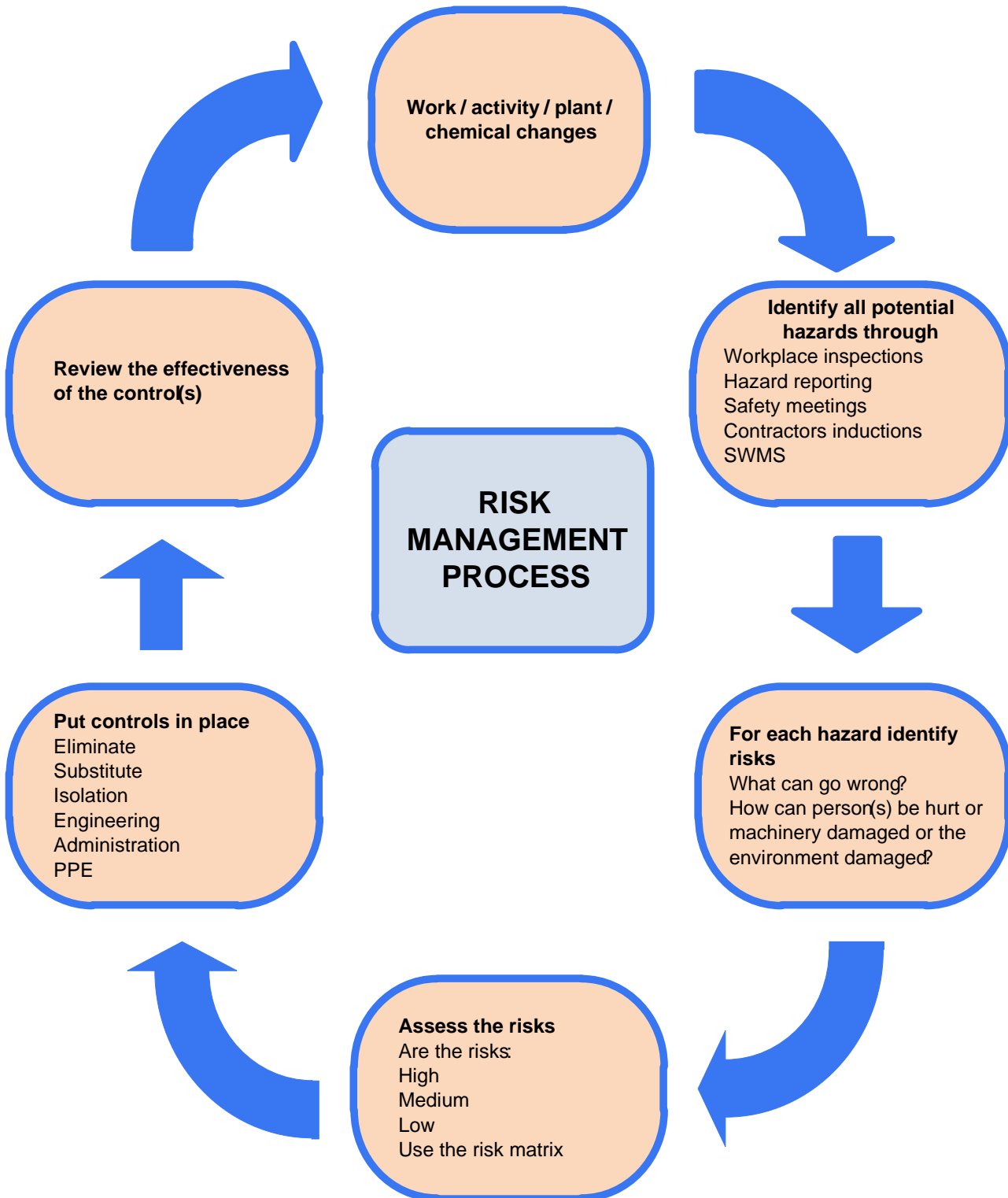
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Appendix 7K

Risk Management Process





ABL-HSE-GSS-07-01

RISK ASSESSMENT TOOL

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Risk Assessment Guidance

Refer to consequence table in "ABL-HSE-GSS-07-04 HSE Risk Assessment Process". Only Safety examples are provided below.

CONSEQUENCE (the extent of the harm or damage with current controls in place)

Negligible	- Minor Injuries requiring First aid Treatment.
Minor	- Single or multiple injuries requiring medical treatment.
Serious	- Single or multiple injuries requiring hospitalisation and incurred a loss of more than one full shift.
Significant	- Single severe injury causing irreversible permanent disability or impairment or single fatality.
Catastrophic	- Incident with short or long term effects causing multiple fatalities.

LIKELIHOOD (the chance of the situation occurring with current controls in place)

Rare	- The consequence may only occur in exceptional circumstances or 'the probability is close to zero'.
Unlikely	- The consequence is not likely to occur. There is confidence that it will not occur although it is conceivable.
Possible	- The consequence could occur sometime or 'I've heard of it happening'.
Probable	- The consequence is likely to occur. It is known to occur, or not surprised as it has happened' several times.
Very Likely	- It is almost certain that the consequence will occur. Common or frequent occurrence.

CONSEQUENCE	LIKELIHOOD				
	Rare	Unlikely	Possible	Probable	Very Likely
Negligible	1	2	4	7	11
Minor	3	5	8	12	16
Serious	6	9	13	17	20
Significant	10	14	18	21	23
Catastrophic	15	19	22	24	25

	Negligible	Minor	Serious	Significant	Catastrophic
Health & Safety	Minor Injuries requiring First aid Treatment. No ongoing health effects. Near Miss with the potential consequence for the injuries above	Single or multiple injuries requiring medical treatment No ongoing health effects. Near Miss with the potential consequence for the injuries above.	Single or multiple injuries requiring hospitalisation and incurred a loss of more than one full shift. Near Miss with the potential consequence for the injuries above.	Single severe injury causing irreversible permanent disability or impairment or single fatality. Near Miss with the potential consequence for the injuries above.	Incident with short or long term effects causing multiple fatalities. Near Miss with the potential consequence for the injuries above.
Environmental Impact	Minor incident with minimal or no lasting effects. Onsite uncontrolled release immediately contained. Clean-up completed within 12 hours. Less than 5 litre spill	Incident with minor effects on the environment. Onsite uncontrolled release not immediately contained or minor off site release. Clean-up completed within 72 hours. 10 to 20 litre spill.	Incident with medium term effects on the environment. Offsite uncontrolled release with an effect on the environment for one year.	Incident with serious environmental effects. Offsite uncontrolled release not contained causing of up to 10 years impact duration.	Catastrophic incident with impairment of the ecosystem function. Significant and identifiable risk to humans, animals and plant species.
Community	Low level incident Public concern restricted to one local complaint	Minor- medium impact issue Public concern with a small local group Potential for local media attentions	Medium impact issue Ongoing public concern with a local group or community Involvement of non-government organisation - Local media	Serious social incident Ongoing local and/or state issue. Involvement of government department/s and non-government organisations. National Media	Very Serious Incident Ongoing state or national issue. Involvement of federal government department/s and non-government organisations. National media
Cost or Damages	< \$10K	\$10K - \$50K	\$50K - \$150K	\$150K - \$1M	> \$1M
Investigation Team	Local Supervisor or Manager OHS representative or member of the OHS committee	Plant Manager Team Leader / Supervisor OHS Representative or Member of the OHS committee	Plant Manager (Investigation leader) HSE Manager Manager external to site OHS Representative or member of the OHS committee	Manager External to site or discipline (Investigation Manager) HSE Manager Site Manager OHS Representative External resources or assistance as required	Manager External to site or discipline (Investigation Manager) HSE Manager Site Manager OHS Representative External resources or assistance as required
Investigation Outcomes	Completion of incident report form including: Brief report covering: <ul style="list-style-type: none"> Description of incident Contributing factors Prevention Measures 	Completion of incident form: Brief report covering the following: <ul style="list-style-type: none"> Brief statement from person's involved and witnesses Description of incident Contributing factors Prevention measures 	Completion of incident form: Investigator Terms of Reference. Incident timeline. Detailed report covering the following: <ul style="list-style-type: none"> Detailed statement for person's involved and witnesses Description of incident Contributing factors Recommendations and prevention measures 	Completion of incident form: Investigator Terms of Reference. Incident timeline. Detailed report covering the following: <ul style="list-style-type: none"> Detailed statement for person's involved and witnesses Description of incident Contributing factors Recommendations and prevention measures 	Completion of incident form: Investigator Terms of Reference. Incident timeline. Detailed report covering the following: <ul style="list-style-type: none"> Detailed statement for person's involved and witnesses Description of incident Contributing factors Recommendations and prevention measures



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Hy-Tec Industries – Penrose Quarry

Appendix 8G

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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
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Appendix 8G

Environmental Hazard Management Matrix

Dust	Traffic	<p>Worker Health Issues;</p> <p>Eye injuries/infections due to airborne dust.</p> <p>Respiratory problems due to inhalation.</p>	<p>Monthly dust monitoring results consistently below the required concentrations.</p> <p>Worker exposure and protection provided proved acceptable.</p>	<p>Worker Health Measurement;</p> <p>COAL Services have developed SEGs and carry out monitoring</p> <p>Workers Health examinations conducted annually.</p> <p>Environmental Measurement;</p> <p>Monthly and annual water and dust collection samples analysed.</p>	<p>Worker 13</p> <p>Environment 17</p>	<p>Water truck used on a regular basis during operating hours to minimise dust production from haul road traffic.</p> <p>Quarry office access road re-surfaced with Rotormil to minimise dust production and reduce material track marks leaving quarry.</p> <p>Dust suppression system continually improved and more effective methods sourced.</p> <p>Work area kept clean and tidy to prevent build up of dust/debris.</p>	<p>Worker 9</p> <p>Environment 13</p>	All
	Plant	<p>Skin allergic reactions due to contaminated dust.</p> <p>Environmental Issues;</p> <p>Downpour of rain washing silt and contaminants into waterways.</p>				<p>Workers trained in the selection and use off appropriate eye and respiratory protection.</p> <p>Confined space to be cleared of all atmospheric hazards and air quality monitored by competent person before and during confined activities.</p>		
	Cleaning	<p>Dust contamination affecting local ecosystem biodiversity.</p> <p>Airborne dust carried off site.</p>				<p>Ensure sufficient ventilation is available before entry proceeds. (Extraction fans must be used if welding is being carried out)</p> <p>Test results to return readings within allocated concentrations, if pollutant concentrations exceeded, contingency plans implemented.</p> <p>Three continuous sampling apparatus in place for airborne dust monitoring.</p>		



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Hy-Tec Industries – Penrose Quarry

Appendix 8G

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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
	Blasting					If blasting is to occur it will be carried out by competent external contractors with the minimizing of dust and fly-rock production considered.		
Waste Material	Production	Environmental Issues; General waste disposal.	Council limits production to 550,000t per annum extracted from the premises.	Environmental Measures; Production and subsequent waste quantities recorded.	Worker 1 Environment 8	Quarry produced overburden is to be reused in rehabilitation program	Worker 1 Environment 5	RH
	Office	Site Waste leaving quarry site into local catchments.	Minimal waste product is produced..			Office waste collected and disposed of off site in an approved manner.		



