



# POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN (EPL 3241) DENDROBIUM MINE

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## DOCUMENT REVISION LOG

Person authorising this plan

NAME	TITLE	DATE
Chris Schultz	Superintendent Environment	26 October 2023

Persons involved in the review of this Plan

NAME	TITLE	COMPANY	EXP (YRS)	DATE
Chris Schultz	Superintendent Environment	South32	26	October 2023
James Alchin	Specialist Environment	South32	6	October 2023
Antony Leone	Manager External Affairs	South32	10	October 2023

## VERSION HISTORY

VERSION	DESCRIPTION OF CHANGES	DATE
<b>IMC Document - IMCMP0230</b>		
1.0	Original Document	August 2012
2.0	Minor Updates and Review of Inventory Tables	November 2014
3.0	Change to South32 and Review of Inventory Tables Changes following audit recommendations	September 2017
4.0	Changes in personnel and Review of Inventory Tables	July 2019
5.0	Review of document content based on Draft Guideline: Pollution Incident Response Management Plans and inclusion of bushfire, flooding and epidemic/pandemic risk	April 2020
5.1	Update of contact numbers and PIRMP test	December 2020
<b>Conversion to DEN Document – DENMP0103</b>		
1.0	General update of document and personnel.	November 2021
1.1	General update of document and personnel, including update to surface water drains locations	May 2022
1.2	General update of document and personnel. Revision of section references from <i>POEO Regulation</i> update.	February 2023
2.0	General update. Inclusion of KVCLF Stockpile as a storage facility.	October 2023

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# 1. INTRODUCTION

## 1.1 Facility Details

The facility details, as defined in Environment Protection Licence (EPL) 3241, are summarised in Table 1.

**Table 1: Facility Details**

<b>Company:</b>	Dendrobium Coal Pty Ltd
<b>EPL Number:</b>	3241
<b>Postal Address:</b>	PO Box 514 Unanderra NSW 2526
<b>Scheduled Activities:</b>	Coal Works Mining for Coal
<b>Facility Name and Address:</b>	<b>Dendrobium Mine</b> Cordeaux Road Mount Kembla NSW 2526

## 1.2 Overview of Operations

The Dendrobium Mine premises and facilities associated with EPL 3241 are wholly owned and operated by Dendrobium Coal Pty Ltd, a subsidiary company of Illawarra Coal Holdings Pty Ltd (ICHPL) and South32 Limited.

Dendrobium Mine is an underground mine which commenced construction in January 2002 following approval from the Minister of the then Department of Urban Affairs and Planning on 20 November 2001. Longwall mining commenced at Dendrobium in April 2005. The mine is operated on a continuous basis, 24 hours a day and 7 days a week.

The mining operations are located immediately adjacent to Mount Kembla, approximately 8 km west of Wollongong, NSW, on the Illawarra escarpment. Mount Kembla village, located within 500 m of the Pit Top site, has close historical links with coal mining. Dendrobium produces predominantly coking coal from the No. 3 Seam (i.e. Wongawilli Seam) and is approved to produce up to 5.2 million tonnes per annum.

Three mining areas make up the approved mine plan for Dendrobium and are named Areas 1, 2, and 3 respectively. The approved development consent allows mining operations to take place in the mining area until 31 December 2030. Mining operations are likely to extend beyond this period and would be subject to further development consent.

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### 1.3 Plan Objectives

This Pollution Incident Response Management Plan (PIRMP) has been prepared in accordance with Part 5.7A Section 153A of the *Protection of the Environment Operations Act 1999 (POEO Act)* and Section 72 of the *Protection of the Environment Operations (General) Regulation 2022 (POEO Regulation)*.

The objectives of the PIRMP (as per the EPA's Guideline: Pollution Incident Response Management Plans dated September 2022) are to:

- minimise the risk of a pollution incident occurring as a result of licensed activities, by identifying risks and the actions proposed to minimise and manage those risks;
- have established clear and effective notification, action and communication procedures to ensure the right people are notified, warned and quickly provided with updates and information they may need to act appropriately, including people who may need to be involved in incident responses – including staff at the premises; the Environment Protection Authority (EPA); and other relevant authorities (such as Fire and Rescue NSW, NSW Health and local councils) and industrial, commercial and residential neighbours and other members of the community; and
- have properly trained staff and up-to-date incident management information available to ensure the potential impact of a pollution incident is minimised.

