



**MOUNT PLEASANT OPERATION
POLLUTION INCIDENT RESPONSE
MANAGEMENT PLAN**

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1 INTRODUCTION

The Mount Pleasant Operation (MPO) is in the Upper Hunter Valley of New South Wales (NSW), approximately 3 kilometres (km) north-west of Muswellbrook and approximately 50 km north-west of Singleton (Figure 1). The village of Aberdeen and locality of Kayuga are also located approximately 5 km north-northeast and 1 km north of the MPO boundary, respectively. MACH Energy purchased the MPO from Coal & Allied Operations Pty Ltd (Coal & Allied) in 2016.

MACH Mount Pleasant Operations Pty Ltd is the manager of the MPO as agent for, and on behalf of, the unincorporated Mount Pleasant Joint Venture between MACH Energy Australia Pty Ltd (MACH Energy) (95 per cent [%] owner) and J.C.D. Australia Pty Ltd (5% owner). This Pollution Incident Response Management Plan (PIRMP) is implemented at the MPO by MACH Energy.

The initial development application for the MPO was made in 1997. This was supported by an Environmental Impact Statement (EIS) prepared by Environmental Resources Management (ERM) Mitchell McCotter (ERM Mitchell McCotter, 1997). On 22 December 1999, the then Minister for Urban Affairs and Planning granted Development Consent DA 92/97 to Coal & Allied. This allowed for the “Construction and operation of an open cut coal mine, coal preparation plant, transport and rail load-out facility and associated facilities” at the MPO. The consent allowed for operations 24 hours per day seven days per week and the extraction of 197 million tonnes (Mt) of run-of-mine (ROM) coal over a 21-year period, at a rate of up to 10.5 Mt of ROM coal per year.

The Mount Pleasant Operation Modification (MOD 1) was submitted on 19 May 2010 with a supporting Environmental Assessment (EA) prepared by EMGA Mitchell McLennan (EMGA Mitchell McLennan, 2010). MOD 1 included the provision of an infrastructure envelope for siting the mine infrastructure, the provision of an optional conveyor/service corridor linking the MPO facilities with the Muswellbrook-Ulan Rail Line and modification of the existing Development Consent DA 92/97 boundaries to accommodate the optional conveyor/service corridor and minor administrative changes. MOD 1 was approved on 19 September 2011.

The MPO South Pit Haul Road Modification (MOD 2) was submitted on 30 January 2017 with a supporting EA prepared by MACH Energy (MACH Energy, 2017a). MOD 2 proposed to realign an internal haul road to enable more efficient access to the South Pit open cut, with no other material changes to the approved MPO. MOD 2 was approved on 29 March 2017.

The MPO Mine Optimisation Modification (MOD 3) was submitted on 31 May 2017 with a supporting EA prepared by MACH Energy (MACH Energy, 2017b). MOD 3 comprised an extension to the time limit on mining operations (to 22 December 2026) and extensions to the South Pit Eastern Out of Pit Emplacement to facilitate development of an improved final landform. MOD 3 was approved on 24 August 2018.

The MPO Rail Modification (MOD 4) was submitted on 18 December 2017 with a supporting EA prepared by MACH Energy (MACH Energy, 2017c). MOD 4 proposed the following changes:

- duplication of the approved rail spur, rail loop, conveyor and rail load-out facility and associated services;
- duplication of the Hunter River water supply pump station, water pipeline and associated electricity supply that followed the original rail spur alignment; and
- demolition and removal of the redundant approved infrastructure within the extent of the Bengalla Mine, once the new rail, product loading and water supply infrastructure has been commissioned and is fully operational.

MOD 4 was approved on 16 November 2018 by the Secretary of the Department of Planning and Environment (DPE) (under Delegation). Appendix 2 of the modified Development Consent DA 92/97 illustrates the Conceptual Project Layout Plan of the approved MPO at 2021 and 2025, Approved Surface Disturbance Plan and Conceptual Final Landform (Attachment 1) incorporating the MOD 4 infrastructure relocations.

Modification 5 (MOD 5) was submitted to rectify an administrative error in Development Consent DA 92/97 and was approved by DPE on 29 June 2022.

Modification 6 (MOD 6) was submitted to modify Development Consent DA 92/97 and was approved on 6 November 2023. MOD 6 will allow for the construction and operation of a re-transmission facility including a tower or mast, shed and associated transmission infrastructure to re-transmit local digital television signals from the Broadcast Australia site at Rossgole Lookout. Appendix 2 of the modified Development Consent DA 92/97 illustrates the Revised Approved Surface Disturbance Plan incorporating the MOD 6 infrastructure (Attachment 1).

On 22 January 2021, MACH Energy submitted the Mount Pleasant Optimisation Project (the Project) EIS in support of State Significant Development (SSD) 10418 under Part 4 of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act). Key aspects of the Project generally involve (among other things):

- increased open cut extraction within the MPO's existing Mining Leases (MLs);
- a staged increase in extraction, handling, and processing of ROM coal up to 21 Mtpa;
- upgrades to existing infrastructure and new infrastructure to support mining of the proposed Project; and
- an extension to the time limit on mining operations to 22 December 2048.

The Project was approved by the NSW Independent Planning Commission on 6 September 2022. Part A, Condition A14 of Development Consent SSD 10418 requires the surrender of Development Consent DA 92/97 within 12 months of the date of commencement of development under Development Consent SSD 10418, or an alternative timeframe agreed with the Planning Secretary of the DPE. Attachment 2 describes the development layout of the Project in accordance with Development Consent SSD 10418.

Following the commencement of development under Development Consent SSD 10418 and prior to the surrender of Development Consent DA 92/97, MACH Energy will comply with the requirements of both consents (Section 1.1).

This PIRMP has been prepared to satisfy the relevant conditions of EPL 20850. Where relevant, this PIRMP builds on the components of the existing/approved PIRMP, including previous feedback from government stakeholders and actions from previous tests of this PIRMP.

Figure 1 shows the indicative Project general arrangement and existing/approved surface development areas that would continue to comprise as part of the Project and the areas that would be relinquished.



Source: NSW Spatial Services (2023)



- LEGEND**
- Mining Operation
 - Proposed Mining Operation (Application Lodged)
 - Railway
 - Local Government Boundary
 - State Forest/Reserve
 - National Parks and Wildlife Estate
 - Mining Lease Boundary (Mount Pleasant Operation)

MACHEnergy
MOUNT PLEASANT OPERATION
 Regional Location

Figure 1

1.1 PURPOSE AND SCOPE

This Pollution Incident Response Management Plan (PIRMP) has been prepared by MACH Energy to satisfy the requirements under Condition O5 of Environment Protection Licence (EPL) 20850. As the holder of EPL 20850, MACH Energy is required to prepare this PIRMP in relation to the following activities undertaken at the MPO:

- coal works; and
- mining for coal.

This PIRMP has been prepared to manage pollution incidents associated with development works, open cut mining, operation of the coal handling and preparation plant, rail spur/loop and fines emplacement area, and the supply of water to the MPO operations.

The PIRMP applies to all employees and contractors at the MPO and covers all areas within the MPO boundary (defined in EPL 20850 and provided in Appendix 1).

Condition O5 requires that the PIRMP include information detailed in section 153 of the *Protection of the Environment Operations Act 1997* (POEO Act). Table 1 below lists the information requirements in section 153 and the corresponding section of this PIRMP where the requirement is addressed.

Table 1
Pollution Incident Response Management Plan *Protection of the Environment Operations Act 1997* Information Requirements

Protection of the Environment Operations Act 1997 section 153C	Section where addressed in this PIRMP document
<i>A pollution incident response management plan must be in the form required by the regulations and must include the following:</i>	This Plan
<i>(a) the procedures to be followed by the holder of the relevant environment protection licence, or the occupier of the relevant premises, in notifying a pollution incident to:</i>	
<i>(i) the owners or occupiers of premises in the vicinity of the premises to which the environment protection licence or the direction under section 153B relates, and</i>	Section 5.2.2
<i>(ii) the local authority for the area in which the premises to which the environment protection licence or the direction under section 153B relates are located and any area affected, or potentially affected, by the pollution, and</i>	Section 5.2.1
<i>(iii) any persons or authorities required to be notified by Part 5.7,</i>	Section 5.2
<i>(b) a detailed description of the action to be taken, immediately after a pollution incident, by the holder of the relevant environment protection licence, or the occupier of the relevant premises, to reduce or control any pollution,</i>	Section 5.3
<i>(c) the procedures to be followed for co-ordinating, with the authorities or persons that have been notified, any action taken in combating the pollution caused by the incident and, in particular, the persons through whom all communications are to be made,</i>	Section 5
<i>(d) any other matter required by the regulations.</i>	See Table 2 below

Under clause 131 of the *Protection of the Environment Operations (General) Regulation 2022*, the PIRMP is required to include the additional matters listed in Table 2 below.