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Hy-Tec Industries – Penrose Quarry

Appendix 8G

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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
Heat	Sun	Worker Health Issues; Dehydration. Exhaustion. Skin Damage.		Worker Health Measures; Incident and near miss reports. Worker Health Examinations	Worker 13 Environment 1	Sunscreen and drinking water located in offices. Employees to partake in safe work methods with regard to heat, including adequate PPE. Employees educated on the dangers of heat stress and methods to combat the problem. Working in heat and dehydration educational signs displayed in crib rooms. First aid officer on site during working hours. Adequate first aid equipment available.	Worker 9 Environment 1	All
	Plant/Machinery					Long sleeves and trousers to be worn during work activities and a hat to be worn when working outdoors. Ensure compliance with work/rest requirements as outlined in ABL-HSE GOS-29-02 Fatigue Management Requirements.		
	Hot Work					Drivers to be instructed in Fatigue Management requirements. Mobile equipment to have functioning air conditioning system installed, when necessary windows tinted to protect drivers from sun exposure.		
	Tools					Screens in place to segregate work area. Hot work signs erected. Only competent/trained personnel to carry out hot work. Ensure hot work is conducted in a designated hot work area with a Hot Work Permit/JSA/SWMS to be completed and filed.		



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
Noise	Traffic	Worker Health Issues; Industrial deafness.	No noise monitoring has been carried out, but external contractor is being sourced for worker noise exposure survey.	Worker Health Measurements; Worker Health Examinations.	Worker 21 Environment 1	Hours of work. 6:00-18:00 Monday-Friday.	Worker 14 Environment 1	All
	Plant			COAL Services have developed SEGs and carry out monitoring Worker noise PPE and knowledge examined to determine adequacy.		Regular maintenance carried out on equipment to minimise noise production. Sound proofing on mobile plant engine compartments.		
	Blasting			Quarry boundary to be monitored to determine level of quarry produced noise. In case of future blasts ground vibration peak particle velocity and air blast overpressure monitored at each blast by acting company.		Instruction on selection and use of suitable hearing protection. Hearing protection worn as required. PPE signage displayed in appropriate locations. Noise limits <35dB(A) for 15minute intervals.		



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
Hazardous Substances	Chemicals	Worker Health Issues;		Worker Health Monitoring;		MSDS register kept and maintained on site. Suitable storage facilities/bunded area available to be made available as required with development. Suitable PPE available and used as required. Safer substances sourced and used where possible.		
	Fuels	Chemical burns. Fume inhalation. Poisoning. Flammable substances.		Incident and Near miss reports. Workers health examination conducted.	Worker 13 Environment 21	Personnel suitably trained/informed in the process of refuelling plant, generators and handling of hazardous substances. Maintenance to be carried out in designated area. Danger signage in place (Corrosive Substance, etc). Procedures in place for major environmental incidents.	Worker 9 Environment 14	All
	Waste Oil (plant/machinery)	Environmental Issues; Hazardous substances leeching into groundwater/waterways.		Catchments water quality monitoring monthly and annually. Yearly Swamp monitoring. Annual Environmental Monitoring Report developed by external contractor.		Spillages cleaned up immediately using spill kits available. All spill kit stocks maintained, correct spill kit procedure form located with each spill kit. Further in regards to spills: <u>Large Spill</u> 1) In the case of large spills contact relevant personnel 2) Stop leak without risk. 3) Move containers from spill area. 4) Approach the release from upwind 5) Prevent entry into sewer, water courses, basements or confined areas. 6) Wash spillages into an effluent treatment plant or proceed as follows. 7) Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place into a container according to local legislation. 8) Determine flammability and if required use spark-		



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
						<p>proof tools and explosive proof equipment. Dispose of via a licensed waste disposal contractor</p> <p>9) Contaminated absorbent material may pose the same hazard as the spill product</p> <p>10) In the case of spillage on water, prevent the spread of product by the use of suitable barrier equipment.</p> <p>11) Recover product from the surface</p> <p>12) Dispose of via an appropriately licensed waste disposal site</p> <p><u>Small Spill</u></p> <p>1) Stop leak without risk.</p> <p>2) Move containers from spill area</p> <p>3) Absorb with an inert material and place in appropriate waste disposal container.</p> <p>4) Determine flammability and if required use spark-proof tools and explosion-proof equipment.</p> <p>5) Dispose of via an appropriately licensed waste disposal site</p> <p>Oils and hydraulic fluids to be disposed off in accordance with Environmental legislation.</p> <p>First aid officer on site during working hours.</p> <p>Adequate first aid equipment available.</p>		



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
Water	Dams	Environmental Issues; Water contamination. River Ecology.	Quarry effects on groundwater levels negligible.	Environmental Measures; Water samples tested monthly around site.	Worker 1 Environment 21	Individual catchments analyzed for best fit water management plan. Four surface water monitoring locations, and 6 groundwater monitoring locations for monthly testing. Site soil analysis carried out to determine soil characteristics including erodibility.	Worker 1 Environment 18	Quarry Manager
	River System			Annual monitoring of Swamp to survey water quality and ecology. Additional annual testing carried out on quarry catchments.		Inspections carried out fortnightly and after heavy rainfall events to examine the soundness of water management systems. Diversion drains constructed around the quarry, diverting clean runoff from upslope catchments around the quarry.		
	Rainfall			Monthly bore water monitoring conducted for groundwater level and quality.		Increase freeboard of the main freshwater dam to 2.0m to allow for additional water storage above the industry standard. Desilt primary sediment ponds and diversion drain for improved efficiency of sediment capture. In the case of water breach Contingency Plan to be implemented, as per PIRMP. Periodic removal of consolidated sediment from the Quarry Road sediment basins.		



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
	Groundwater					<p>Water management systems will employ regular maintenance to ensure effectiveness. Including regular inspections and cleaning of under road storm water pipes.</p> <p>Runoff from all disturbance areas is directed to silt dams and sedimentation dams.</p> <p>Water levels monitored and pumped from sediment dams to storage dams to ensure sufficient capacity in the event of significant rain event. Install freeboard markers in ponds for ease of reference on site.</p> <p>Annual Report submitted to Council with a summary of water monitoring results, as well as diversion drain and quarry water management condition.</p> <p>Prior to ground disturbance activities upslope diversion banks and downstream sediment retention implemented.</p>		



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
Fire	Plant/Mobile Plant.	<p>Worker Health Issues;</p> <p>Burns to employees.</p> <p>Smoke inhalation</p> <p>Environmental Issues;</p> <p>Flora and Fauna destruction.</p> <p>Bushfire.</p>		<p>Worker Health Measurement;</p> <p>Incident and Near Miss reports.</p> <p>Environmental Measures;</p> <p>Local fire department fire hazard level monitoring.</p>	<p>Worker 22</p> <p>Environment 22</p>	<p>Ensure hot work is conducted in a designated hot work area and Hot Work Permit/JSA/SWMS to be completed and filed.</p> <p>Only competent/trained personnel to carry out hot work.</p> <p>Screens in place to segregate work area.</p> <p>Equipment to be in good condition and suitable for the task.</p> <p>Electrical equipment must be tested and tagged in accordance with AS3760.</p> <p>Fire fighting equipment fitted to all mobile plant.</p> <p>Employees to be trained in first attack fire fighting.</p> <p>Use of flame retardant material to cover susceptible equipment.</p> <p>Adequate fire extinguishers located throughout site.</p> <p>Use of correct PPE for the task/job.</p> <p>Periodic testing of Fire extinguishers is conducted by an external service provider.</p> <p>First aid officer on site during working hours.</p> <p>Fire warden present on site during work hours.</p> <p>Adequate first aid equipment available.</p> <p>Bush fire emergency procedure in place.</p> <p>All Hy-Tec mobile plant used on site fitted with fire suppression technology.</p>	<p>Worker 15</p> <p>Environment 22</p>	<p>All Fire Wardens;</p>
	Bushfires.							
	Electrical Fires.							
	Power Tools							
	Hot Work							



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HAZARD	SOURCE	HEALTH EFFECTS	INFO	MEASUREMENT	ASSESS RISK	CONTROLS	REVIEW	RESPONSIBLE
Biodiversity Destruction	Land clearance	Environmental Issues; Loss of local flora and fauna.		Environmental Measures; Annual swamp ecology survey carried out by external company. Monitoring of areas to be felled for endangered flora and fauna.	Worker 1 Environment 23	Vegetation Management Plan in place with both immediate and long term plans. All bund wall areas are rehabilitated with native flora. Long term objectives include post quarry life plans to ensure after life quarry footprint is minimal.	Worker 1 Environment 18	RH/LA
	Ecosystem Contamination		Flora and Fauna surveys conducted across all parts of quarry lease area. Flora and Fauna species catalogued annually to determine biodiversity fluctuation. Any threatened species identified and plans put in place for protection.					

Penrose Quarry - Risk Register

This contents of this risk assessment will be reviewed when new risk identified, procedural review and/or risk / controls not adequate