## 2. DEFINITIONS

Term	Definition
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ICHPL	Illawarra Coal Holdings Pty Ltd
IMC	Illawarra Metallurgical Coal
LDP	Licence Discharge Point
PIRMP	Pollution Incident Response Management Plan
<i>POEO Act/Regulation</i>	<i>Pollution of the Environment Operations Act/Regulation</i>
PPE	Personal Protective Equipment
SDS	Safety Data Sheet

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### 3. STATUTORY REQUIREMENTS

Table 2 identifies the relevant statutory requirements as detailed in the *POEO Act* and *POEO Regulation* for inclusion in the PIRMP and where each requirement is described in the plan.

**Table 2: Statutory Requirements**

Requirements	PIRMP Section
Notification Procedures – <i>POEO Act</i> Section 148, 149	Section 4
Action to be taken following a pollution incident - <i>POEO Act</i> Section 153C(b) and 153F	Section 4 and Section 7
Procedures for coordinating with the EPA, Local Council, Ministry of Health, SafeWork NSW and Fire and Rescue NSW – <i>POEO Act</i> 153C(c)	Section 4 and Section 7
Description of hazards to human health or environment associated with the relevant activity – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(a)	Appendix 2
Likelihood of hazards occurring – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(b)	Appendix 2
Pre-emptive actions to minimise or prevent risk of harm to human health or environment – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(c)	Section 8
Inventory of potential pollutants – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(d)	Section 5, Appendix 1
Maximum quantity of pollutant to which the licence relates – <i>POEO Act</i> Section 153C(e)	Appendix 1
Safety equipment to minimise the risks to human health or environment – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(f)	Section 10
Names, positions and contact details – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(g)	Section 4.5.2 – Table 4
Contact details of each relevant authority- <i>POEO Act</i> Section 148 and <i>POEO Regulation</i> 72(h)	Section 4.5.2 – Table 5
Early warning mechanism for people off site – <i>POEO Act</i> Section 153C(a), (d) and <i>POEO Regulation</i> 72(i)	Section 4.5.3
Arrangements for minimising risk of harm to persons on the premises – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(j)	Section 9
Detailed maps – <i>POEO Regulation</i> 72(k)	Appendix 3
Description of how any identified risk of harm to human health will be reduced, including early warnings, updates and action to be taken - <i>POEO Regulation</i> 72(l)	Section 7, Section 8, Section 9
Training - <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(m)	Section 11
Testing of plan – <i>POEO Act</i> Section 153(d) and Section 153E and <i>POEO Regulation</i> 72(n) and 75	Section 12.2
Updating of plan - <i>POEO Act</i> Section 153F and <i>POEO Regulation</i> 72(o)	Section 12.3
Manner in which plan is tested and maintained – <i>POEO Act</i> Section 153C(d) and <i>POEO Regulation</i> 72(p)	Section 12.2

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Availability of plan – POEO Act Section 153D and POEO Regulation 74	Section 12.1
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## 4. NOTIFICATION OF A POLLUTION INCIDENT

### 4.1 Roles and Responsibilities – Incident Response Process

As a minimum, all employees are required to report all hazards, accidents and incidents which occur in the workplace that either have the potential to or caused harm to personnel, property or the environment.

Key responsibilities associated with the incident response process flow chart are summarised in Table 3.

**Table 3: Roles and Responsibilities – Incident Response Process**

Role	Responsibility
Approvals Manager	<ul style="list-style-type: none"> <li>Undertake or delegate Superintendent Environment responsibilities in their absence.</li> </ul>
Superintendent Environment	<ul style="list-style-type: none"> <li>Assess materiality of incident and activate relevant response system.</li> <li>Assess potential for off-site impacts and notify External Affairs team if required.</li> <li>Notify internal stakeholders as appropriate.</li> <li>Notify relevant agencies (written and verbal notifications as required).</li> </ul>
Site Personnel (including Specialist Environment)	<ul style="list-style-type: none"> <li>Report actual or potential incidents immediately.</li> <li>Assist in site response and clean-up activities.</li> </ul>
IMC Incident Controller	<ul style="list-style-type: none"> <li>Coordinate incident response activities.</li> <li>Communicate with emergency services personnel to identify actions to be taken as appropriate.</li> </ul>
Site based Incident Management Teams	<ul style="list-style-type: none"> <li>Coordinate incident response activities (as appropriate).</li> </ul>
Manager External Affairs (or representatives)	<ul style="list-style-type: none"> <li>Coordinate media response/s and community notifications (Note: Only the Vice President Operations or nominated delegate is authorised to speak to the media).</li> </ul>
Principal Community	<ul style="list-style-type: none"> <li>Coordinate communication with impacted community members.</li> </ul>
Control Room Officer	<ul style="list-style-type: none"> <li>Coordination of initial emergency response and internal notifications.</li> </ul>

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## 4.2 Timeframes for reporting

If a pollution incident occurs in the course of an activity at the premises that causes, or threatens to cause, material harm to the environment, this PIRMP must immediately be implemented. All pollution incidents causing or threatening material harm to the environment are to be immediately notified in accordance with Section 4.5.