Table 2

**Pollution Incident Response Management Plan *Protection of the Environment Operations*
(General) Regulation 2022 Information Requirements**

Protection of the Environment Operations (General) Regulation 2022 section 72	Section where addressed in this PIRMP document
<i>For the Act, section 153C(d), the following matters must be included in a PIRM plan—</i>	
<i>(a) a description of the hazards to human health or the environment associated with the activity to which the licence relates (the relevant activity),</i>	Section 2
<i>(b) the likelihood of any such hazards occurring, including details of any conditions or events that could, or would, increase that likelihood,</i>	Section 2.2
<i>(c) details of the pre-emptive action to be taken to minimise or prevent any risk of harm to human health or the environment arising out of the relevant activity,</i>	Section 3
<i>(d) an inventory of potential pollutants on the premises or used in carrying out the relevant activity,</i>	Appendix 5
<i>(e) the maximum quantity of any pollutant that is likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the licence relates,</i>	Appendix 5
<i>(f) a description of the safety equipment or other devices that are used to minimise the risks to human health or the environment and to contain or control a pollution incident,</i>	Section 3.4 and Appendix 6
<i>(g) the names, positions and 24-hour contact details of individuals who—</i> <i>i) are responsible for activating the PIRM plan, and</i> <i>ii) are authorised to notify relevant authorities under the Act, section 148, and</i> <i>iii) are responsible for managing the response to a pollution incident,</i>	Section 4
<i>(h) the contact details of each relevant authority referred to in the Act, section 148,</i>	Section 5.2.1
<i>(i) details of the mechanisms for providing early warnings and regular updates to the owners and occupiers of premises near the premises to which the licence relates or where the scheduled activity is carried on,</i>	Section 5.2.2
<i>(j) the arrangements for minimising the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried on,</i>	Section 3
<i>(k) a detailed map, or set of maps, showing the location of the premises to which the licence relates, the surrounding area that is likely to be affected by a pollution incident, the location of potential pollutants on the premises and the location of any stormwater drains on the premises,</i>	Appendix 1 and Appendix 4
<i>(l) a detailed description of how an identified risk of harm to human health will be reduced, including, as a minimum, by early warnings, updates, and the action to be taken during or immediately after a pollution incident to reduce that risk,</i>	Sections 3 and 5
<i>(m) the nature and objectives of any staff training program in relation to the PIRM plan,</i>	Section 6
<i>(n) the dates on which the PIRM plan has been tested and the name of the person who carried out the test,</i>	Section 8
<i>(o) the dates on which the PIRM plan is updated,</i>	Cover Page
<i>(p) the way in which the PIRM plan is to be tested and maintained.</i>	Section 8

1.2 OBJECTIVES

This PIRMP will be implemented by MACH Energy in the event of a pollution incident. Specifically, the objectives of the PIRMP are to provide a framework to:

- provide comprehensive and timely communication about a pollution incident to staff at the premises, the Environment Protection Authority (EPA), Muswellbrook Shire Council, NSW Ministry of Health, Department of Planning and Environment (DPE), SafeWork NSW, Fire and Rescue NSW, and anyone outside the facility who may be affected by the impacts of the pollution incident;
- minimise and control the risk of a pollution incident at the facility by identifying risks and developing actions to minimise and manage those risks; and
- adequately implement the plan by training staff, identifying persons responsible for implementing the plan, and regularly evaluating the plan for accuracy, currency, and suitability.

A written copy of the PIRMP will be made available to any authorised EPA officer and to any person who is responsible for implementing the plan.

1.3 DEFINITIONS

The following definitions are taken from the *Guideline: Pollution Incident Response Management Plans* (NSW EPA, 2022) and can also be found in the dictionary of the *POEO Act*. The definition of a pollution incident is:

- *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.*

A pollution incident is required to be reported if it has caused or threatens to cause ‘material harm to the environment’, which is defined in section 147 of the *POEO Act* as:

- *harm to the environment is material if:*
 - *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
 - *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*
- *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.*

Under section 148 of the *POEO Act*, MACH Energy is required to report pollution incidents immediately to the EPA, NSW Health, the DPE, Fire and Rescue NSW, SafeWork NSW and the Muswellbrook Shire Council.

1.4 STRUCTURE OF THE PIRMP

This PIRMP will form part of the Environmental Management System Structure for the MPO (Figure 2).

The remainder of the PIRMP is structured as follows:

Section 2: Describes the hazards identified at the MPO.

Section 3: Outlines the preventative actions proposed to minimise any risks associated with pollution incidents.

Section 4: Provides contact details of personnel authorised to initiate the PIRMP and manage the response to a pollution incident.

Section 5: Outlines the pollution incident response and reporting procedure.

Section 6: Details the training proposed to be undertaken at the MPO, relevant to this PIRMP.

Section 7: Describes how this PIRMP will be made available.

Section 8: Describes the review and testing process of this PIRMP.

Section 9: Outlines the responsibilities which have been delegated as part of this PIRMP.

Section 10: Lists the references cited in this report.

2 HAZARD IDENTIFICATION

The following section lists the hazards identified at the MPO which are relevant to this PIRMP.

2.1 GENERAL HAZARDS

The following potential hazards to human health and the environment are generally associated with an open cut coal mining operation:

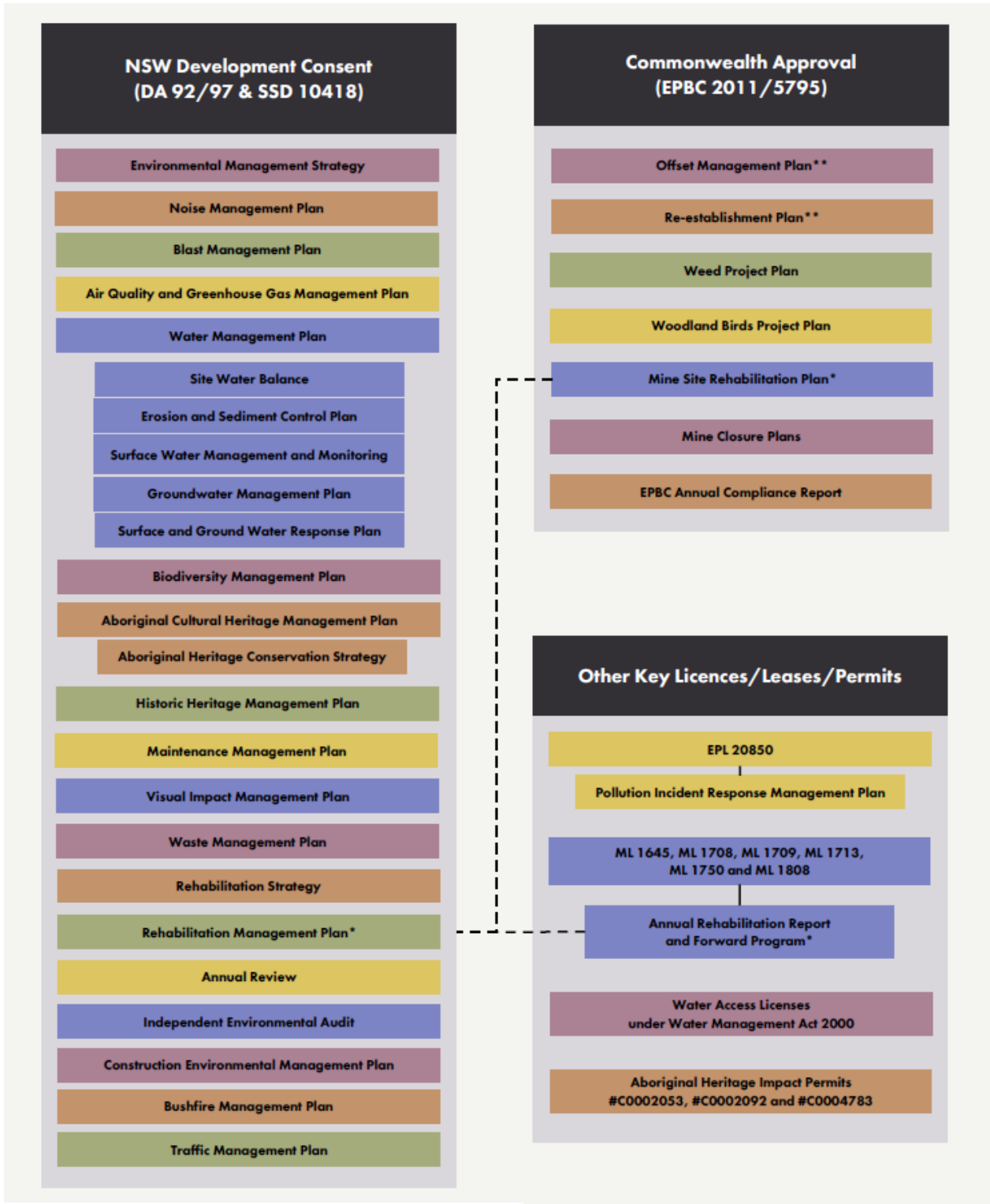
- pollution of waters because of unauthorised discharge of water (sediment laden and/or contaminated) from site;
- pollution of air arising from activities generating blasting, dust, and fume impacts;
- pollution of land and/or site water because of uncontrolled runoff from disturbed areas, spills, and leaks of chemicals (including diesel) because of a failure of diversion or containment structures; and
- pollution of land and/or waters from waste materials because of a failure to adequately capture and dispose of waste.

2.2 HAZARDS OF INCREASED LIKELIHOOD

A baseline risk assessment was undertaken on 8 August 2022 by the mine operator, Thiess, to identify site-specific hazards of increased likelihood at the MPO. Additionally, a Risk Review was undertaken on 27 May 2024 by the CHPP operator Sedgman. A summary of pollution related risks identified in the risk assessment and key personnel involved in the risk assessment can be found in Appendix 2 and 3. The following are considered to have an increased likelihood at the MPO:

- unauthorised discharge of contaminated water because of failure of water management structures;
- uncontrolled release of hazardous substances to land or water;
- dust and fume impacts generated by the handling of waste rock material, clearing vegetation to leave exposed surfaces, blasting undertaken on-site and project operations;

Risks relating to pollution incident have been largely addressed in the August 2022 and May 2024 risk assessment, as per *Guideline: Pollution Incident Response Management Plans* guidelines.



NOTES

* The Rehabilitation Management Plan has been developed to meet the requirements of Condition 56, Schedule 3 of Development Consent DA 92/97 & Condition B92, Schedule 2 of Development Consent SSD 10418. The Rehabilitation Management Plan and Annual Rehabilitation Report and Forward Program has replaced the Mining Operations Plan.

** The Offset Management Plan and Re-establishment Plan has been developed to mee the requirements of both the Offset Management Plan and the Re-establishment Plan.

Source: MACH (2024)

MACHEnergy
 MOUNT PLEASANT OPERATION
**Environmental Management System Structure
 Summary**

Figure 2

2.3 INVENTORY AND LOCATION OF POTENTIAL POLLUTANTS

All chemicals stored on site will be accompanied by the relevant Safety Data Sheet (SDS) as required by Work Health and Safety regulations.

The locations of potential pollutants stored on-site are shown in Appendix 4.

All pollutant storage locations (shown as white dots in Appendix 4) are located within existing catchment boundaries, indicating that any major pollution spillages would report to the site water management structures, while minor spillages would likely remain within concreted or hardstand areas, and it is therefore unlikely any surrounding areas outside of the MPO would be affected by a pollution incident. This is supported by Failure Impact Assessments (FIAs) for the Mine Water Dam and Fines Emplacement Area undertaken by ATC Williams, providing modelling of various failure scenarios whereby any major liquid spill from either of these two storage areas is unlikely to reach the Hunter River.