Risk Identification			Risk Score Without Controls (Inherent Risk)			Control			Risk Score with Controls (Residual Risk)		
Work Activity	Risk relating to activity	Causes (What can cause the hazard to occur)	Consequence (Catastrophic = Principal Hazard)	Likelihood	Inherent Risk Score	Principal Hazard (if Applicable) Control / Management Plan	Control Description	Highest Control Level Achieved (Hierarchy of Controls)	Consequence (Catastrophic = Principal Hazard)	Likelihood	Residual Risk Score
Electrical - Low Voltage Electrical Installations	Electric shock, burns, heart attacks/arrhythmia	> Low Voltage	Serious	Possible	13	Electrical Engineering Control Plan	<ul style="list-style-type: none"> > Low Voltage Electrical Installations standard (STD 2) developed by qualified Electrical Engineer. > All electrical works carried out by a qualified trades person. > All electrical installations installed to comply with relevant Australian Standards (AS/NZS 3000-2020, AS3007, AS1769 & AS4024). > Ground mounted switchboards installed in outdoor areas at suitable height to prevent corrosion and have weatherproof covers > Safe access required for any electrical installation more than 1.8m off the ground that requires a person to work on it. > Electrical installations requiring work must be in compliance with AS3007.2 for protection against direct contact. > Electrical installations must comply with AS1768 Lightning protection. > Cables to comply with relevant requirements and AS3008 for applicable installations. > Switchgear to be built to comply with AS3439 Low Voltage Switch Gear and Control Gear Assemblies. > All components to be rated to withstand the fault level at the point of distribution network where they are installed. > Indoor electrical installation must be rated to IP23 > Outdoor electrical installations must be rated to IP56 > All electrical breakers and isolators should have a means to lock them in the off position, no person can be exposed to live wires when locking breakers/isolators. > Type 2 co-ordination required in selection of contactors/overloads/fused circuits breaker combinations to ensure proper operation at the specified fault level. > VOLT and Amp meters need an associate phase selector switch. ? Labelling in accordance with Australian Standards > Operating devices, test buttons, resets & meters accessible without removing covers > control/protection circuit fuses, links, wiring, protection relays, control relays, contactors and resistors/current transformers requiring cleaning and maintenance only accessible by authorised persons > Access to exposed conductors must be interlocked with main circuit breaker or accessed with a tool. ELV equipment should be used for all field control where suitable. 	Isolation	Negligible	Rare	1
Electrical - Generator Installation	> New plant / structures can bring new hazards to site.	> Equipment not fit for purpose. > Unsafe installation	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	<ul style="list-style-type: none"> > Generator Installation Standard (STD 1) developed by qualified electrical engineer, taking into consideration installation requirements for Standalone Generators upto 25kW, Standalone Generators Larger than 25kW, 3 Phase Generators integrated into Power Systems & Generators for welding purposes. > Requirements of WHS Regs must be adhered to including; <ul style="list-style-type: none"> -Electrical protection fitted to all circuits, designated to interrupt the supply when a fault occurs. -Protection devices designed to an appropriate standard -Suitable switchgear provided and provisions are made for the safe removal and restoration of power. -Effective earthing provided so risk from touch, transfer and step potential is minimised. -Appropriate signage, notice, plans and electrical diagrams are placed at electrical switchgear and other positions to warn of presence of electricity and advice on what to do in emergency situations. > Unsafe electrical installations are to be disconnected from electricity supply by a qualified electrical tradesperson and secured. > All generator shutdown devices are to have access considered during installation and to remain unimpeded. > No fuses or circuit breakers are permitted in earth to neutral connection circuit. > All generators are to have ingress protection rated for the environment and all outlets IP rating 56. > Earth leakage sensitivities and delays; earthing requirements, generator switchgear, labels & signage; security; testing interval requirements; generators connected to mains apparatus; commissioning and testing; inspection & maintenance' non compliance and decommissioning explained in STD 1 Generator Installation Standard. 	Engineering / Redesign	Significant	Rare	10

Electrical - Component Lifecycle Management	> Electrical equipment develop risk which can caused hazard to workers.	> Electrical components can fail due to the amount of use and age.	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> Electrical component to be replaced as per OEM, Australian Standards or Mine Design Guidelines recommendations. > Schedule for replacement to be managed via gearbox. > Repaired or replaced as per maintiance inspection, safety alerts or information from industry or regulator. > Electrical installation locations are to be determined in consultation with an electrical engineer or nominated qualified electrical tradesperson.	Engineering / Redesign	Significant	Rare	10
Electrical - Contractor Management	> Competence of contractors completing work at quarry.	> Electrical work / engineering work is outsourced to a contractor(s).	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> All plant and equipment to be designed and maintained to the appropriate Australian standards. > All electrical contractors are to have applicable trade certificates or appropriate engineering documentation. > Electrical tradesperson is nominated to NSW regulator. > All contractors must have appropriate insurances managed by site pass. > Quarry Manager to shall check and maintain a records for the competency of all contractors who complete maintenance works. > Electrical engineer required when total connected power exceeds 1,000 kilowatts or if high voltage is utilised. > Electrical Engineer must hold an electrical engineer manager practicing certificate > Site must maintain an electrical tradesperson register	Engineering / Redesign	Significant	Unlikely	14
Electrical - Equipment to test electrical equipment.	Electric shock from using electrical test equipment.	> Failure of equipment. > Incorrect equipment used. > Exposed live electrical points.	Significant	Possible	18	Electrical Engineering Control Plan	> All electrical test equipment must be designed for testing the level of voltage anticipated. > Voltage tester must not expose workers to the risk of electric shock. > Test leads and testing devices should be provided with over current protection. > Be free from damage and cracks in insulation. > Safe Work Procedure Use of Electrical Test Equipment (EECP SWP 2) developed by qualified electrical engineer.	Isolation	Serious	Unlikely	9
Electrical - Isolation, Dissipation and Control of all electrical energy sources from electrical plant or installation.	> Inadequate isolation resulting in unplanned movement and or electrocution	> Equipment not isolated adequately due to lack of understanding, inproper installation procedure or maintenance.	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	Provisions for isolation and control of electrical energy are detailed in, Electrical Test Equipmetn (SWP 2); Removal and Resotration of Power (SWP4); Low voltage electrical installation standards (STD 2); Site Generator Installation Standards (STD 1); Portable Electrical Equipment Standard (STD 4); Overhead Powerline Standard (STD 5) & Site Isolation Maps.	Administrative	Significant	Rare	10
Electrical - New electrical installations to site.	> New plant / structures can bring new hazards to site.	> Unknown / unforeseen risks / processes	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> All new electrical components brought onto the quarry to have design risk review completed, prior to construction / instalation. > All new electrical systems brought onto site to have commissioning plan develop and be A/S compliant and tested for continuity of earth, insulation resistance, polarity, correct circuit connections, earth fault-loop impedance and RCD operation. > All new electrical components to have an management of change completed, reviewed by either the OEM or qualified engineer. > A operational risk assessment (pre start up safety review) to be completed on all new electrical components to look for new introduced risks. > All new electrical components to be designed and built as per Australian standards. > Electrical installation locations are to be determined in consultation with an electrical engineer or nominated qualified electrical tradesperson. > All buried services will be surveyed and recorded in quarry plans. > New generators to be installed in line with Generator Installation Standard (STD 1) > Software management to ensure newly installed programs do not cause miscommunication or hazards with existing equipment, EECP STD 7 Software Change Standard.	Engineering / Redesign	Significant	Rare	10

Electrical - Portable powered tools	Electric shock from using tool	> Poorly maintained tool. > Tool being used beyond its capacity.	Significant	Possible	18	Electrical Engineering Control Plan	> Use battery powered tools as oppose to electrical tools. > tagged and tested and inspected by a competent person. > All electrical tools must be protected by a RCD outlet prior to use must be inspected prior to use. > All electrical tools must have an RCD fitted for use. > Standard for Portabel Electrical Equipmetn (STD4) developed by Qualffied Electrical Engineer > Electrical leads and tools are not to be used in wet or damp conditions unless designed for those conditions. > If RCDs, circuit breakers or other over current protective devices including fuses are triggered, ensure circuits are not re-energised until cause is determined by Qualified Electrical Tradesperson > RCDs to be regularly tested > Extensions leads must have min IP56 rating with screwed plugs and sockets, lock rings tensioned to ensure rating is maintained, extension leads checked and to AS/NZS3012, max length 30ms, run off ground using suitable stands/hangers. > Power boards must have indivudal switches, when possible be mounbted off the floor, IP56 or greater to be used outdoors or in dusty environments, must not be setup in cascading sequence, double adapters not permitted onstie, not used in wet areas, regularly checked. > Maintenance and testing requirements stipulated in STD 4	Substitution	Serious	Unlikely	9
Electrical - Restoration of Power	Electrocution from restoration of power	> Daily starting of generator	Significant	Possible	18	Electrical Engineering Control Plan	> Prestart inspection to be completed prior to starting generator for the day. > Procedure and training for starting of generator. > Generated started with out people working within vicinity. > Provisions for restoration of electrical energy are detailed in, Removal and Resotration of Power (SWP4)	Engineering / Redesign	Serious	Unlikely	9
Electrical - Restoration of Power	Electrocution from restoration of power	> Blown fuse	Significant	Possible	18	Electrical Engineering Control Plan	> Reset only complete if the fault is known, if fault is unknow then electrician shall complete reset. > If trip occurs second time electrician shall investigate trip. > Lock Out / Tag Out shall be used for replacement of fuses. > If fuse switch is to be replaced electric power is to be removed upstream from the fuse swithc prior to operating the fuse switch or replacement of fuse. > If upstream electric power cannot be removed, PPE as per Arc Flash Label associated with the fuse swtich MUST be used. > Provisions for restoration of electrical energy are detailed in, Removal and Resotration of Power (SWP4)	Engineering / Redesign	Serious	Unlikely	9
Health Effects - Biological Health	> Health effects due to virus.	> Unknown sources. > Water contamination.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> Follow recommendation from state and federal governments and world health organisation. > Risk assess any global/local health pandemics. > Bottle /filtered water for drinking and tank water utilised for hand washing etc. > In times of poor rain fall, bore water in use and annual testing of water quality. > Process water regularly used to prevent stagnate water. > Electrical installation locations are to be determined in consultation with an electrical engineer or nominated qualified electrical tradesperson.	Isolation	Catastrophic (Principal Hazard)	Rare	15
Electrical - Restoration of Power	Electrocution or burns from restoration of power	> Arc Flash > multi-meter not rated for system voltage > multi-meter on wrong setting > dropped or misplaced tools > Drilling itno busbar > Pimproper maintenance > Moisutre or vermin > Corrosion or Dust > Mechanical or insulation failure	Significant	Possible	18	Electrical Engineering Control Plan	> Arc Flash Study conducted by qualifuied electrical engineer. > Circuit breakers considered low risk when, equipment is installed, used and maintained to OEM and applicable industry codes/standards. Equipment Doors are closed and secured. Equipment covers are in place and secured. No evidence of impending failure such as arcing, overheating, loose or bound equipment parts, visible damage or deterioration. > Provisions for restoration of electrical energy are detailed in, Removal and Resotration of Power (SWP4) > Heirarchy of cotnrols to protect against Arc Event in STD 9 Arc Flash Management	Engineering / Redesign	Serious	Unlikely	9