## 4.3 Definition of a Pollution Incident and Material Harm

The *POEO Act* defines a ‘pollution incident’ as being:

*‘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’.*

Notifications of a pollution incident are required if there is a risk of ‘material harm to the environment’, which is defined in Section 147 of the *POEO Act* as:

- (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.*

The *POEO Act* defines ‘pollution’ in the following terms:

*‘pollution’ means*

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

Material harm can occur both on land located within the EPL boundary, along with land located outside the EPL boundary. A determination of a material harm incident will be made by the Superintendent Environment. If the Superintendent Environment is not available immediately, then determination can be made by Approvals Manager or site General Manager in consultation with the site Specialist Environment.

If the Control Room Officer cannot contact the Superintendent Environment, Approvals Manager, site General Manager or Environment Specialist, then the Control Room Officer must treat the incident as a material harm incident and initiate reporting to relevant agencies as listed in Section 4.5.2.

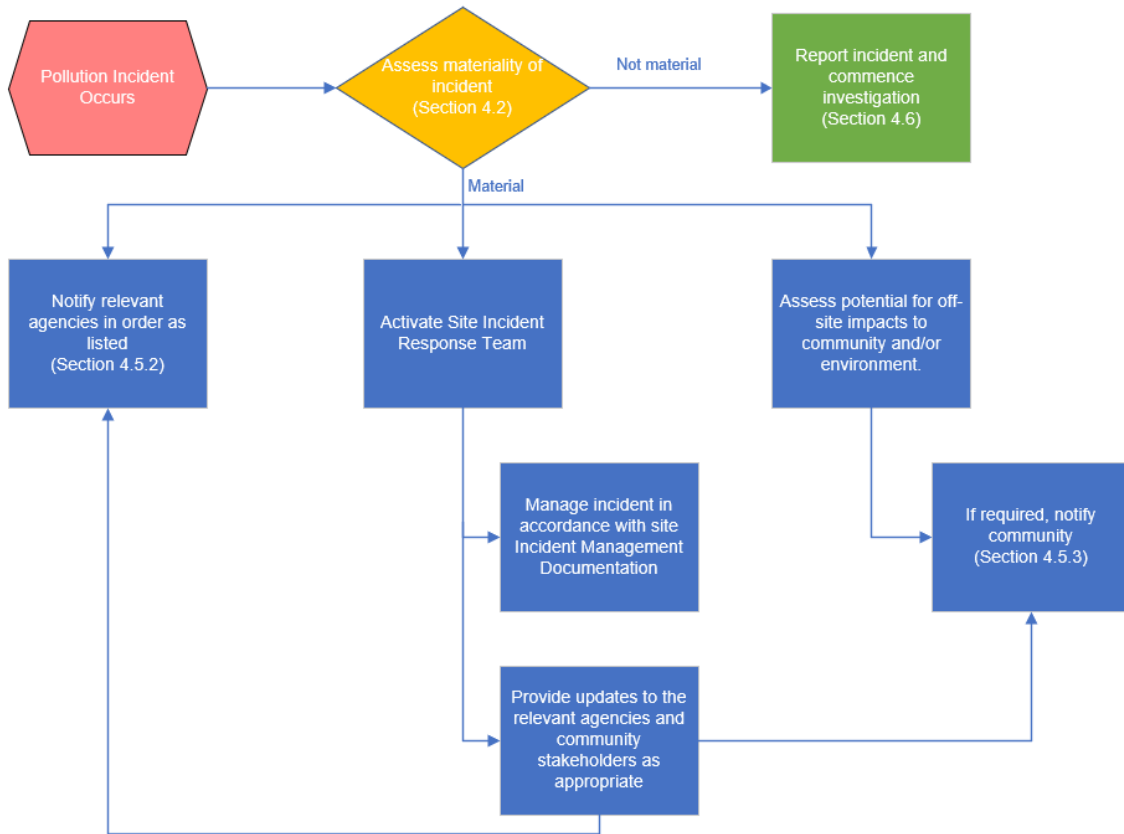
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## 4.4 Incident Response Process

The incident response protocols, including the communication protocol and on-site emergency response actions, for responding to an incident that has resulted in a material impact to human health or the environment (as per the definition provided in Section 4.3 of this plan), are shown in Figure 1.