Nevertheless, in consideration of section 147(2) of the *POEO Act*, any spillages that meet the definition of a pollution incident (as defined in Section 1.3 of this PIRMP) will be managed in accordance with this PIRMP, regardless of whether the pollution incident affects any surrounding areas outside of the MPO.

A full inventory of potential pollutants, including maximum quantities, is provided in Appendix 5. The inventory within Appendix 5 will be updated progressively or at such other intervals as may be required by the regulations.

3 PREVENTATIVE ACTIONS

MACH Energy has implemented several management measures including standard work practices, hazard reporting, 'take 5s' and site-specific management plans (Figure 2) to minimise potential impacts and reduce the likelihood of a pollution incident occurring on site. The specific measures used to reduce the likelihood of the high-risk potential pollution incidents, as outlined in Section 2, are described below.

A description of the safety equipment and other devices that are used to minimise the risks to human health, and to contain or control a pollution incident, are also detailed below.

3.1 WATER MANAGEMENT

A Water Management Plan (WMP) has been prepared by MACH Energy to satisfy the requirements under Development Consent DA 92/97 and Development Consent SSD 10418. The WMP describes the water management measures to be implemented at the site to minimise the risk of contaminated discharges. These include, but are not limited to:

- separation of runoff from disturbed and undisturbed areas, where practicable;
- progressive rehabilitation/stabilisation of infrastructure and mining areas;
- management of runoff from mining and infrastructure areas through the MPO water management system;
- construction of suitable erosion and sediment controls such as drains, diversion banks and sediment dams to contain and manage sediment laden surface runoff;
- rehabilitation and management of Final Voids;
- controlling all discharges from the site and ensuring they are licensed and meet all relevant water quality discharge requirements; and

- implementing a procedure for the management and reporting of incidents, complaints and non-compliances related to surface and ground water.

Personnel at the MPO will be trained to put their safety first by identifying hazards and the risks associated with water management.

3.2 HAZARDOUS MATERIALS MANAGEMENT

3.2.1 Chemicals and Hydrocarbons

Chemicals and hydrocarbons will be managed through the procedures for site contamination prevention and control described below. These procedures will minimise the potential for land and water contamination from the handling, storage, and disposal of these substances.

Chemicals and hydrocarbons will be transported and stored on-site in accordance with the NSW *Work Health and Safety Act 2011* and *Work Health and Safety (Mines and Petroleum Sites) Act 2013*.

On-site controls will include storage within properly sealed containers and controlled areas, bunded for medium to long-term storage requirements. These storage and waste receipt areas will be isolated from clean water catchments to minimise the risk of land or water pollution should an unplanned spill occur.

The response to any accidental spills or ground contamination will be assessed on a case-by-case basis and remediated using biodegradable spill absorbent (Section 3.4). Emergency response procedures will also be enacted as required, in accordance with the relevant environmental procedures. An Emergency Response Team (ERT) in consultation with MACH Energy will be formed and maintained by Principal Contractors at the MPO, which will assist in the control and clean up in the event of a chemical/hydrocarbon spill. Hydrocarbon or chemical spills will be reported in the mine site incident reporting and management system with corrective and preventative measures taken as appropriate.

3.2.2 Potentially Acid Forming Material

As outlined in the MPO Forward Program, due to the low acid forming potential of the mine leachate at the site, dilution and neutralisation is anticipated to negate any acid forming effects. Notwithstanding, MACH Energy will exclude the material identified as potentially acid forming (i.e. non-economic coal and identified coal seam roof and floor rock from the Wynn Seam) from the final face of the overburden emplacement to reduce any residual risk.

3.3 BLAST MANAGEMENT

Blasting activities are undertaken in accordance with the Blast Management Plan (BMP) which has been prepared in accordance with Condition 17, Schedule 3 of the Development Consent DA 92/97, and Condition B24, Schedule 2 of Development Consent SSD 10418. The BMP outlines management measures to control blasting risks associated with the MPO, including management of overpressure, vibration, flyrock and fume risks.

Blast management procedures outlined in the BMP include, but are not limited to:

- training all relevant personnel on blast-related obligations and explosives management;
- use of appropriate initiation and detonation systems and adherence to blast loading and initiation designs;
- use of adequate burden, stemming lengths and stemming material to confine explosives;

- designing all blasts to comply with airblast overpressure and ground vibration limits;
- monitoring of blasts at all prescribed locations;
- implementation of procedures to mitigate fumes for all blast events;
- calibration of site-specific blast models over time, using monitored data from previous blasting, to enable refinement and assessment for future blast events;
- development of a blast records system which captures sufficient information to allow appropriate characterisation and comparison of blasts and meteorological conditions;
- periodic review of blasting procedures to evaluate performance; and
- evaluation of innovative technology and alternative blasting methodologies.

Blast monitoring results will be incorporated and presented in the Annual Review.

3.4 AIR QUALITY

Air Quality and Greenhouse Gas activities are undertaken in accordance with the Air Quality and Greenhouse Gas Management Plan (AQMP) which has been prepared in accordance with Condition 23, Schedule 3 of the Development Consent DA 92/97. The AQMP outlines management measures of air quality and greenhouse gases associated with the construction and operation of the MPO.

Air quality management measures at the MPO are generally consistent with best practice dust controls identified in the Office of Environment and Heritage document, NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining (Katestone Environmental Pty Ltd, 2010).

Air Quality controls outlined in the AQMP include, but are not limited to:

- Site inductions will include air quality requirements to ensure employee and contractor awareness of potential dust impacts, especially with respect to the nearest receptors.
- All machinery and plant used on-site will be maintained and operated in a proper and efficient manner to minimise dust generation.
- Predictive modelling (meteorological forecasting and air quality forecasting) to alert employees of potential for elevated dust levels, allowing for preparation to reduce the magnitude of the predicted elevated levels.
- Real-time response protocols (via email and/or SMS) used to identify when ambient levels are elevated. Real-time response triggers will be established and designed to provide a system to warn operational personnel (via email and/or SMS) of levels approaching a relevant criterion and to provide management/control actions.

3.5 WASTE MANAGEMENT

Waste activities are undertaken in accordance with the Waste Management Plan (Waste MP) which has been prepared in accordance with Condition 52, Schedule 3 of the Development Consent DA92/97. The Waste MP contains management measures on waste storage, segregation, transport, and disposal, as well as provisions for waste monitoring.

Appropriate spill containment and fire-fighting equipment is stored and maintained at several strategic locations around the MPO site. A training program has been developed with the objective of informing personnel of the appropriate implementation of the PIRMP. Training programs includes hazardous materials training for Emergency Response Team members.

Waste controls outlined in the Waste MP include, but are not limited to:

- Maintain compliance with Consent conditions and relevant regulatory requirements;
- Minimisation of waste generation and encourage reuse and recycling;
- Ensure appropriate segregation, storage, transportation, and disposal of waste generated on-site;
- Ensure proper hydrocarbon management and wastewater and sewage treatment and;
- Provide education and training programs to personnel.

3.6 SPONTANEOUS COMBUSTION

The management of spontaneous combustion is undertaken in accordance with the Mount Pleasant Spontaneous Combustion Principle Hazard Management Plan (SCMP). The Spontaneous Combustion MP ensures the risks associated with spontaneous combustion and removal or excavation of hot material from the pit, Run of Mine (ROM) pad or stockpiles, are controlled to an acceptable level.

The spontaneous combustion controls outlined in the plan include:

- The maintenance will conduct plant and equipment inspections to identify fuel, oil, or grease leaks;
- Operational supervisor to communicate excavation processes to relevant operators and limit the amount of people in the vicinity of the excavation;
- Water cart to be available during excavation;
- All plant and equipment to following topside loading by excavator procedures including loading direction, two-way communication, audible signals, queuing, lighting, and weather;
- Risk assessments prior to extinguishing stockpiles of heated material and;
- Identifying responsibility of implementing and complying to procedures.

3.7 NOISE

Noise management is undertaken in accordance with the Noise Management Plan (NMP) which has been prepared in accordance with Condition 9, Schedule 3 of the Development Consent DA92/97. The NMP outlines the management measures of noise associated with the construction and operation at MPO.

Noise controls outlined in the NMP include, but are not limited to:

- Plant will operate in less exposed areas during the more sensitive evening/night period;
- Vegetation clearance will be limited to daytime hours;
- “Quackers” will be used in place of reverse beepers;
- Noise suppression will be provided on major operational mobile plant;
- Temporary cessation of work within an area, or from a particularly noisy piece of equipment, will be considered when adverse weather conditions are present;
- All plant and machinery used on-site will be maintained regularly to minimise noise generation;
- All plant and machinery used on site will be operated in a proper and efficient manner (e.g. at correct speed) to minimise noise generation;
- Regular communication and updates will be provided to local residents on the status and nature of site construction and operational activities and;
- In the event of a complaint from a local resident, MACH Energy will implement the complaints response process.

3.8 SAFETY EQUIPMENT

All MPO employees and contractors receive emergency preparedness and response training during their site familiarisation induction. Controls of personal protective equipment (PPE) and incident containment and control equipment are detailed in the risk assessment documents including but not limited to:

- Emergency spill kits (which contain spill sorb, absorbent pads, booms, and PPE) are located around the MPO surface facilities;
- Personal Protective Equipment (PPE) is available from the MPO store. This includes PPE for handling hazardous substances. Hazardous substances should be managed in accordance with the SDS;
- Emergency showers;
- Portable pumping equipment;
- Water carts;
- Water tanks for fire fighting and;
- Erosion and sediment control materials.

4 KEY PERSONNEL AND CONTACTS

The following personnel (listed in Table 3 below) have the authority to activate and implement this PIRMP and notify the relevant authorities (listed in Table 4) and communicate with external stakeholders regarding pollution incidents at the MPO. The responsibilities of each position during a pollution incident are also included in Table 3.