Electrical - Switchboards and Distribution Boards	> Worker entering switchboard or distribution board in which they are not permitted to access.	> Workers are unaware they are not to access board. > Signage and notices inadequate to identify risks.	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> All boards must be locked preventing worker access. > Only authorised persons are able to access boards. > Access to cables behind boards are only permitted when competent and with a clearance to work permit. > Signage in place to warn of electrical installations and access is restricted. > Signs relating to risks of electrical plant and installations are managed by Electrical Lifecycle Management Plan (LCMP); Low Voltage Electrical Installations Standard (STD 2); Signage at Electrical Installations (STD 3) > Safe Work Procedure developed for Access to Electrical Operating Areas (EECP SWP 1) >	Isolation	Significant	Rare	10
Electrical - Use of Lasers and Fibre Optic Equipment at the Quarry	Installation of required equipment not to relevant standard	> Incorrect standard/procedure followed for installation. > Unqualified person installing and or maintaining laser or optic equipment	Serious	Possible	13	Electrical Engineering Control Plan	Use of lasers and optic fibre is managed by the Laser Management Standard (STD 10).	Engineering / Redesign	Minor	Unlikely	5
Electrical - Construction installation and maintenance of battery powered vehicles and battery charging stations on site	Installation of required equipment not to relevant standard	> Incorrect standard/procedure followed for installation. > Unqualified person installing and or maintaining battery powered vehicles and or charging stations	Serious	Possible	13	Electrical Engineering Control Plan	Not applicable at Penrose Quarry	Elimination	Negligible	Rare	1
Electrical - Supply of electricity in Hazardous Atmospheres	Fire or Explosion	> Incorrect standard/procedure followed for installation. > Unqualified person installing and or maintaining areas with dangerous atmospheric conditions	Serious	Possible	13	Electrical Engineering Control Plan	Not applicable at Penrose Quarry	Elimination	Negligible	Rare	1
Electrical - Site Requirements for electrical planning, designing, constructing, commissioning, operating and maintaining electrical equipment.	> Injury caused by direct/indirect contact with electricity > Unintended initiation of gas or dust explosions > Unintended or unsafe use of electrical plant > Occurrence of uncontrolled fires	> The lifecycle management aspects for electrical plant and installations > The reliability of electrical safeguards that protect people from hazards that can be caused by faulty electrical plant > Electrical engineering practices > Safe electrical work practices > Competency of workers to work safely on electrical plant and installations	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> Electrical Engineering Control Plan prepared by a qualified and experienced electrical engineer. > Only competent people to perform electrical works > Fit for purpose equipment used > Safe work practices used on site > Preventative Maintenance systems used > Adequate supervision and hazard reporting on site > Circuits protected by appropriate rated fuse or circuit breaker to prevent overloading > Electrical cables, plant and leads installed to ensure they are not damaged whilst in service. > Check and test electrical equipment prior to use > Defective electrical equipment tagged out for repair or removed from site. > Software management to ensure newly installed programs do not cause miscommunication or hazards with existing equipment, EECP STD 7 Software Change Standard.	Administrative	Significant	Unlikely	14
Emergency Response - emergency situation arising from any number of onsite/offsite incidents	Miscommunication or insufficient training of emergency procedure leading to delay in emergency response actions	> Lack of training. > Inadequate response plan considering potential incidents. > Miscommunication	Catastrophic (Principal Hazard)	Possible	22	Not Applicable	> Emergency Response Plan developed covering multiple scenarios. > Bush Fire & Lightning response Plan Developed and relevant personnel trained > Fire Response Training conducted annually > Area Wardens in place and Emergency Assembly Points signposted with all inducted on site aware of their location. > First Aid kits available throughout site, (Offices, Control Rooms, LVs, Crib Rooms). > Fire Extinguishers installed throughout site and inspected 6 monthly > Emergency Drill conducted annually. > Emergency response and site hazardous substances/mobile plant communicated to local fire service. > Quarry Pit must maintain minimum of 2 emergency exits. > Site must maintain and have access to PPE resources for all emergency types.	Administrative	Significant	Possible	18
Health Effects - Psychosocial Hazards	> Physiological hazards for workers.	> Work / Job Stress > Non work related factors	Significant	Possible	18	Health Control Plan + Airborne Contaminates Management Plan	> Employee assistance program available for workers and promoted. > Workers have access to support through different levels of management. > Regular reviews with workers on performance and expectations. > Speak Up initiative to encourage employees to report misconduct. > Bullying Training carried out annually. > Regular anonymous cultural surveys conducted nationally to determine job satisfaction and areas of improvement. covering Learning & Development; Culture; Leadership; Alignment & Involvement and Enablement > Additional training available for mental health champions.	Administrative	Significant	Rare	10

Health Effects Air Quality & Dust - Workers exposed to dust working onsite (Crystalline Silica).	> Dust onsite due to mining operations, effecting workers health.	> Washing operations. > Conveyor transport. > Movement of vehicles around site. > Wind.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	<ul style="list-style-type: none"> > Site completes annual dust exposure monitoring of work groups (SEGs). (frequency of testing may vary due to exposure). > Silica content of product known (product has high silica content). > Workers complete 5 yearly health Surveillance for silica exposure health effects. (frequency of surveillance may vary due to exposure). > Water used within processes to reduce airborne dust (Watercart / stockpile sprays / sprinkler systems). > All vehicles onsite shall have an enclosed cabin, with air condition and adequate door seals. > Regular / inspections maintenance to take place on all equipment seals and filtration systems (OEM recommendations). > Operations to stop if the dust can not be controlled on windy days. > Workers walking around site have respirators available. > Workers are trained in silica and exposure risks. > Workers must wear respirators when on primary / secondary plant while plant is operating > Occupational hygiene monitoring is completed for respirable dust as well as crystalline silica, by a competent occupational hygienist that follows the testing/sampling requirements of the latest Work Health and Safety (Mines) Regulation and Workplace Exposure Standards for Airborne Contaminants. > Sampling requirement from a period of at least 5 hours to minimum of 80% of a shift. > Any exceedances of monitored airborne hazardous substances or incidents must be reported to the mines regulator as per Section 124 of the latest Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 	Isolation	Significant	Unlikely	14
Electrical - Maintenance	> Electrical equipment develop risk which can caused hazard to workers.	> Electrical components can fail due to the amount of use and age.	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	Regular maintenance shall be completed ensuring: <ul style="list-style-type: none"> > Operation of electrical installation and not impaired by interference, damage or wear. > Live parts are insulated and workers are protected from inadvertent contact. > Earth leakage systems operates effectively. > Not exceeding operating limits. > The installation does not have the potential to start a fire. > Safety integrity limits (SIL) are maintained. > Standard for Portabel Electrical Equipmetn (STD4) developed by Qualfiied Electrical Engineer > Electrical leads and tools are not to be used in wet or damp conditions unless designed for those conditions. > If RCDs, circuit breakers or other over current protective devices including fuses are triggered, ensure circuits are not re-energised until cause is determined by Qualified Electrical Tradesperson > RCDs to be regularly tested > Extension leads must have min IP56 rating with screwed plugs and sockets, lock rings tensioned to ensure rating is maintained, extension leads checked and to AS/NZS3012, max length 30ms, run off ground using suitable stands/hangers. > Power boards must have indivual switches, when possible be mounbted off the floor, IP56 or greater to be used outdoors or in dusty environments, must not be setup in cascading sequence, double adapters not permitted onstie, not used in wet areas, regularly checked. > Maintenance and testing requirements stipulated in STD 4 	Isolation	Significant	Rare	10
Electrical - Restoration of Power	Electrocutation from restoration of power	> Overload trip > Short Circuit trip > Circuit breaker reset	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	<ul style="list-style-type: none"> > Reset of power to be completed by an electrician after, fault is identified and repaired. > further tests also carried out to determine it is safe to start-up. > Started with out people working within vicinity. > If trip occurs second time electrician shall investigate trip. > Provisions for restoration of electrical energy are detailed in, Removal and Resotration of Power (SWP4) 	Engineering / Redesign	Serious	Unlikely	9
Fixed Plant & Structures - Crushers	High pressure injections from hydraulic systems	> Failure of hoses and seals.	Significant	Unlikely	14	Mechanical Engineering Control Plan	<ul style="list-style-type: none"> > All high pressure hydraulic components that propose a potential risk have burst protection in place or guarding. > Lock Out, Tag Out for all worker working on hydraulic systems. 	Engineering / Redesign	Serious	Rare	6
Fixed Plant & Structures - Conveyors	Debris falling from conveyor, impacting worker.	> Overloading conveyors. > People accessing conveyor at incorrect place.	Serious	Possible	13	Mechanical Engineering Control Plan	<ul style="list-style-type: none"> > Largest size rock around 350mm with minimum potential fall height. Workers do not need to access between boot and tertiary crusher, post tertiary crush maximum rock size is 20mm. > Workers wear hard hats when outside walking around site. > Workers to only pass under conveyor system under designated walkways. > Skirt rubbers at transfer points, skirt rubbers centralise rocks onto centre of the conveyor. > Guarding cages in place to prevent unauthorised access to dangerous areas. 	Substitution	Minor	Rare	3

Health Effects Air Quality & Dust - Human movement generating dust.	> Workers inhaling silica dust when within vehicle cabin. > Dust within offices / lunchrooms, continuing worker exposure during break times.	> Areas where people enter / exit vehicles having product build up. > Workers have dirty / muddy boots.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> Vehicles are not to be swept out, however vacuumed out and wiped down with a damp cloth. > Rooms have doors seals. > Rooms have air-conditioning which are regularly serviced. > Rooms shall be vacuumed weekly to prevent dust build up and all surfaces wiped down.	Engineering / Redesign	Serious	Unlikely	9
Road Vehicle Operations - Operating vehicle in poor visibility conditions	> Collision with other Vehicle, structure or pedestrian.	> Night, > Smoke, > Fog.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> Vehicles are fitted with head lights and tail lights. > All vehicle have flashing lights. > Reflective tape, signs and clothing. > Consider halfling speed limits when low visibility. > Communicate traffic condition through toolbox and site meeting	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Health Effects Air Quality & Dust - Primary crusher	> Worker needs to access primary crusher to turn the primary crusher on.	> Primary crusher generates dust when crushing rock.	Catastrophic (Principal Hazard)	Unlikely	19	Health Control Plan	> Work sequence the crusher is not crushing rock when the operator needs to access it. > Extraction fans on crusher do expel dust on start up away from the operator. > During operation worker is within vehicle cabin, which is air conditioned and sealed. > Crusher exhaust keeps dust away from work areas, on foot worker areas.	Isolation	Significant	Rare	10
Fixed Plant & Structures - Boot (Bin)	Worker falling into the bin.	> Workers needs to access bin area or unintentional access of bin area. > Haul truck / Loader falling into bin.	Significant	Possible	18	Not Applicable	> Pedestrians to not access boot unless under Clearance to work permit. > Haul Truck Drivers are not to leave cabin when parked at the boot. > Tyre bump stop in place to prevent truck falling into the bin (Boot)	Engineering / Redesign	Significant	Rare	10
Fixed Plant & Structures - Boot (Bin)	Rocks spilling out of the bin, causing injury to worker below the bin.	> The bin can be over full, > Larger load of rock to go into bin.	Significant	Possible	18	Mechanical Engineering Control Plan	> Boot (bin) has edge spillage boards which are 1800mm higher than the boot. > Every 5 years a mechanical engineer completes inspections of all plant and structures for signs of fatigue. > Workers are not to be within 6 metres of the bottom of the boot when loads are being tipped into the bin. > Haul truck sizes are designed in accordance with volume of material the boot can handle. > All workers wear hard hats when outside of vehicles within quarry.	Isolation	Significant	Rare	10
Health Effects Air Quality & Dust - Public exposed to Silica from Quarry.	> Dust onsite due to mining operations, effecting public	> Washing operations. > Conveyor transport. > Movement of vehicles around site. > Wind.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> Site completes monitor of any dust leaving site. > No public facilities near the quarry. > Product being sand does not stick to vehicle tyres, therefore, not being transferred to public road. > Site is a wet process, and does not generate dust through dredge and washing operation (furthermore, product is not crushed down so does not normally form a fine powder).	Isolation	Significant	Unlikely	14
Ground & Strata Management - Highwall Failure	> Failure of highwall (Wedge / Slop failure).	> Incorrect slop angle, too steep. > Loose material on highwall. > Excessive highwall face height. > Undercut of Highwall.	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Decrease slop angle shall be consider whilst undertaking geotechnical slope design. > Workers shall not be within the toe of the highwall, highwalls which have poor strata shall exclusion zones will apply. > Daily visual inspection looking for evidence of ground stability or strata failure.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Road Vehicle Operations - General Vehicle Movements	> Collision with person.	> Unknown vehicle movement, > Unable to see other person	Significant	Possible	18	Roads and Other Vehicle Operating Areas Management Plan	> Designated walk ways for pedestrians, pedestrians not to walk around moving heavy vehicles. > Pedestrians where high visibility clothing. > All mobile plant must be fitted with reversing beepers. > All public road going vehicles, must meet road worthy inspections for NSW. > All Off Highway vehicles must comply with maintenance as prescribed from regulator and OEM. Front-end loaders, graders and bulldozers shall travel with their buckets/blades/rippers down towards the ground.	Isolation	Significant	Rare	10
Road Vehicle Operations - General Vehicle Movements	> Collision with other Vehicle, structure or pedestrian.	> Driver not fir for work (fatigue or drugs / alcohol). > Distracted mobile phone (personal device).	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> No mobile phones to be used while operating with in vehicles >4.5T GVM. > No vehicle <4.5T GVM drivers are permitted to use mobile phones when driving on a quarry site, hands free or otherwise. > When required to answer a phone call, vehicle must come to a stop in a safe position prior to taking the call > Drivers trained in fatigue management and have regular breaks. > All persons onsite must be free from the effects of drugs or alcohol. > Onsite random drug and alcohol testing. Front-end loaders, graders and bulldozers shall travel with their buckets/blades/rippers down towards the ground.	Administrative	Catastrophic (Principal Hazard)	Rare	15

Electrical - General Electrical Risks	> Electric shock / electrocution to workers.	> Workers touching electrical components they do not understand. > Poor or dangerous wiring.	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> Only trained and competent workers are to touch electrical components, people approved to work on electrical components must be authorised by the Quarry Manager or delegate. > Isolation points to great physical breaks in power to complete tasks, lock out tagged out. > Routine inspection and testing of electrical equipment. > Inspections and testing completed on electrical components. > Electrical components shall be fitted with residual current devices.	Engineering / Redesign	Significant	Rare	10
Electrical - High Voltage work	Electrocution	> High voltage	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> Site does not have high voltage electrical.	Elimination	Negligible	Rare	1
Electrical - Power Distribution	Electrocution from powerlines	> In ground powerlines > Over head powerlines	Significant	Possible	18	Electrical Engineering Control Plan	> Equipment traveling under powerline must lower attachment to stay under required distance. > Clearance work permit to be completed if working near overhead power lines or excavating near powerlines on site. > Powerlines onsite shall be known and clearly identified. > Signage in place to indicate height of powerlines, vehicle clearance.	Elimination	Significant	Rare	10
Electrical - Switchboards and Distribution Boards	Fire on switchboard / distribution board.	> Dust and heat causing overheating of distribution boards.	Significant	Possible	18	Electrical Engineering Control Plan	> Boards are contained in sealed room free from dust and contaminants. > Multiple exit points from power distribution rooms, and easy to get away from boards. > No combustible material stored in distribution rooms > Signage indicating controls.	Engineering / Redesign	Minor	Unlikely	5
Electrical - Work on live electrical circuits	Electrocution	> Live electrical work	Catastrophic (Principal Hazard)	Possible	22	Electrical Engineering Control Plan	> ABL employees and contractor are not permitted to work on live circuits.	Elimination	Negligible	Rare	1
Fire - External fire event potentially affecting the site.	> Workers being stuck onsite due to fire risk. > Fire fighting agencies accessing site being unaware of risk. > Workers on site to protect	Fire event onsite due to offsite fire event (bush fire).	Catastrophic (Principal Hazard)	Possible	22	Fire Prevention and Protection Management Plan	> Emergency management plan for external fire event. > Emergency rations to be onsite for minimum 5 days (including food and water). > The site shall develop a fire plan for the specific fire event, ensuring water carts etc. have water to extinguish spot fires. > Site shall have tools in place for external communication during a fire event and utilise government websites to manage approaching fire and weather conditions.	Isolation	Catastrophic (Principal Hazard)	Rare	15
Fire - External fire event potentially affecting the site.	> Fire to assets / people.	Fire event onsite due to offsite fire event (bush fire).	Catastrophic (Principal Hazard)	Possible	22	Fire Prevention and Protection Management Plan	> Site shall have emergency management plan developed. > Fire management plan shall be available and visible within site. > Maps in place of the site. > Engage with fire authority, to show site and discuss fire plans, prior to incident.	Isolation	Catastrophic (Principal Hazard)	Rare	15
Fire - Hot Work	Fire as a result of hot work outside of workshop.	> Unknown hazards due to hot work.	Catastrophic (Principal Hazard)	Unlikely	19	Fire Prevention and Protection Management Plan	> All hot work outside of the workshop must be completed with a hot work permit. > Fire extinguishers must be in place for hot work, as well as wetting areas when outside with combustible material. > Hot works are not permitted outside during total fire bans.	Administrative	Catastrophic (Principal Hazard)	Rare	15
Fire - Management of fire equipment	Failure of fire equipment when needed.	> Poorly maintained or incorrect fire equipment.	Catastrophic (Principal Hazard)	Possible	22	Fire Prevention and Protection Management Plan	> All fire equipment must be inspected as per OEM recommendations or Australian Standards. > Workers must be trained in fire equipment. > Suitable volume and type of fire equipment must be in place for each different emergency type.	Engineering / Redesign	Serious	Possible	13
Fire - Plant / Mobile Plant	> Fire while people are in or operating mobile plant.	> Malfunction within machine.	Catastrophic (Principal Hazard)	Rare	15	Fire Prevention and Protection Management Plan	> Machines are inspected pre shift for any signs of potential faults. > All machines on site are inspected and maintained as per OEM recommendations. > Machines are fitted with fire extinguishers enabling workers to escape machinery. > Machines are easy to escape from or have multiple evacuation methods.	Engineering / Redesign	Serious	Rare	6
Fire - Pressurised gas cylinders	Pressurised gas cylinders failing causing risk.	> Fire spreading to cylinder storage. > Failure of gas cylinder causing flammable risk. > Storage of non compatible material	Significant	Possible	18	Fire Prevention and Protection Management Plan	> All cylinders must be stored upright, and chained, in designated storage area. > All cylinders must be inspected to ensure they are free from damage and compliant to Australian standards. > Cylinders are exchanged through supplier, ensuring they are compliant. > SDS must be consulted with to ensure non compatible items are not stored together. > All gas cylinders shall be isolated from areas, by either one-hour firewall or by minimum of three metre distance.	Isolation	Serious	Possible	13
Fire - Refuelling of vehicles	Vehicle catching fire due to being on during refuelling.	> Vehicle being on during refuelling. > Ignition sources within refuelling area.	Catastrophic (Principal Hazard)	Unlikely	19	Fire Prevention and Protection Management Plan	> All refuelling to occur in designated refuelling areas. > All vehicles refuelled onsite are diesel not unleaded petrol. > Closed systems for refuelling, minimal oxygen within fuelling areas. > Vehicles must be turned off during refuelling, unless completed under specific risk assessment. > No ignition sources are permitted within refuelling areas. > Fire extinguishers / fire protection systems. > Daily pre start inspections on vehicles. > All refuelling equipment, purpose built and inspected.	Engineering / Redesign	Significant	Rare	10
Fire - Spontaneous Combustion	> Site has no risk of spontaneous combustion		Negligible	Rare	1	Principal Hazard However Not Present on Site	> Nil no risk present	Elimination	Negligible	Rare	1

Fire - Storage Oils / flammables	Fire of oils / flammable liquids	> Fire spreading to oil / flammable storage.	Catastrophic (Principal Hazard)	Unlikely	19	Fire Prevention and Protection Management Plan	> All flammable material must be stored in flammable storage cabinets. > All chemicals must be labelled. > All chemicals shall be stored in suitable lidded containers. > SDS must be consulted to not store incompatible material together. > Flammable material must be stored away from ignition sources.	Isolation	Significant	Rare	10
Fire - Waste oils / flammables	Fire of waste oils / flammable liquids	> Poor housekeeping of flammable equipment leading to fire or making fire worse.	Significant	Unlikely	14	Fire Prevention and Protection Management Plan	> All rags must be disposed of correctly, and work areas cleaned at the end of the job. > All waste oil must be stored in designed oil storage containers. > Suitable fire extinguishers within areas to manage flammability risk. > Large volumes of flammable material not stored on site.	Administrative	Significant	Rare	10
Fire - Welders / cutters	Welding / cutting of material.	> Fire / explosion of welding equipment.	Significant	Unlikely	14	Fire Prevention and Protection Management Plan	> Regular inspections of all welding and cutting units. > All cables and leads must be kept free from grease and oil. > Flash back arrestors must be fitted to all welders / cutters. > Welding screens must be in place to prevent injuries to other workers. > All people welding must wear the correct PPE. > Fire extinguishers must be in place for welding / cutting.	Engineering / Redesign	Serious	Unlikely	9
Fixed Plant & Structures - Conveyors	Entanglement of operator within conveyor.	> Worker can access conveyor with potential to get entangled.	Significant	Possible	18	Not Applicable	> All conveyor are guarded to prevent access. > Work on conveyors to be done under a Clearance to work permit and lock out, tag out process. > LOTO in place to prevent unplanned plant movements. > Conveyor siren starts prior to conveyor start. > Conveyors are fitted with emergency stop lanyard.	Engineering / Redesign	Serious	Unlikely	9
Fixed Plant & Structures - Conveyors	Fires within bearing / rollers	> No grease within bearing causing friction fire to start.	Serious	Unlikely	9	Mechanical Engineering Control Plan	> Weekly inspection of whole tertiary, inspecting all elements. > Daily visual inspection of plant prior to start up. > Bearing temperature inspection > Weekly shutdown maintenance > Fire extinguishers on plant. > Workers operate within vicinity of operating plant.	Administrative	Serious	Rare	6
Fixed Plant & Structures - Conveyors	Failure of plant structures.	> Heavy corrosion of plant caused by dust and elements.	Catastrophic (Principal Hazard)	Unlikely	19	Mechanical Engineering Control Plan	> Every 5 years a mechanical engineer completes inspections of all plant and structures for signs of fatigue. > Weekly inspection of whole tertiary, inspecting all elements. > Daily visual inspecting of whole plant prior to start up.	Engineering / Redesign	Catastrophic (Principal Hazard)	Rare	15
Fixed Plant & Structures - Conveyors	Cuts and lacerations from conveyor belts.	> Conveyors can have sharp edges.	Minor	Probable	12	Not Applicable	> Workers generally do not need to handle conveyor belts. > Worker wear category 3 cut resistant gloves.	PPE	Negligible	Unlikely	2
Fixed Plant & Structures - Crushers	Falling into the crusher.	> Maintenance activities / inspections of crusher.	Significant	Possible	18	Mechanical Engineering Control Plan	> Guarding in place to prevent people falling into crusher, > Guarding inspected daily during prestart to ensure all guarding is in place. > Any other work bar inspection / top up oil requires clearance to work permit and working at heights permit.	Isolation	Significant	Rare	10
Fixed Plant & Structures - Crushers	Engulfment within crusher, during maintenance.	> Maintenance activities / inspections of crusher.	Significant	Unlikely	14	Mechanical Engineering Control Plan	> Lock Out, Tag Out for all worker to be completed where worker needs to access crusher. > Any other work bar inspection / top up oil requires clearance to work permit and working at heights permit.	Isolation	Minor	Rare	3
Fixed Plant & Structures - Crushers	Entanglement within crusher drive components.	> Maintenance activities / inspections of crusher.	Significant	Unlikely	14	Mechanical Engineering Control Plan	> Guarding in place to prevent people falling into crusher, > Guarding inspected daily during prestart to ensure all guarding is in place. > Guarding in place to ensure limb in unable to access moving parts. > Any other work bar inspection / top up oil requires clearance to work permit and working at heights permit.	Isolation	Significant	Rare	10