**Table 3
Contact Details for Personnel Responsible for Implementing the PIRMP and
Managing the Response to Pollution Incident**

Position	Contact	Responsibility	Phone Number
General Manager Operations	Michael Redman	<ul style="list-style-type: none"> • Provide adequate resources to implement the requirements of the PIRMP. • Communicate the pollution incident details to the management team and provide regular updates. • Authorise any cessation of mining or related activities on site in response to the pollution incident if required. 	0417 436 473
Environmental Superintendent	Andrew Reid	<ul style="list-style-type: none"> • Coordinating the pollution incident response. • Ensuring compliance with the PIRMP (this plan). • Communicating the requirements of the PIRMP to site personnel. • Ensuring that training required to ensure compliance with the PIRMP is implemented and completed. • Notifying the relevant authorities. • Engaging contractors/consultants as necessary to advise and achieve an appropriate pollution incident 	0411 440 912

Position	Contact	Responsibility	Phone Number
		response. <ul style="list-style-type: none"> Testing, reviewing, and updating the PIRMP as required. 	
External Relations Manager	Ngairé Baker	<ul style="list-style-type: none"> Communicating with external stakeholders. Coordination of information provided to any affected community members. Dealing with media enquiries. Ensuring the PIRMP (as updated from time to time) is made available on the website. 	0400 214 885

5 INCIDENT RESPONSE AND REPORTING PROCEDURE

Sections 5.1 to 5.3 below detail the incident response and notification procedure. The overall pollution incident response procedure is outlined in Figure 3.

If a pollution incident is classified as a ‘Crisis’ (i.e. with potential to result in significant environmental degradation and/or community disruption, particularly when it may be life threatening), the procedures outlined in Section 5.4 will also be undertaken.

5.1 DURING A POLLUTION INCIDENT

In the case of an environmental incident, prior to any other action, the site must contact 000 if the incident presents an immediate threat to human health or property. Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service are the first responders, as they are responsible for controlling and containing incidents.

If the incident does not pose any threat to human health or property, concurrently with contacting emergency services (000), all possible actions should be taken to control the pollution incident and minimise health, safety, and environmental consequences. These actions must be employed to the maximum extent possible to:

- Provide for the safety of people at and within the vicinity of the site; and
- Contain the pollution incident.

The PIRMP will be activated when:

- an MPO employee, contractor or supplier becomes aware of a pollution incident or potential pollution incident that has caused, or threatens to cause, material harm to the environment; or
- a notification from an external party provides evidence that a pollution incident or potential pollution incident may have occurred at the MPO.

Upon activation of the PIRMP the following internal and external notification process is to be followed:

1. Report potential pollution incident to supervisor immediately.
2. If there is an immediate threat to life, human health, or property, declare an emergency and contact 000 immediately. Activate the ERT and refer to Emergency Response Plans.
3. Supervisor reports incident to Environmental Superintendent immediately. Where not available, contact authorised persons listed in Table 3 and provide the following details:

- a. exact location of incident;
 - b. date, time, and nature of incident;
 - c. extent of incident;
 - d. actions taken; and
 - e. whether emergency services are required or have been contacted.
4. Authorised personnel (Table 3) will notify relevant authorities (Table 4) immediately upon becoming aware of the incident in accordance with Section 5.2 below. The relevant authorities will be provided with the facts of the incident that are known and other pertinent information.
 5. Where other stakeholders may be impacted (e.g., community members) or where directed by the EPA, other stakeholders are to be contacted.

5.2 NOTIFICATION OF A POLLUTION INCIDENT

Following containment of the incident and when there is no risk to any person’s safety, immediate action must be taken to determine if the incident could be classified as a ‘material harm incident’, i.e. considered to be causing or threatening material harm.

As defined by section 147 of the POEO Act, a material harm incident has occurred if the incident:

- involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or
- results in actual or potential loss (including all 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) or property damage of an amount, or amounts in aggregate, exceeding \$10,000.00 (or such other amount as is prescribed by the regulations). The determination of a material harm incident will be made by the General Manager Operations and/or Project Director in consultation with the Environmental Superintendent. It is possible for a material harm incident to occur on land that is within the boundary of the EPL.

5.2.1 Authorities

If a pollution incident on-site occurs where material harm to the environment is caused or threatened, MACH Energy must immediately implement this PIRMP. The authorities listed in Table 4 shall be notified immediately of the pollution incident by an authorised person. All pollution incidents causing or threatening material harm to the environment are to be reported immediately. As stated above, in the event of an emergency, 000 will be called prior to informing the authorities within Table 4.

**Table 4
Authority Contact Details**

Authority	Phone Number
Environment Protection Authority	131 555
SafeWork NSW	131 050
NSW Ministry of Health via Local Public Health Unit	02 6542 2000 (Muswellbrook District Hospital)
Muswellbrook Shire Council	02 6549 3700
Fire and Rescue NSW	02 6541 2846 (Muswellbrook Fire Station)
Department of Planning and Environment	02 4904 2700 (Newcastle Office)
Department of Regional NSW- Resources Regulator	1300 814 609

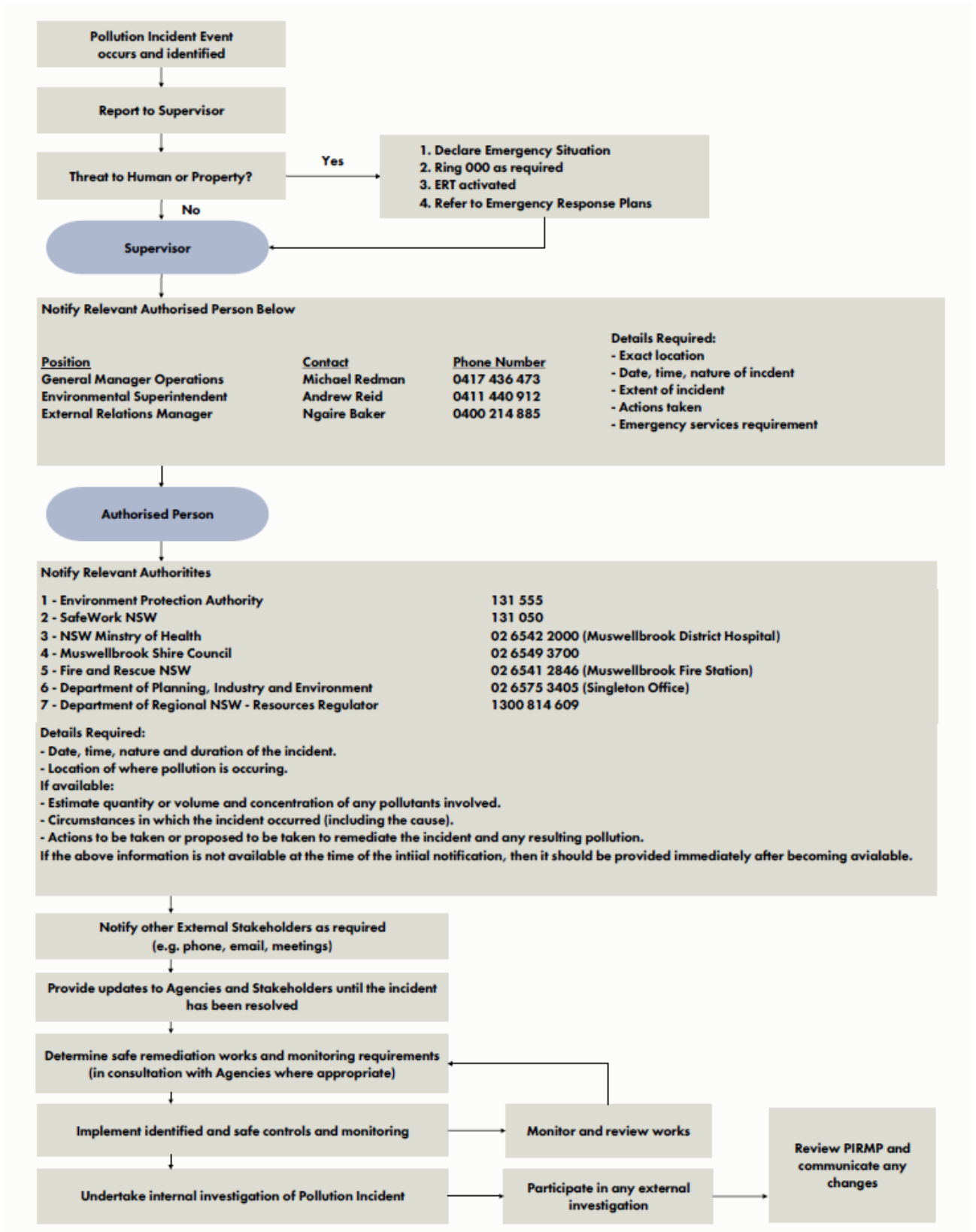


Figure 3

5.2.2 Community

Any pollution incident causing or threatening material harm to the environment will be communicated to all potentially impacted stakeholders as soon as practicable by an authorised person (listed in Table 3). For water and hydrocarbon related pollution incidents, the closest private water user downstream of the operations will be notified of the incident. Ongoing communication will continue until the incident has been controlled and impacts because of the incident have been rectified.

MACH Energy will contact those affected by a pollution incident in conjunction with emergency services by either direct contact or telephone. Updates will be provided to the broader local community in affected areas via newsletters, information sheets, the MACH Energy website (www.machenergyaustralia.com.au) or media statements. The method and content of communication will depend on the pollution incident and the actions required to protect human health.

For a fume related incident, if a blast fume of Level 3 or above is expected to leave the site, MACH Energy will notify the surrounding sensitive receivers (refer to BMP). Contact registers for MACH Energy's stakeholders are maintained on-site.

5.3 FOLLOWING A POLLUTION INCIDENT

Following a pollution incident at the MPO the following actions will be undertaken:

- assessment of the incident to determine necessary controls and remedial works that may include:
 - sampling and/or monitoring;
 - installation of controls;
 - engagement of specialist consultants and/or contractors;
 - procurement of additional/replacement supplies (e.g., spill kit material); and
 - consultation with agencies or stakeholders;
- updates of agencies and stakeholders;
- internal investigation of the pollution incident;
- a detailed report of the pollution incident to be provided to the DPE and any relevant agencies within 7 days of the date of the incident in accordance with Condition 7, Schedule 5 of Development Consent DA 92/97, and Condition D9, Schedule 4 of Development Consent SSD 10418, which outlines the following:
 - date, time, and nature of the pollution incident;
 - identifying the cause (or probable cause) of the pollution incident;
 - describing what action has been taken to date; and
 - describing proposed measures to address the pollution incident;
- participation in any external investigation of the pollution incident;
- review of the PIRMP for effectiveness; and
- appropriate communication of any changes to the PIRMP.

5.4 CRISIS MANAGEMENT

If upon becoming aware of the pollution incident, the MACH Energy Crisis Management Team (CMT) Leader classifies the pollution incident as a 'Crisis', the following procedures (outlined in the MACH Energy Crisis Management Plan) will be undertaken:

1. The CMT Leader will mobilise the CMT at the Crisis Command Centre (typically this will be on-site at MPO);
2. The CMT will manage all external consequences which arise from the crisis, including those relating to the community, environment, finances, legalities, and media. The CMT will report the details of the incident to all relevant internal stakeholders within related organisations;
3. An Incident Management Team (IMT) will be formed, whose purpose is to support the ERT and provide consistent updates to the CMT throughout the incident;
4. The IMT will provide regular updated information regarding the incident to the CMT, and work with the CMT to agree on appropriate responses to the incident as information becomes available. The IMT will coordinate the implementation of these responses;
5. The IMT will plan and implement all external communication with community and environmental stakeholders.

Once the crisis is being managed and is deemed under control (as outlined in the MACH Energy Crisis Management Plan), the CMT is responsible for closing-out the crisis as soon as possible. This team will also lead evaluation exercises conducted in relation to the crisis.

6 TRAINING

A training program has been developed with the objective of informing personnel of the appropriate implementation of the PIRMP. As part of the training program, the following actions will be undertaken:

- communication with employees and contractors informing them about the existence and purpose of the PIRMP in inductions;
- informing personnel of the appropriate methods of notification of environmental incidents;
- communication with relevant personnel outlining their role and responsibilities under the PIRMP; and
- providing updates to personnel when the PIRMP is revised.

In addition to the above, the MPO ERT training schedule will contain hazardous materials training for ERT members. Records of training will be kept in accordance with the MPO training management system.

7 PLAN AVAILABILITY

A copy of this plan will be maintained at the MPO site and will be readily available to MACH Energy personnel and to any authorised EPA officer on request.

In addition, a copy of the plan will be made publicly available on the MACH Energy website (www.machenergyaustralia.com.au).

8 REVIEW AND TESTING

A copy of the PIRMP will be always kept at the MPO and implemented in the case of a pollution incident. The PIRMP will be reviewed:

- within 3 months of any changes to licence conditions relating to pollution incidents;
- following a pollution incident at the MPO;
- following an independent environmental audit which recommends changes to the PIRMP; and
- if there is a relevant change in technology or legislation.

The PIRMP will be tested regularly in such a manner as to ensure that the information included in the plan is accurate, up to date and is capable of being implemented in an effective manner. Testing will be undertaken by desktop simulation or using practical drills at the following intervals:

- at least once every 12 months (i.e., prior to November each year); and
- within one month of any pollution incident occurring.

A record of testing undertaken on the PIRMP is provided in Table 5 below. This table will be progressively updated over time.

**Table 5
Record of Testing**

Version #	Testing Date	Personnel	Description
0	24 March 2017 (Desktop)	Environmental Superintendent – Klay Marchant	Annual review following audit/test on 24/04/2017.
0	20 November 2017 (Desktop)	Environmental Superintendent – Klay Marchant	Annual review following audit/test on 20/11/2017.
1	2 June 2018 (Notification)	Environmental Superintendent – Klay Marchant	Annual review following test on 2/06/2018.
2	2 October 2019 (Practical Drill)	Environmental Superintendent – Andrew Reid	Annual review following audit/test on 2/10/2019.
3	30 June 2020 (Practical Drill)	Thiess ERT and Mines Rescue	Annual review following audit/test on 30/06/2020.
4	2 December 2020 (Training)	Thiess ERT, MACH, and Mines Rescue	Update of PIRM following internal training undertaken on 2/12/2020.
5	13 October 2021 (Desktop)	Rail 2 Project – Wayne Burgess	Desktop annual review undertaken on 13/10/2021
6	19 January 2023 (Desktop)	Mine Manager, Environment & Community Superintendent (Thiess), Superintendent Environment (Operations), Environmental	Desktop annual review undertaken on 13/10/2021. Review and updates made to Pollutant Inventory.

Version #	Testing Date	Personnel	Description
		Advisor, Temporary Senior Environmental Advisor (MACH)	
7	8 July 2024 (Practical Drill)	MACH Environment, Thiess ERT, Thiess IMT, MACH, and Mines Rescue	Annual review following practical drill requiring a PIRMP activation on 12 June 2024, EPA audit on 19 June 2024, and a Dam Failure scenario on the 8 July 2024

9 RESPONSIBILITIES

The responsibilities and key contacts relating to implementing and maintaining this PIRMP are listed in Table 6 below.

**Table 6
Pollution Incident Response Management Plan Responsibilities**

Position	Contact	Responsibility	Phone Number
General Manager Operations / Project Director	Michael Redman	<ul style="list-style-type: none"> Provide adequate resources to develop and implement the PIRMP. 	0417 436 473
Environmental Superintendent	Andrew Reid	<ul style="list-style-type: none"> Provide all employees and contractors adequate training in environmental awareness, legal responsibilities, and pollution incident response. Coordinate relevant reviews of the PIRMP. Ensuring that training required to ensure compliance with the PIRMP is implemented and completed. Maintain records of training relating to the PIRMP. Ensuring compliance with the PIRMP. Communication of the requirements of the PIRMP to site personnel. Testing, reviewing, and updating the PIRMP as required. 	0411 440 912
External Relations Manager	Ngairé Baker	<ul style="list-style-type: none"> Ensuring the PIRMP (as updated from time to time) is made available on the website. 	0400 214 885

10 REFERENCES

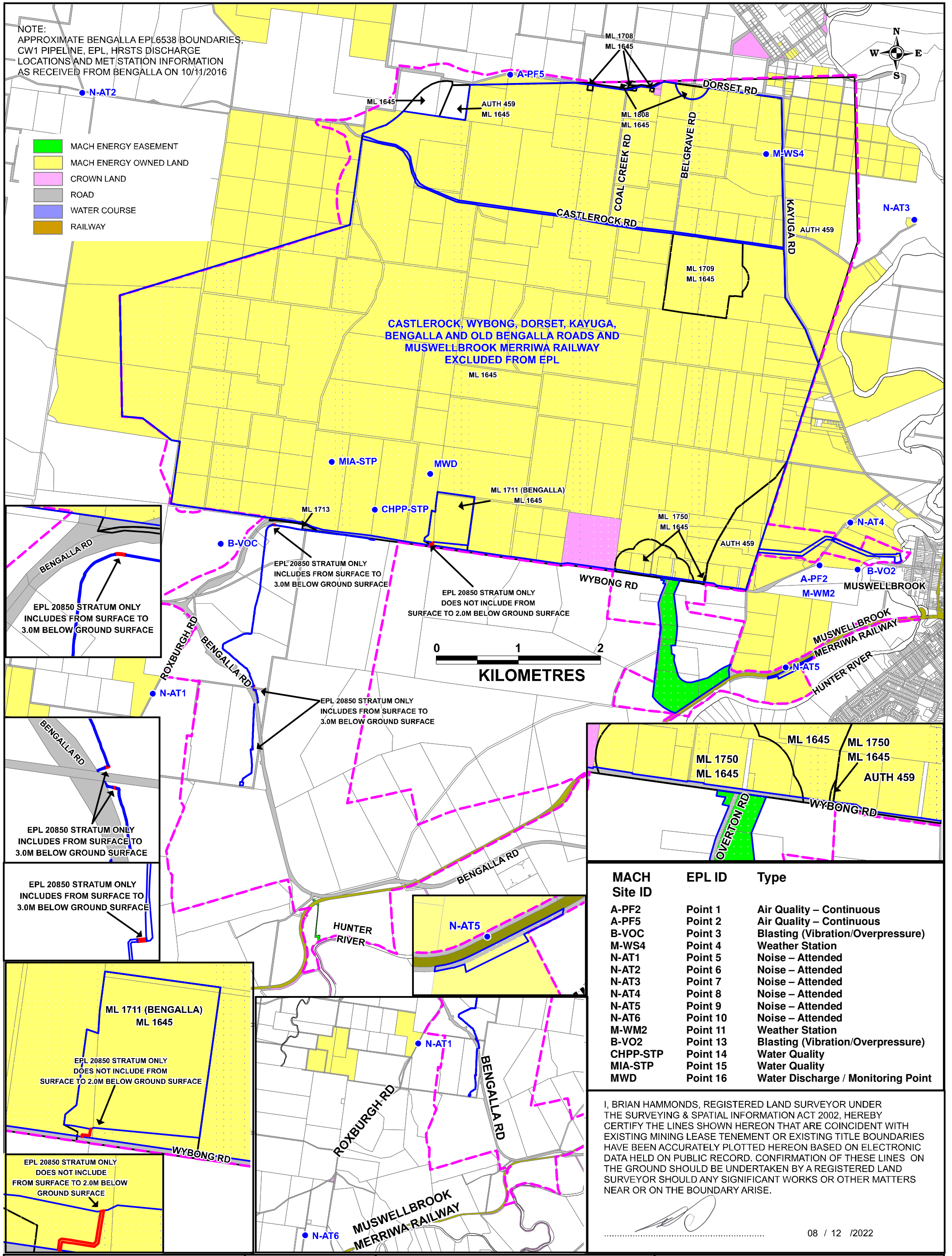
- EMGA Mitchell McLennan (2010) *Mount Pleasant Project Modification Environmental Assessment Report*. Prepared for Coal and Allied Operations Pty Limited.
- Environmental Resources Management Mitchell McCotter (1997) *Mount Pleasant Operation Environmental Impact Statement*.
- MACH Energy Australia Pty Ltd (2017a) *Mount Pleasant Operation (DA 92/97) – South Pit Haul Road Modification*.
- MACH Energy Australia Pty Ltd (2017b) *Mount Pleasant Operation – Mine Optimisation Modification Environmental Assessment*.
- MACH Energy Australia Pty Ltd (2017c) *Mount Pleasant Operation – Rail Modification Environmental Assessment*.
- New South Wales Environment Protection Authority (2022) *Guideline: Pollution Incident Response Management Plans*.
- MACH Energy Australia Pty Ltd (2023) *Development Consent DA92/97 Modification 6 (MOD 6)*
- MACH Energy Australia Pty Ltd (2024) *Mount Pleasant Optimisation Project SSD 10418*