Fixed Plant & Structures - Crushers	> Limb pinch between moving parts of machine.	> Maintenance activities / inspections of screens.	Serious	Unlikely	9	Mechanical Engineering Control Plan	> Guarding in place to prevent people falling into crusher, > Guarding inspected daily during prestart to ensure all guarding is in place. > Guarding in place to ensure limb in unable to access moving parts. > Any other work bar inspection / top up oil requires clearance to work permit and working at heights permit.	Isolation	Minor	Rare	3
Fixed Plant & Structures - Crushers & Screens	Fall into crusher or screen resulting in injury or fatality	Removing blockages from crushers and screens	Significant	Possible	18	Mechanical Engineering Control Plan	> Hand rails and suitable guarding in place to prevent accidental fall into danger areas > Warning signs in place to inform of inherent dangers. > 2 persons working in the area at all times	Engineering / Redesign	Significant	Rare	10
Fixed Plant & Structures - Crushers & Screens	Incident within confined space	Parts of the crusher are confined spaces for workers.	Significant	Possible	18	Not Applicable	> Only registered and qualified persons are allowed to conduct work in confined spaces in accordance with AS2865 - Safe work in a confined space. > A clearance to work and confined space permit must be used when entering confined space. > Air quality monitored during confined space activities, adequate ventilation must be present prior to entry. > Ensure sufficient ventilation is available before entry proceeds. (Extraction fans must be used if welding is being carried out)	Administrative	Significant	Unlikely	14
Fixed Plant & Structures - Screens	> Pinch between moving parts of machine. > Limb crush points	> Maintenance activities / inspections of screens.	Serious	Unlikely	9	Mechanical Engineering Control Plan	> Guarding in place to prevent people falling into screen, > Guarding inspected daily during prestart to ensure all guarding is in place. > Guarding in place to ensure limb in unable to access moving parts. > Any other work, bar inspection / greasing requires clearance to work permit and working at heights permit.	Isolation	Minor	Rare	3
Fixed Plant & Structures - Screens	Entanglement within screens.	> Maintenance activities / inspections of screens.	Serious	Unlikely	9	Mechanical Engineering Control Plan	> Guarding in place to prevent people falling into screen, > Guarding inspected daily during prestart to ensure all guarding is in place. > Guarding in place to ensure limb in unable to access moving parts. > Any other work, bar inspection / greasing requires clearance to work permit and working at heights permit.	Isolation	Minor	Rare	3
Fixed Plant & Structures - Screens	Engulfment within screens, during maintenance.	> Maintenance activities / inspections of screens.	Significant	Unlikely	14	Mechanical Engineering Control Plan	> Lock Out, Tag Out for all worker to be completed where worker needs to access screens. > Any other work, bar inspection / greasing requires clearance to work permit and working at heights permit.	Isolation	Minor	Rare	3
Fixed Plant & Structures - Tertiary crushing plant	Fall from heights - Parts of plant are elevated with the potential for workers to fall from heights.	> Completing pre start inspections and greasing moving parts. > Slips while on plant, due to wet surfaces	Significant	Possible	18	Mechanical Engineering Control Plan	> All plant is guarded to prevent workers fall from height, handrails. > Only workers with operational need access tertiary crusher platforms. > Any other work, bar inspection / greasing requires clearance to work permit and working at heights permit. > Workers wear lace up safety footwear. > Anti slip construction of walking surfaces on tertiary crusher plant.	Engineering / Redesign	Significant	Rare	10
Ground & Strata Management - Bench Failure	> Bench may fail causing injuries to workers below or workers on the bench.	> Bench may fail due to weathered material. > Pooling of water or rain event washing away material. > Undercut of highwall.	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Workers shall not be within the toe of the highwall, highwalls which have poor strata shall exclusion zones as determined by an engineer. > Geotechnical studies undertaken of benches. > Daily visual inspection looking for evidence of ground stability or strata failure. > Drilling and operations completed as per pit design. > Catch benches in place.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Ground & Strata Management - Dumping	> Dumping over water or over a highwall.	> Movement of dump. > Incorrect position of vehicle to dump. > Debris from dumping not cleared.	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Floor shall be slopping upwards. > The Quarry Manager or Supervisor shall determine safe distance from the tip edge, a minimum of 5 metres from windrow to be used. > The dozer shall remain on the dump at all time while tipping is occurring. > Should the dump / tip edge show signs of cracking, tipping shall stop and the face be reinspected. > All unsuitable material for this operation shall be diverted.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19

Ground & Strata Management - Fill areas / Overburden	> Subsidence / wash away of fill areas.	> Poor compaction of fill areas. > Water ingress into fill areas causing wash away. > Design failures / maintenance of dump areas. > Seismic event.	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Filled areas shall be designed and compacted as per geotechnical report. > Daily inspections of working areas. > Water pressure & corrosion to be considered for design of fill areas. > Sumps to be in place. > Post a seismic activity, fills areas shall be inspected for possible failure. > Dump / fill areas should be no higher than 20 metres unless advised received from geotechnical advice. > Persons shall not access the toe of a dump on foot unless an inspection has been completed prior for loose material / rocks.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Ground & Strata Management - Highwall Failure	> Highwall may fail causing injuries to workers below or workers on top of the highwall due to water.	> Water pooling behind highwall. > Large weather event washing away parts of highwall. > Incorrect slop design (Too Steep). > Incorrect bench design (Too Narrow). > Ground water within pit. > Undercut of Highwall.	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Decrease slop angle shall be consider whilst undertaking geotechnical slope design. > Workers shall not be within the toe of the highwall, highwalls which have poor strata shall exclusion zones as determined by an engineer. > Daily visual inspection looking for evidence of ground stability or strata failure. > Regular performance monitoring to be undertaken of highwalls. > Face height shall not exceed the Geotechnical report requirements. > Geotechnical Engineer shall be engaged as required to reassess mining methodology. > Faces of highwall to not exceed 15 metres, or higher than the loader / excavator can reach for the purposes of scaling.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Ground & Strata Management - Highwall Failure	> Highwall may fail causing injuries to workers below or workers on top of the highwall.	> Seismic activity	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Decrease slop angle shall be consider whilst undertaking geotechnical slope design. > Workers shall not be within the toe of the highwall, highwalls which have poor strata shall exclusion zones as determined by an engineer. > Post a seismic activity, highwall shall be inspected for possible failure, daily inspections. > Face height shall not exceed the Geotechnical report requirements. > Blasting shall also be completed in accordance with the explosives control plan.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Ground & Strata Management - Highwall Failure	> Fracture of Highwall due to Blast.	> Blast onsite weakening strata and causing potential failure onsite.	Catastrophic (Principal Hazard)	Unlikely	19	Ground Control Management Plan	> Site is designed, for blasting activities to take place. > Comply with explosives control plan. > Post blast inspection conducted > Bunding built to capture loose rocks which could fall from highwall. > Scaling completed on highwalls to remove loose rock	Engineering / Redesign	Catastrophic (Principal Hazard)	Rare	15
Ground & Strata Management - Water Management	> Water may corrode / damage structure within the pit.	> Water pooling behind highwalls and road surfaces. > Large weather event washing away parts of highwall. > Ground water within pit.	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Ground water shall be stored in a sump or pumped to a suitable area. > Water drainage paths shall be established around site, so water does not pool at the toe or crest of critical slops. > Decrease slop angle shall be consider whilst undertaking geotechnical slope design. > Daily visual inspection looking for evidence of ground stability or strata failure. > Regular performance monitoring to be undertaken of highwalls. > Face height shall not exceed the Geotechnical report requirements. > Geotechnical Engineer shall be engaged as required to reassess mining methodology.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Ground & Strata Management - Working near base of highwall	> Highwall may fail causing injuries to workers below highwall face.	> Failure of highwall	Catastrophic (Principal Hazard)	Possible	22	Ground Control Management Plan	> Decrease slop angle shall be consider whilst undertaking geotechnical slope design, and faces shall not exceed the geotechnical requirements. > Workers shall not be within the toe of the highwall, highwalls which have poor strata shall exclusion zones as determined by an engineer. > Catch benches shall be in place. > People and vehicles shall not be with 15 metres of the toe of a highwall unless they have a specific task to do	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Health Effects Air Quality & Dust - Asbestos	> Inhalation of asbestos within workplace	> Asbestos in Buildings. > Asbestos naturally occurring.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> No Asbestos onsite.	Elimination	Negligible	Rare	1
Health Effects Air Quality & Dust - Dust generated from extracting product (Crystalline Silica).	> Workers inhaling silica dust when moving around the site.	> Dust generated from ripping with bulldozer.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> People shall not walk around quarry for general access, people shall be transported by vehicle to parts of the quarry. > All vehicles access the quarry shall have windows up at all times. > All vehicles accessing quarries shall have air conditioning, with air set to recycle. > All vehicles shall have door seals which are regularly inspected and replaced as per OEM recommendations.	Isolation	Serious	Unlikely	9
Health Effects Air Quality & Dust - Dust generated on roads from vehicles (Crystalline Silica).	> Workers inhaling silica dust when moving around the site.	> Vehicles on roads generating dust.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> People shall not walk around quarry for general access, people shall be transported by vehicle to parts of the quarry. > All vehicles access the quarry shall have windows up at all times. > All vehicles accessing quarries shall have air conditioning, with air set to recycle. > All vehicles shall have door seals which are regularly inspected and replaced as per OEM recommendations. > Water cart to wet active road, > Road to pit access sealed roads.	Isolation	Serious	Unlikely	9
Health Effects Air Quality & Dust - Dust generated from cutting / transporting sandstone logs	> Workers inhaling silica dust during cutting sandstone logs. > Workers interacting with saw cutting head.	> Log saw cutting generating dust,	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> Cutting Excavator has windows closes and seals tested every 250 hours. > Mobile plant air conditioning filters are serviced / changed every 250 hours. > All mobile plant shall have door seals which are regularly inspected and replaced as per OEM recommendations. > All vehicles accessing quarries shall have air conditioning, with air set to recycle with windows up. > No persons on foot / unprotected while log cutting taking place. > Watercart available to wet bench if needed for log cutting. > Operating procedure for loading and transport of sandstone logs, develop with transport company and log cutting contractor.	Isolation	Serious	Unlikely	9