APPENDIX 1

ENVIRONMENT PROTECTION LICENCE PREMISES MAP

NOTE:
 APPROXIMATE BENGALLA EPL 6538 BOUNDARIES,
 CW1 PIPELINE, EPL, HRSTS DISCHARGE
 LOCATIONS AND MET STATION INFORMATION
 AS RECEIVED FROM BENGALLA ON 10/11/2016

- MACH ENERGY EASEMENT
- MACH ENERGY OWNED LAND
- CROWN LAND
- ROAD
- WATER COURSE
- RAILWAY



CASTLEROCK, WYBONG, DORSET, KUYUGA,
 BENGALLA AND OLD BENGALLA ROADS AND
 MUSWELLBROOK MERRIWA RAILWAY
 EXCLUDED FROM EPL



EPL 20850 STRATUM ONLY
 INCLUDES FROM SURFACE TO
 3.0M BELOW GROUND SURFACE

EPL 20850 STRATUM ONLY
 INCLUDES FROM SURFACE TO
 3.0M BELOW GROUND SURFACE

EPL 20850 STRATUM ONLY
 DOES NOT INCLUDE FROM
 SURFACE TO 2.0M BELOW GROUND SURFACE

EPL 20850 STRATUM ONLY
 INCLUDES FROM SURFACE TO
 3.0M BELOW GROUND SURFACE

EPL 20850 STRATUM ONLY
 INCLUDES FROM SURFACE TO
 3.0M BELOW GROUND SURFACE

ML 1711 (BENGALLA)
 ML 1645

EPL 20850 STRATUM ONLY
 DOES NOT INCLUDE FROM
 SURFACE TO 2.0M BELOW GROUND SURFACE

EPL 20850 STRATUM ONLY
 DOES NOT INCLUDE
 FROM SURFACE TO 2.0M BELOW
 GROUND SURFACE

MACH Site ID	EPL ID	Type
A-PF2	Point 1	Air Quality – Continuous
A-PF5	Point 2	Air Quality – Continuous
B-VOC	Point 3	Blasting (Vibration/Overpressure)
M-WS4	Point 4	Weather Station
N-AT1	Point 5	Noise – Attended
N-AT2	Point 6	Noise – Attended
N-AT3	Point 7	Noise – Attended
N-AT4	Point 8	Noise – Attended
N-AT5	Point 9	Noise – Attended
N-AT6	Point 10	Noise – Attended
M-WM2	Point 11	Weather Station
B-VO2	Point 13	Blasting (Vibration/Overpressure)
CHPP-STP	Point 14	Water Quality
MIA-STP	Point 15	Water Quality
MWD	Point 16	Water Discharge / Monitoring Point

I, BRIAN HAMMONDS, REGISTERED LAND SURVEYOR UNDER THE SURVEYING & SPATIAL INFORMATION ACT 2002, HEREBY CERTIFY THE LINES SHOWN HEREON THAT ARE COINCIDENT WITH EXISTING MINING LEASE TENEMENT OR EXISTING TITLE BOUNDARIES HAVE BEEN ACCURATELY PLOTTED HEREON BASED ON ELECTRONIC DATA HELD ON PUBLIC RECORD. CONFIRMATION OF THESE LINES ON THE GROUND SHOULD BE UNDERTAKEN BY A REGISTERED LAND SURVEYOR SHOULD ANY SIGNIFICANT WORKS OR OTHER MATTERS NEAR OR ON THE BOUNDARY ARISE.

08 / 12 /2022



Drawn By: SC
 Date: 08/12/22
 Layout: A3
 Projection: MGA 56
 Location: Muswellbrook
 Contour: N/A
 Version: 32

- MACH ENERGY HELD TENEMENT
- MOUNT PLEASANT EPL 20850 (2022-10)
- DEVELOPMENT CONSENT (DA 92/97) BOUNDARY
- ENVIRONMENTAL MONITOR

Environment Protection Licence Premises Map

Workspace Ref: MACH EPL 221116.wor
 PDF Ref: MACH EPL - 10 221208.PDF

APPENDIX 2

RISK ASSESSMENT SUMMARY (8 AUGUST 2022)

Mount Pleasant Operation – Pollution Incident Response Management Plan

MOUNT PLEASANT OPERATION ENVIRONMENTAL BASELINE RISK ASSESSMENT						THIASS
Version Date: 8th August 2022						
ATTENDEES						
Date	Name <small>Full name of person</small>	Role <small>In Business In RA (i.e. Facilitator, Scribe, Content / Technical Expert, Participant)</small>	Experience <small>Record: Industry skills and experience generally (including number of years).</small>	Relevance to this assessment <small>Record: Any formal/technical qualifications. Formal risk assessment qualifications NB: experience must demonstrate relevance to the topic being risk assessed</small>	Consensus (Y/N) <small>(If no, non-consensus matter must be recorded in applicable section)</small>	Signature
8/08/2022	Jake Smith-Hughes	Facilitator / Regional Superintendent Health and Safety	25 years mining experience (both underground and open cut) 20 years health, safety and training experience including Management roles Previously at Bulga UG, Bulga OC, Glendell, Mt Pleasant, Ravensworth UG, Ulan Surface Operations	20+ years Risk Assessment Facilitation Advanced Diploma WHS Advanced Diploma Risk Management Graduate Certificate in Psychology G1, G2 and G3 risk management training ISO Certification - ISO31000 ICCS Training Cert IV Training and Assessment Diploma Quality Auditing	Y	
8/08/2022	Ryan Fox	Mine Manager	15 Years mining experience across operations in NSW.	BE Mining Engineering, OCE, MEM	Y	
8/08/2022	Peter York	Environment and Community Superintendent	15 years experience in Open Cut Coal Mining (Mt Owen & Mt Pleasant)	Bachelor of Applied Science (Environmental Resource Management)	Y	
8/08/2022	Jon Little	Business Improvement Superintendent	15yrs Mining Experience	CCCBU, W/AV MECHANICAL TRADE	Y	
8/08/2022	Paul O'Loughlin	Technical Services Manager (Mach Energy)	20+ Years Coal Mining	G1,2,3 S1,2,3 SSE Qualified (QLD)	Y	
8/08/2022	Andrew Reid	Environment Superintendent (Mach Energy)	30 years Environmental Management in Mining - Uranium, gold, base metals and coal	20 years assessing environmental risk, Risk Management Processes G1, G2, G3	Y	
8/08/2022	Mariah Lane	Environmental Advisor (Mach Energy)	3yrs experience in QLD + NSW mining (coal + gold)	Bachelor of Applied Science (wildlife science)	Y	
8/08/2022	Ngairé Baker	External Relations Manager (Mach Energy)	32 YEARS MINING EXP AUSTRALIA WIDE	BACHELOR ARTS, COMMST PUBLIC RELATIONS MBA GRAD CERT ABORIGINAL STUDIES	Y	
8/08/2022	Michelle Eckerley	Environmental and Community Officer	5yrs environmental management in mining	Bachelor of Applied Science integrated resource mgmt.	Y	
8/08/2022	Richard Bailey	General Manager / Operations (Mach Energy)	35 YEARS MINING	ENGINEERING & ENVIRONMENTAL	Y	
8/08/2022	Brendan Sheppard	Mining Supervisor	26 YEARS PRODUCTION	S1 S2 SW WHS	Y	
8/08/2022	Ian Edwards	Maintenance Manager	30+ years mining and civil, Coal, Gold, Copper, Iron ore, Oil Sands.	Plant Mechanic	Y	
8/08/2022	Rod Vaughan	Senior Mining Engineer (Mach Energy)	17yr mining experience	BE MINING ENGR. OCB S1,S2,S3,S4,G8.	Y	
8/08/2022	Craig McLeod	Plant Operator / WHS Committee	26 YEARS PRODUCTION	S1 S2 S3 WHS	Y	
8/8/22	Justin Doherty	Project Manager	17yr Mining experience	B. SUN, MPRM	Y	

Risk Ref No.	Operational Process/ Activity	Risk Description/Impact	Caused by	Consequences	Current Consequence	Current Likelihood	THIESS Current Risk Rating	Control Effectiveness	Action Plan (SMARTER)
TS005	Topsoil Management	Generation of dust	Machine stripping loading and hauling topsoil	Community complaints Contractual non-compliance	2	Possible	Medium	Satisfactory	Mt Pleasant Operational Air Quality Management Plan Mar-2023 Final
TS007	Topsoil Management	Hydrocarbon spill	Machine malfunction Damage to machinery Refuelling	Land / water contamination	2	Unlikely	Low	Satisfactory	
LC004	Land Clearing	Dust generation	Clearing vegetation and exposing soil Access roads not maintained	Legal / contractual non-compliance Community complaints	2	Unlikely	Low	Satisfactory	
LC006	Land Clearing	Hydrocarbon spill	Machine malfunction Damage to machinery Refuelling	Land / water contamination	2	Unlikely	Low	Satisfactory	
DB001	Drill & Blast	Generation of dust general bench activities	Equipment working on the bench Watercarts not available Drilling	Legal / contractual non-compliance Community Complaints	2	Unlikely	Low	Satisfactory	
DB004	Drill & Blast	Generation of fume	Inadequate blast design Sleeping shots/ Delays/ Sleep time Overloaded holes Wet Holes Weather - Ground conditions Poor Product Quality	Legal / contractual non-compliance Community Complaints	2	Possible	Medium	Satisfactory	Thiess investigation report findings 28 June 2024
DB005	Drill & Blast	Emulsion/ Chemical/ Hydrocarbon Spill	Equipment malfunction	Soil / water contamination	1	Possible	Low	Satisfactory	
PR001	Water Management Infrastructure	Burst pipeline (mine water, potable water, tailings)	Unidentified pipelines in mining sequence LTA planning and identification of pipelines	Soil / water contamination Contractual non-compliance Non-compliance with approvals	3	Rare	Low	Satisfactory	

Risk Ref No.	Operational Process/ Activity	Risk Description/Impact	Caused by	Consequences	Current Consequence	Current Likelihood	THIESS Current Risk Rating	Control Effectiveness	Action Plan (SMARTER)
PR002	Excavation, Load, Haul Dump	Generation of dust	LTA watering of roads Operating in dry conditions	Community complaints Contractual/ legal non-compliance	2	Possible	Medium	Satisfactory	Mt Pleasant Operational Air Quality Management Plan Mar-2023 Final
PR004	Excavation, Load, Haul Dump	Spontaneous combustion	Stockpiling coal Natural heating of coal Carbonaceous material on dumps	Community complaints Contractual non-compliance	1	Likely	Medium	Satisfactory	Spontaneous Combustion Principal Hazard Management Plan
PR005	Excavation, Load, Haul Dump	Hydrocarbon spill in pit	Machine malfunction Damage to machinery	Soil / water contamination	1	Likely	Medium	Satisfactory	Thiess Emergency Response Control Plan
PR006	Excavation, Load, Haul Dump	PAF Material not dumped as per design	Inadequate planning Inadequate survey	Decline in water quality that impacts future discharge opportunities.	1	Possible	Low	Satisfactory	
RHB002	Rehabilitation	Inadequate coverage of PAF material leading to the development of Acid Mine Drainage	Inadequate management of PAF material	Legal / contractual non-compliance	2	Unlikely	Low	Satisfactory	
RHB005	Rehabilitation	Dust generation	Shaping landforms on the edge of the mining lease Placement of topsoil on shaped landform	Legal / contractual non-compliance Community complaints	2	Unlikely	Low	Satisfactory	
RHB006	Rehabilitation	Spontaneous combustion	Inadequate management of carbonaceous material	Community complaints Visual heating and smoke Failure of Rehab	2	Rare	Low	Satisfactory	

Risk Ref No.	Operational Process/ Activity	Risk Description/Impact	Caused by	Consequences	Current Consequence	Current Likelihood	THIESS Current Risk Rating	Control Effectiveness	Action Plan (SMARTER)
MAN001	Maintenance	Inadequate maintenance of washdown facilities	Material separation malfunction Inadequate sump management	Soil / water contamination	1	Possible	Low	Satisfactory	
MAN003	Maintenance	Insufficient waste oil storage	Oversupply Bunded area compromised	Soil / water contamination	1	Possible	Low	Satisfactory	
MAN005	Maintenance	Fuel farm spill (workshop and halfway house)	Over filling equipment Hose Failure Tank failure Operator failure to disengage fuel line	Soil / water contamination Contractual non-compliance	1	Possible	Low	Satisfactory	
MAN006	Maintenance	Fuel transport spill	Vehicle accident Leaking tanks on transporter	Soil / water contamination Contractual non-compliance	1	Possible	Low	Satisfactory	
MAN007	Maintenance	In pit spill	Machinery failure Breather failure on diesel tanks Hose failure Fire on machine Accident damage	Soil / water contamination	1	Likely	Medium	Satisfactory	Thiess Emergency Response Control Plan
MAN008	Maintenance	Improper fuel dispensing in pit	Service truck mechanical failure Operator error while filling	Soil / water contamination	1	Unlikely	Low	Satisfactory	
MAN009	Maintenance	Incorrect disposal of regulated waste	Unknown regulated waste processes Tyres disposed in pit incorrectly	Contractual non-compliance Breach of site approvals	1	Possible	Low	Satisfactory	
MAN011	Maintenance	Incorrect storage of hydrocarbons / chemicals	Incorrect storage cabinets used Excessive stored hydrocarbons	Soil / water contamination Contractual non-compliance Breach of site approvals	1	Possible	Low	Satisfactory	
MAN012	Maintenance	Incorrect storage of waste	Bins not correctly labelled Bin over filled Hydrocarbon contaminated waste stored incorrectly	Contractual non-compliance Breach of site approvals	1	Possible	Low	Satisfactory	

Risk Ref No.	Operational Process/ Activity	Risk Description/Impact	Caused by	Consequences	Current Consequence	Current Likelihood	THIESS Current Risk Rating	Control Effectiveness	Action Plan (SMARTER)
GEN004	General	Bushfires	Electrical arching Hot Machines Parts Hot work Lightning strike Hot Material	Damage to flora / fauna Damage to surrounding pasture / land Community complaints/Reputational Impact Damage to environmental monitoring equipment	2	Unlikely	Low	Satisfactory	
GEN005	General	Severe weather event (Water)	Variable weather condition (climate variation) Inadequate water management design / construction	Inundation of mine areas Uncontrolled release/ Offsite discharge Legal / contractual non-compliance	2	Unlikely	Low	Satisfactory	
GEN006	General	Severe weather event (Dust)	Strong storm / frontal winds (Climate Variation)	Failure to control dust in line with approvals/contributing to dust levels during adverse weather	2	Unlikely	Low	Satisfactory	
GEN007	General	Incorrect waste segregation and disposal	Waste disposal system unknown	Soil / water contamination	1	Unlikely	Low	Satisfactory	
GEN011	General	Sewage Treatment Plant Overflow	Malfunction of plant components Incorrect use of system	Soil / water contamination	1	Possible	Low	Satisfactory	

Control Effectiveness Matrix	
Satisfactory	Review and monitor current controls. To the extent that is reasonably achievable, controls are well designed for the risk (i.e. for H&S, follow the hierarchy of controls) and address the root causes. Management considers that the controls are always operating effectively and reliably
Improving	Controls are designed correctly, are in place and operating reasonably effectively. Some minor/isolate exception may exist, however do not represent a systemic weakness in operating effectiveness. Some more work to be done to improve overall effectiveness
Partial	While the design of controls may be largely correct in that they treat most of the root causes of the risk, implementation and/or operational effectiveness is only partial
Poor	Significant control gaps. Either the controls do not treat the root causes, or they do not operate effectively. Controls, if they exist, are reactive rather than proactive
None	Virtually no credible control. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness

TABLE B: Consequence Matrix (Thiess)					
	Level 1	Level 2	Level 3	Level 4	Level 5
Health & Safety	Class 3 First aid treatment Minor safe working breach unlikely to impact operational activities	Class 2 Medical Treatment Moderate safe working breach likely to impact operational activities	Class 2 Medical Treatment Injury/ Restricted Work Injury Significant safe working breach with actual impact on an operation	Class 2 Lost Time Injury or reversible injury requiring long term ongoing treatment and rehabilitation. Significant safe working breach with immediate impact on operations at one or more worksites	Class 1 Fatality (single or multiple) or Permanent Disability Injury. Major injury to <10 people unable to return to work
Health	Exposure to health hazard/agent with the potential to result in First Aid Treatment	Exposure to health hazards/agents with the potential to result in Medical Treatment	Exposure to health hazards/agents (exceeding Occupational Exposure Limits) with the potential to result in Medical Treatment or Restricted Work	Exposure to health hazards/agents (significantly exceeding Occupational Exposure Limits) with the potential to result in Lost Time	Exposure to health hazards/agents (significantly exceeding Occupational Exposure Limits) with the potential to result in a single or multiple fatality and irreversible impact on health with loss of quality of life
Environmental	Low severity or nuisance level environmental impact(s) that are promptly reversible. Affected area is within site boundary Very minor technical breach of legislation	Low severity or nuisance level environmental impact(s) Affected area is outside site boundary Minor breach or non-compliance with legislation or approval conditions	Moderate severity environmental impact(s) Affected area is within the site boundary Moderate breach or non-compliance with legislation or approval conditions with investigation or report to authority	Moderate severity environmental impact(s) Affected area is outside the site boundary Serious breach or non-compliance with legislation or approval conditions with fine or other regulatory action	High severity environmental impact(s) of local or greater significance. Widespread and/or long-term impacts. Significant or multiple breaches of legislation or approval conditions with fine. Major litigation and investigation

	or approval conditions				by authorities. Stoppage of project by authorities
Governance, Legal and Regulatory	Very minor technical breach of regulation or policy or code of ethics. No fine/penalty	Minor legal issues, non-compliances and breaches of regulation, policy, or code of ethics. Improvement/ Prohibition notice issued	Moderate breach of regulation, policy, or code with notification/report to regulatory authority. Legal proceedings initiated, or Statutory Fine issued	Major breach of regulation, policy or code with statutory fine issued and possible litigation	Major or multiple breached of regulation, policy, or code with resultant prosecution. Prolonged stoppage of operations by authorities
Equipment/ Property Damage	Superficial Damage	Damage less than \$50,000 Damage or loss that has the potential to have a minor impact on Thiess' financial results	Damage greater than \$50,000 but less than \$250,000 Damage or loss that has the potential to moderately impact Thiess' financial results	Damage greater than \$250,000 but less than \$1,000,000 Damage or loss that has the potential to moderately impact Thiess' financial results	Damage greater than \$1,000,000 Damage or loss that has the potential to seriously impact Thiess' financial results Damage or loss that has potential to impact Thiess' reputation

LIKELIHOOD MATRIX				RISK RATING DETERMINATION				
QUALITATIVE ASSESSMENT	RECURRENCE TIMEFRAME	PROBABILITY		1	2	3	4	5
Almost certain to occur during the project / contract life / business plan horizon	Less than "Monthly"	≥90 %	Almost Certain	Medium	High	Extreme	Extreme	Extreme
Considered likely to occur during the project / contract life / business plan horizon	"Monthly" to "Yearly"	50 % to <90%	Likely	Medium	Medium	High	Extreme	Extreme
Considered a possible occurrence during the project / contract life / business plan horizon	Between 2 and 5 years	20% to <50%	Possible	Low	Medium	High	High	Extreme
Considered unlikely to occur during the project / contract life / business plan horizon	Between 5 and 50 years	2 % to <20 %	Unlikely	Low	Low	Medium	High	High
Considered a rare occurrence to happen during the project / contract life / business plan horizon	Greater than every 50 years	<2 %	Rare	Low	Low	Low	Medium	High

RISK RATING	
Extreme	Task or activity shall not be performed. An alternative solution shall be found
High	Implement additional controls to reduce the risks to as low as reasonably practicable (ALARP). Approval from the Workplace Manager (or delegate) required to proceed with the task or activity.
Medium	Implement controls to reduce risk to ALARP/so far as is reasonably practicable where it is cost effective to do so
Low	May be tolerable; implement additional controls to reduce to ALARP, if practicable.

APPENDIX 3

REVIEW OF RISK REGISTER – UPDATED EMERGENCY SCENARIOS (24 May 2024)

Desktop Scenario 1

A Sedgman operator inspecting the Mine Water Dam pontoon pumping station observes what appears to be a hydrocarbon slick on the dam water surface adjacent to the pumping station. Pumping from the Mine Water Dam under the Hunter River Salinity Trading Scheme (HRSTS) is occurring.