Health Effects Air Quality & Dust - Dust in Workshop (Crystalline Silica).	> Dust and mud build up in workshop, exposure to workers when needs to be cleaned. > Dust in service area.	> Workers need to sweep up dust and mud in workshop. > Dust settles on equipment. > Dirt floor within service area.	Catastrophic (Principal Hazard)	Unlikely	19	Health Control Plan	> Dust is more of a sand based product and does not form clumps or easily transport on wheels / tyres. > Vehicles prior to entering the workshop / service yard shall be washed down and mud and dust removed from wheel areas etc. > Floors cleaned with wet processes or mopped out or hoses out.	Administrative	Serious	Rare	6
Health Effects on Body - Fume exposures	> Health effects due to fume exposure.	> Chemicals onsite. > Mobile plant / vehicles.	Significant	Unlikely	14	Health Control Plan	> All chemicals onsite are known and SDS is reviewed, dangerous inhalation risk chemicals are not required on site. > Chemicals are stored in well ventilated areas. > Vehicles operate outside in well ventilated areas.	Engineering / Redesign	Serious	Rare	6
Health Effects Air Quality & Dust - Wash plant	> Worker needs to access washing plant	> Dust generation on wash plant	Catastrophic (Principal Hazard)	Rare	15	Health Control Plan	> Wash plant is a wet process, sand is washed wet and therefore does not generate dust. > Crushing plant is located away from pedestrian trafficked areas with plant man to notify if there are elevated levels of dust > Work sequence the wash plant is not washing when the operator needs to access it	Isolation	Negligible	Rare	1
Health Effects on Body - Diesel powered vehicles and machinery.	> Inhalation of diesel particulate.	> Diesel powered vehicles can generate diesel particulate.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> Vehicles operate in open spaces and all vehicles operate with windows up, with air conditioning. > Vehicles are also fitted with particulate filters. > Workers do not work in diesel fume. > Diesel powered machinery maintained as per OEM recommendations. > Diesel exhaust to be away from open window and building windows	Isolation	Minor	Rare	3
Health Effects on Body - Ergonomics	> Musculoskeletal disorders	> Poorly designed equipment. > Hazardous manual handling.	Serious	Possible	13	Health Control Plan	> All equipment designed with ergonomic consideration. > All new machinery is risk assessed through our Change Management process. > Routine tasks have operating procedures and risk assessments in place. > Permit system in place for non routine task	Engineering / Redesign	Serious	Unlikely	9
Health Effects on Body - Fitness for work	> Fitness for work (fatigue)	> Insufficient time to recover between shifts. > Poor shift start and finish times.	Catastrophic (Principal Hazard)	Unlikely	19	Health Control Plan	> All personnel shall comply with ABL-HSE-GOS-29-02 Fatigue Management. > A site specific fatigue risk assessment shall be undertaken if an employee works more than 60 hours in a week.	Administrative	Catastrophic (Principal Hazard)	Rare	15
Health Effects on Body - Fitness for work	> Fitness for work (drugs / alcohol)	> Worker under the effects of drugs and/or alcohol.	Catastrophic (Principal Hazard)	Unlikely	19	Health Control Plan	> Workers shall tell their supervisor if they are on any prescription medication. > Random drug and alcohol testing of workers. > Workers shall have zero alcohol in their system.	Administrative	Catastrophic (Principal Hazard)	Rare	15
Health Effects on Body - Hazardous Substances	> Unknown health effects from being exposed to hazardous substances.	> Exposures to hazardous substances.	Catastrophic (Principal Hazard)	Possible	22	Health Control Plan	> Register onsite of all hazardous substances. > SDSs kept onsite and accessible. > For all chemicals brought onto site the SDS is reviewed ensuring any additional controls are implemented. > Attempt to replace dangerous chemicals with lower risk chemicals. > Workers are trained in the safe use and handling of the substances. > Signage in place for any specific chemical hazards. > All flammable goods stored in suitable storage locations.	Engineering / Redesign	Serious	Unlikely	9
Health Effects on Body - Hot Weather / High Humidity	> Heat stress / heat stroke.	> Hot weather / humidity.	Serious	Possible	13	Health Control Plan	> Mobile plant fitted with air conditioners, and all office spaces / building fitted with air conditioners. > Potential to increase breaks if needed or postpone work with no protection from heat. > Workers able to carry water with them, in vehicles / on job. > Workers have long pants, shirts, hat and sunscreen to protect them from UV.	Elimination	Minor	Unlikely	5
Health Effects on Body - Noise	> Industrial hearing loss.	> Continual noise over 85dBA	Serious	Possible	13	Health Control Plan	> Workers operate within vehicle cabins, vehicle cabins are designed to be under exposure standard. > Buy quiet, buying machinery which when in cabin operates at low decibels. > Workers isolated from noisy equipment and breaks taken away from noisy areas. > Noise survey completed on a 5 year basis	Administrative	Serious	Unlikely	9
Health Effects on Body - Vibration	> Effects on body due to vibration	> Vibration while operating mobile plant.	Serious	Possible	13	Health Control Plan	> Workers operate within vehicle cabins, vehicle cabins and seats are designed to reduce / eliminated vibration exposure. > Maintenance on mobile plant as per OEM recommendations. > Incident / hazard reporting processes. > Roads to be maintained to reduce ergonomics impact on operators.	Engineering / Redesign	Minor	Unlikely	5
Inundation / Inrush - Gas	> Site is an open cut quarry and there is no risk of gas in workings.		Negligible	Rare	1	Inundation and Inrush Management Plan	> Nil no risk present	Elimination	Negligible	Rare	1
Inundation / Inrush - Water offsite.	> Water from quarry affecting local community.	> Man made dams and rivers / lakes over flowing or giving way impacting local community.	Significant	Rare	10	Inundation and Inrush Management Plan	> Site is away from local community and possible flood risk from quarry. > Quarry is designed to only capture the water they are licenced to hold, in excessive rain event water will run off quarry in controlled manner. > Pumps able to move quarry water offsite in controlled manner	Engineering / Redesign	Serious	Rare	6
Inundation / Inrush - Water onsite.	> Water into workings putting worker at risk of drowning.	> Quarry water washing through site.	Significant	Rare	10	Inundation and Inrush Management Plan	> Water drains from product very slowly. > Pipelines and drains in place to divert the incoming water into the quarry sumps. > Sumps built to capture and store water.	Engineering / Redesign	Serious	Rare	6
Inundation / Inrush - Water onsite.	> Water into workings putting worker at risk of drowning.	> Man made dams and rivers / lakes above workings giving away, washing through site.	Significant	Rare	10	Inundation and Inrush Management Plan	> Sites designed with all dams at low points on the site, water washing through site. > Roads and areas where water pools is inspected post rain event and during daily inspections. > Diversion systems in place such as, overflow channels, direct water away from workings and structure of dams. > Regular inspections of dams and dam walls.	Isolation	Serious	Rare	6
Inundation / Inrush - Water onsite.	> Water into workings putting worker at risk of drowning.	> Ground water rising into workings.	Serious	Unlikely	9	Inundation and Inrush Management Plan	> Flow of ground water into working is very slow. > Inspection of quarry each day to ensure no excessive water. > Pumps in place to move water out of working areas.	Engineering / Redesign	Minor	Unlikely	5
Inundation / Inrush - Water onsite.	> Water into workings putting worker at risk of drowning.	> Significant rain event	Significant	Rare	10	Inundation and Inrush Management Plan	> Site work to stop in excessive rain events, as roads and visibility could be un safe. > Sites designed with all dams at low points on the site, water washing through site. > Roads and areas where water pools is inspected post rain event and during daily inspections. > Diversion systems in place such as, overflow channels, direct water away from workings and structure of dams.	Engineering / Redesign	Serious	Rare	6
Mine Shaft & Winding Systems	> No risk onsite.	> No risk onsite.	Negligible	Rare	1	Not Applicable	> No risk onsite.	Elimination	Negligible	Rare	1
Outburst - Gas	> Site is an open cut quarry and there is no risk of gas in workings.		Negligible	Rare	1	Principal Hazard However Not Present on Site	> Nil no risk present	Elimination	Negligible	Rare	1

Plant & Structures - Maintenance of plant	> Unable to complete safe maintenance / servicing on	> Safety devices not fitted to plant.	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> All plant on site must be risk assessed ensure safety devices and warning signals are in place and in suitable positions. > Inspections in place to ensure safety devices are in working order, apart of pre start up inspection.	Engineering / Redesign	Catastrophic (Principal Hazard)	Unlikely	19
Plant & Structures - Maintenance of plant	> Injuries to person	> Release of energy	Significant	Possible	18	Not Applicable	> All plant to be designed to enable isolation of energy sources. > Lock Out / Tag Out and Clearance to work process. > Machinery Preventative maintenance and inspections.	Isolation	Significant	Rare	10
Plant & Structures - Boom Lift (Boom Length Greater than 11m)	> Person fall from boom lift	> Failure of boom lift	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> People using boom lift must have the applicable high risk work licence. > Boom lift must be fitted with crusher bar. > Boom lift capacity must not be exceeded.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Contractor Management	> Competence of contractors completing work at quarry. > Advising risky solutions	> Mechanical engineering work is outsourced to a contractor(s).	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> Mechanical engineer to complete 5 yearly inspection of all fixed plant and structures. > All plant and equipment to be designed and maintained to the appropriate Australian standards. > All mechanical contractors are to have applicable trade certificates or demonstrate minimum of 2 years working within industry, completing that style of task. > All contractors must have appropriate insurances managed by site pass.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Hirer Plant & Equipment	> Hirer plant and equipment used on site.	> Unknown / unforeseen risks / processes	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> All new plant brought onto the quarry to be risk assessed prior to use. > All hirer plant brought onto site, to used under clearance to work permit and any other applicable permits.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Inspections / Maintenance of plant	> Plant develop risk which can caused hazard to workers.	> Plant and structures can deteriorate over time and operation.	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> All plant is to be maintained as per OEM specifications, Australian Standards, Mine Design Guidelines and information from relevant safety alerts. > Life cycle of plant to also be establish as per OEM recommendations, and maintenance completed by qualified person(s). > All plant has a daily visual inspection, pre start-up inspection.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Ladders & Scaffolding	> Worker fall from ladder.	> Failure of ladder enabling worker to fall.	Significant	Possible	18	Mechanical Engineering Control Plan	> All ladders shall have a formal 3 monthly inspection completed. > All portable ladders shall Australian standards and be of industrial quality, capacity 150kg or greater. > All scaffolding shall be completed by a scaffolding company who has qualified scaffolders.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Lifting with cranes.	> Fall of load.	> failure of lifting equipment	Catastrophic (Principal Hazard)	Unlikely	19	Mechanical Engineering Control Plan	> No person to stand or be under suspended load. > All crane lifts must have a lift plan with clearance to work or procedure for lift. > Cranes must be compliance with Australian standard.	Isolation	Serious	Unlikely	9
Plant & Structures - New plant to site / Modification to plant	> New plant / structures can bring new hazards to site.	> Unknown / unforeseen risks / processes	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> All new plant brought onto the quarry to have design risk review completed, prior to construction. > All new plant brought onto site to have commissioning plan develop and executed to look for possible risk. > All new plant to have an management of change completed, reviewed by either the OEM or qualified engineer. > A operational risk assessment (pre start up safety review) to be completed on all new plant to look for new introduced risks.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Non Destructive Testing	> Plant develop risk which can caused hazard to workers.	> Parts of plant can fail due to the amount of use	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> Non destructive testing to be completed on equipment as per OEM, Australian Standards or Mine Design Guidelines recommendations. > Schedule for Non destructive testing to be managed via gearbox.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Pressure vessels	> Pressure vessel failure causing explosion.	> Not maintained or inspected. > Collision with pressure vessel.	Catastrophic (Principal Hazard)	Possible	22	Mechanical Engineering Control Plan	> All pressure vessel must be inspected annual, by an external qualified provider. > Pressure vessels must comply with Australian Standards. > All pressure vessels must be protected from collision with mobile plant.	Isolation	Serious	Rare	6
Plant & Structures - Vehicles with rubber tyres.	> Failure of Rim or tyres.	> Poor maintenance of rim or tyre enabling failure.	Significant	Possible	18	Mechanical Engineering Control Plan	> All rims to complete non destructive testing (10000 hours on new or 5000 hours on pre tested) as per OEM / Australian Standards. > Person who completes work on rims / tyres must be competent in rim management, with competence managed in site pass and preferable work for the OEM.	Engineering / Redesign	Significant	Unlikely	14
Plant & Structures - Vehicles with rubber tyres.	> Failure of Rim or tyres.	> Rubber tyre vehicles which have come into contact with electricity or heating.	Catastrophic (Principal Hazard)	Unlikely	19	Mechanical Engineering Control Plan	> Any rubber tyred vehicle which has come into contact with high voltage electricity or heating shall be isolated in a 300m exclusion zone for a minimum of 24 hours.	Isolation	Serious	Rare	6
Road - Bodies of Water	> Vehicle enter body of water.	> Unaware of body of water.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> Barriers shall be erected within 5 metres of the sloping edge, not the waters edge. > Signage in place warning of locations of bodies of water. > Daily inspection completed on sloping edges	Isolation	Serious	Rare	6
Road - Design of roads within quarry	> Collision of vehicles.	> Poor roads / conditions enabling vehicle collision.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> All two-way travel roads must be 3 times the width of the widest vehicle, if not possible road must include radio call point and vehicle passing points. > Ideally two way roads would have a centre berm to separate vehicles. > No road shall be narrower than 1.5 times the width of the widest vehicle which will travel along it. if not call point are enforced	Engineering / Redesign	Significant	Unlikely	14
Road - Interaction with Power Lines	> Vehicle collision with overhead powerlines	> Unknown vehicle height. > Unknown powerline height.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> All powerlines on site shall be buried underground, to prevent possible collision. > If it is not possible signage must determine the location of powerlines and vehicle height restrictions must be in place.	Engineering / Redesign	Significant	Rare	10
Road - Maintenance of Roads	> Unplanned movement of vehicle travelling on roads, causing collision.	> Road condition deteriorates due to poor maintenance.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> Road ways must be regularly graded and watered. > All workers must be notified at pre-start or toolbox talk, if roads are in poor condition or being maintained during shift. > Obstacles and debris shall be removed from road ways. > Road ways shall be inspected for cracking, sinking or slippages during / after any periods of heavy rain.	Engineering / Redesign	Serious	Unlikely	9
Road - Refuelling Stations	> Vehicle collides with re fuelling station	> Unplanned movement of vehicle, roll away.	Significant	Possible	18	Roads and Other Vehicle Operating Areas Management Plan	> Refuelling stations shall be listed on a sites traffic management plan. > Refuelling stations must be designed and constructed as per AS1940. > Physical barriers must be in place to prevent collision with refuelling stations.	Isolation	Serious	Unlikely	9
Road - Traffic Management	> Unplanned movement of vehicle travelling on roads, causing collision.	> Vehicle operators not aware of road rules.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> All vehicles have two way radios to call operators who may be not following road rules. > All people are inducted to site and trained in traffic management rules. Plus annual refresher training of drivers. > Signage onsite directing vehicles, and signage is compliant to AS1744:1975.	Engineering / Redesign	Significant	Unlikely	14
Road Vehicle Operations - Access and Egress of all Mobile Plant.	> Fall while accessing or exiting mobile plant.	> Design of access / egress. > Damage to access / egress.	Serious	Possible	13	Not Applicable	> Three points of contact for accessing mobile plant. > Fall protection in place for mobile plant. > Review each piece of plant for access and egress, prior to introduction to site. > Mobile plant operators have appropriate PPE	Engineering / Redesign	Serious	Rare	6
Road Vehicle Operations - Collision with fixed plant	> Collision with fixed plant	> Machinery needs to access areas near fixed plant to tip / load.	Significant	Possible	18	Roads and Other Vehicle Operating Areas Management Plan	> Speed limits within congested 15km/h. > Signage reinforcing all site speed limits. > Reversing cameras in place.	Administrative	Serious	Possible	13
Road Vehicle Operations - Congested Work Areas	> Collision of vehicles within congested work zones Heavy Vehicle V Heavy Vehicle	> Certain work areas (Boot, Loader, Stockpile area, loading zones) have multiple vehicle	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> Speed limits within congested 15km/h. > Radio communication between vehicles > Signage reinforcing all site speed limits.	Isolation	Serious	Possible	13
Road Vehicle Operations - Congested Work Areas	> Collision of vehicles within congested work zones Heavy Vehicle V Heavy Vehicle	> Certain work areas Crib shed, weighbridge, workshop) have multiple vehicle movements.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> Speed limits within congested 15km/h. > Radio communication between vehicles > Signage reinforcing all site speed limits. > Reversing cameras in place.	Isolation	Serious	Possible	13
Road Vehicle Operations - Congested Work Areas	> Collision of vehicles within congested work zones Heavy Vehicle v Light Vehicle	> Certain work areas (Boot, Loader, Stockpile area, loading zones) have multiple vehicle movements.	Catastrophic (Principal Hazard)	Possible	22	Roads and Other Vehicle Operating Areas Management Plan	> Speed limits within congested 15km/h. > Radio communication between vehicles, light vehicles must give way to all heavy vehicles. > Signage reinforcing all site speed limits. > Reversing cameras in place.	Isolation	Serious	Possible	13

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SAFETY MANAGEMENT SYSTEM

HTA-S-HSE-057

Hy-Tec Industries – Penrose Quarry

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Appendix 19B PPE Matrix

PERSONAL PROTECTIVE EQUIPMENT

Note: PPE use is a “minimum” risk control measure, however it can be used in conjunction with other safety controls.

LEGEND– M= Mandatory R = Recommended if required

SITE SPECIFIC RULES WILL DETERMINE WHAT PERSONAL PROTECTIVE EQUIPMENT (PPE) MUST BE WORN

PPE Type Hazard/Activity											
	Safety Helmet HEAD PROTECTION MUST BE WORN	Hearing Protection HEARING PROTECTION MUST BE WORN	Eye Protection EYE PROTECTION MUST BE WORN	Safety Boots FOOT PROTECTION MUST BE WORN	Long Clothing PROTECTIVE CLOTHING MUST BE WORN	Hand Protection HAND PROTECTION MUST BE WORN	Hi-Vis Clothing SAFETY VEST MUST BE WORN	Respiratory Equipment HALF FACE MASK RESPIRATOR MUST BE WORN	Face Shield FACE SHIELD MUST BE WORN	Welding Mask WELDING MASK MUST BE WORN	Safety Harness SAFETY HARNESS MUST BE WORN
Employees/visitors	M	R	M	M	M		M				
Plant Operation	M	M	M	M	M	R	M	R	R		
Mechanical Maintenance	M	R	M	M	M	R	M	R	R		R
Fabrication Work	M	M	M	M	M	M	M	R	R	R	R
Hazardous Substances	M	R	M	M	M	M	M	R	R		
Workshop Activities	M	M	M	M	M	R	M	R	R	R	
Office Work				M	M		M				
Working at Heights	M	R	M	M	M	R	M	R	R	R	M
Confined Spaces	M	M	M	M	M	R	M	R	R	R	R
Cleaning Activities	M	R	M	M	M	R	M	R	R		R

Concrete & Aggregates

PIRMP Document Control

Penrose Quarry

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Pollution Incident Response Management Plan Review Sheet

Plan	Revision No	Date	Review	Reviewed by
PIRMP	1.0	08.03.2013	Reviewed – no changes	D.Thiedeke
PIRMP	1.0	15.05.2014	Reviewed – minor changes made	D.Thiedeke
PIRMP	2.0	04.05.2015	Reviewed – update contacts	D.Thiedeke
PIRMP	3.0	12.05.2016	Reviewed – no changes	D.Thiedeke
PIRMP	4.0	09.05.2017	Reviewed – update contacts	D.Thiedeke
PIRMP	5.0	11.05.2018	Reviewed – no updates	D.Thiedeke
PIRMP	6.0	08.03.2019	Alterations to numerous sections	D.Thiedeke
PIRMP	7.0	27.08.2019	Format changes	D.Thiedeke
PIRMP	8.0	23.10.2020	PIRMP Review	D.Thiedeke
PIRMP	9.0	04.05.2022	Minor Format changes – update management details	D.Thiedeke
PIRMP	10.0	22.12.2022	Alterations to numerous sections	D.Thiedeke
PIRMP	11.0	25.04.2024	Reviewed – update management details, risk register	D.Thiedeke
PIRMP	12.0	04.07.2024	Reviewed – Environment Hazard Register	L Attard /M. Rixon /J. John