Anticipated/Suggested Actions

- Operator to inform his/her supervisor of the situation.
- Determine who has the knowledge/authorisation to suspend the HRSTS discharge.
- The person authorised to suspend the discharge or his/her delegate to inform all 'need to know' of the situation and the intend to suspend discharge.
- Suspend MWD discharge under HRSTS to prevent a release of hydrocarbon contaminated water (or to stop an ongoing release).
- Contact Environmental representative and inform of the situation.
- Observe the discharge point and area downstream to observe whether any slicking is apparent.
- If slicking is clearly visible and not minor, inform key internal personnel - Mach Energy GM, Environmental Supt and External Relations Manager (as available).
- Inform the EPA of the situation. Informer likely to be one of the three personnel listed above.
- Determine, if possible, whether any immediate downstream farmers have the ability to pump from the river and look to inform them of the situation.
- Environmental rep to collect a water sample at/near the HRSTS discharge point (and potentially further downstream) to allow a future water analysis for hydrocarbons.
- Assess the need to recover the hydrocarbons visible on the MWD water surface.
- If considered minor (in volume) or sufficiently dispersed to make recovery difficult/impracticable, evaluate whether natural degradation is likely.
- If not considered minor, determine whether use of a deployed floating boom would contain the slick. If yes, source and deploy.
- Recover hydrocarbons from within boom delineated area using an appropriate absorbent.
- Log actions undertaken during the 'event'. Take photos to capture observations.

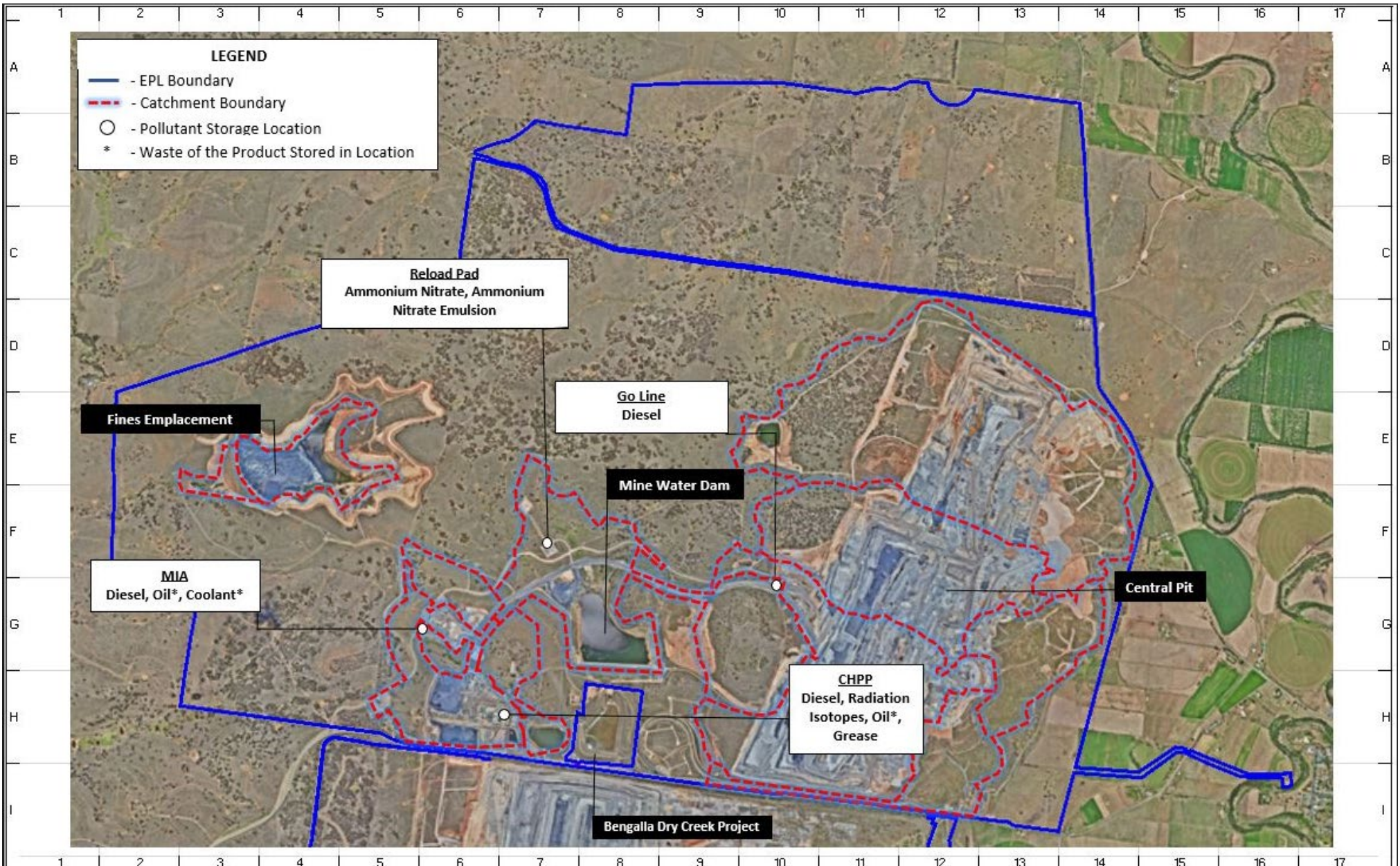
Desktop Scenario 2

Whilst the 'slick on the MWD' is being evaluated, piping erosion with an accompanying water discharge is observed on the downstream face of the MWD embankment.

- The person observing the piping and discharge informs his/her supervisor.
- Supervisor notifies the Mine Manager.
- Reference the Dam Safety Emergency Plan (DSEP) for the Mine Water Dam.
- Refer to the 'General Emergency Response Procedure' (Figure 4 DSEP).
- Determine whether a failure has initiated – answer yes?
- Initiate 'Emergency Notification Procedure'.
- Refer 'Table 9 – Summary of Incident Indicators and Actions – Seepage and Sinkholes'.
- Response Coordinator to contact Dams Engineer.
- Response Coordinator to notify the Mining Supt
- Mining Supt to notify SES and Bengalla Mine.

End of file

APPENDIX 4
DANGEROUS GOODS STORAGE LOCATIONS



Horizontal Datum GDA2020	DRAWN BY: Environment
Map Projection MGA Zone 56	DRAFTING CHECK: AVR
Vertical Datum AHD	DESIGN CHECK: BS
	APPROVED:
	DATE: 17-Jul-24
	Scale: A3

MACHEnergy
Mount Pleasant Operation

Mount Pleasant Operation	
Pollutant Inventory Locations	
PAGE 1 OF 1	DRAWING No. _____
	REVISION 0.1



Horizontal Datum GDA2020		DRAWN BY: Environment		 Mount Pleasant Operation				Mount Pleasant Operation Pollutant Inventory Locations CHPP					
Map Projection MGA Zone 56		DRAFTING CHECK: AVR										PAGE 1 OF 1	
Vertical Datum AHD		DESIGN CHECK:						Scale: A3					
		APPROVED:											
		DATE: 1-Oct-24											

APPENDIX 5
DANGEROUS GOODS INVENTORY

**Table 4-1
Pollutant Inventory**

Pollutant	Location ¹	Approximate Quantity
Diesel	Mine Infrastructure Area	330,000 L (3 tanks)
Oil	Mine Infrastructure Area	24,000 L (2 tanks)
Coolant	Mine Infrastructure Area	5,000 L
Waste Oil	Mine Infrastructure Area	12,500 L
Waste Coolant	Mine Infrastructure Area	5,000 L
AN	Reload Pad	60 t
AN Emulsion	Reload Pad	90,000 t (tank)
Diesel	Reload Pad	110,000 L
Diesel	Go Line	68,000 L
Diesel	CHPP	15,000 L
Radiation Isotopes (CHPP Instruments)	CHPP	-
Oil	CHPP	12,000 L
Waste Oil	CHPP	10,000 L
Grease	CHPP	2,000 L

Note: L = Litres, t = tonnes.

¹ The pollution storage location is shown in Appendix 4.

APPENDIX 6
SAFETY EQUIPMENT LOCATIONS

Rehabilitation Area

- Spill kits x 2

MIA Fuel Farm

- First aid kit
- Spill kits
- Emergency shower and eye wash
- Foam fire extinguisher 45kg x 2
- 9kg ABE fire extinguishers x 2
- Fire depot and hydrant
- MIA: Workshop
- First aid kit
- Spill kits
- Emergency shower and eye wash
- 9kg ABE fire extinguishers x 8
- Fire water system (including sprinklers and hydrants)
- Fire alarms
- Fire blanket

MIA : Oil Farm

- Spill kits
- Emergency shower and eye wash
- 9kg ABE fire extinguishers x 3
- Foam fire extinguisher 45kg

MIA: Wash Pad

- Emergency shower and eye wash
- MIA: Tyre Pad
- Fire water system (including sprinklers and hydrants)
- Emergency shower and eye wash
- Foam fire extinguisher 45kg
- 9kg ABE fire extinguishers x 3
- First aid kit
- Fire alarms
- Fire blanket

Admin/Office

- First Aid Room – defib, trauma kit
- First aid kits
- Fire water system (including sprinklers and hydrants)
- Fire Alarms
- Emergency Response Trailer – including spill kits
- Fire blankets

In Pit Crib Hut

- Defib

- Trauma kit
- 9kg ABE fire extinguishers x 2
- Fire blanket

F Pit Crib Hut

- First aid kit
- Defib
- 9kg ABE fire extinguishers x 2

Halfway House Crib Hut

- First aid kit
- Defib
- ABE fire extinguishers x 4
- Spill kits

Halfway House Fuel Farm

- Emergency shower and eye wash
- 9kg ABE fire extinguishers x 2
- Foam fire extinguisher 45kg x 2
- Spill kits

Heavy/Build Pad

- Emergency shower and eye wash
- First Aid Kit
- Defib
- 9kg ABE fire extinguishers x3
- Foam fire extinguisher 45kg x2
- Fire Blankets

Reload

- Emergency shower and eye wash x2
- 9kg ABE fire extinguishers x6
- First aid kit
- Defib
- Fire hose
- Spill kits

Magazine

- 9kg ABE fire extinguishers x2