**Figure 1: Incident Response Process Flow**

## 4.5 Communication Protocol

### 4.5.1 Internal Stakeholders (i.e. employees/contractors)

Internal communications will be undertaken as per the site Emergency Response Control Plan (refer to reference list in Section 14).

### 4.5.2 Government Agencies

The key contacts associated with the implementation/activation of this plan are provided in Table 4.

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**Table 4: Key Contacts Table**

<b>IMC</b>	
Superintendent Environment – Chris Schultz	
Specialist Environment – James Alchin	
Manager External Affairs – Antony Leone/Amanda Silarski	1800 102 210 (via IMC Community Call Line)
Specialist Community – Sandra Moreno	
General Manager – Simon Thomas	

The relevant government agencies (Table 5) will be notified of a pollution incident that has caused or has the potential to cause material harm immediately (i.e. promptly and without delay). The agencies are to be notified as listed (i.e. starting from the top).

**Table 5: External Agencies to be Notified**

<b>EXTERNAL AGENCIES</b>	
Environment Protection Authority	131 555 <sup>1</sup>
Department of Planning and Environment - Compliance Wollongong Office: (Email: <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> ) <sup>2</sup>	(02) 4247 1852
NSW Resources Regulator (Email: <a href="mailto:nswresourcesregulator@service-now.com">nswresourcesregulator@service-now.com</a> )	1300 814 609 <sup>3</sup>
Public Health (Local Health District - Illawarra and Shoalhaven) (Email: <a href="mailto:ISLHD-PHU@health.nsw.gov.au">ISLHD-PHU@health.nsw.gov.au</a> )	02 4221 6700 <sup>4</sup>
SafeWork NSW <sup>5</sup>	13 10 50 <sup>6</sup>
Wollongong City Council	(02) 4227 7111 <sup>7</sup>
Fire and Rescue NSW	000 (if emergency) 1300 729 579 (pollution notification)
NSW State Emergency Service	132 500
WaterNSW (Email: <a href="mailto:customer.helpdesk@waternsw.com.au">customer.helpdesk@waternsw.com.au</a> )	1300 662 077 <sup>8</sup>

<sup>1</sup> Select Option 1.

<sup>2</sup> Also report via the Major Projects Portal: <https://www.planningportal.nsw.gov.au/major-projects>.

<sup>3</sup> Office open between 8.30 am and 4.30 pm. Will be directed to on call person after hours. Select Option 1.

<sup>4</sup> After hours 02 4222 5000. Ask for Public Health Officer.

<sup>5</sup> SafeWork NSW do not regulate mines and therefore they should only be contacted where the incident has not occurred on the mine site.

<sup>6</sup> Select 2 and then Select 2.

<sup>7</sup> Ask for Environmental Planning Manager.

<sup>8</sup> Select 6, then select 2.

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The information that is required to be reported is:

- time, date, nature, duration and location of the incident;
- location of the place where pollution is occurring or is likely to occur;
- nature, estimated quantity or volume and concentration of any pollutants involved (if known);
- circumstances in which the incident occurred (including the cause of the incident, if known);
- action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

IMC will, through the IMC Incident Controller, coordinate response activities with the relevant agencies as required.

#### **4.5.3 Local Community**

Community stakeholders that are potentially affected by a pollution incident causing or having the potential to cause material harm will be notified immediately (i.e. without delay) by one (or more) of the following methods:

- door knocking by company representatives or emergency services personnel (dependent on nature of event);
- phone call by company representative;
- email from a company representative;
- letterbox drops; or
- other method as determined by the Manager External Affairs.

The appropriate method for communication will be determined by the Manager External Affairs or as directed by the relevant agency and will be tailored to the nature of the incident, phase of response, and types of neighbours who are required to receive information.

If required (dependent on the nature of the incident) the communication should outline practical steps that community members can take to reduce the risk of harm to their health or property, both during and after the incident. This may include instructions to close windows and doors and remain inside, avoiding accessing water in creeks and rivers, or avoiding use of groundwater.

Regular updates will be provided to the affected community stakeholders throughout the course of the event.

Signage will be employed, as appropriate and necessary, to inform the community in cases of incidents occurring on a property outside the premises where community members might be at risk of injury or illness.

#### **4.6 Event Reporting and Investigation**

Environmental events are to be reported in Global 360 (G360). Reporting is to be undertaken in accordance with the Reporting and Investigation Standard (IMCSTD0069)

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and the Event Report, Basic Investigation Procedure (IMCP0098) and Environmental Compliance/Conformance Assessment and Reporting Procedure (IMCP0186).

## 5. INVENTORY OF POLLUTANTS

Site inspections are periodically conducted to review the inventory of storage facilities at Dendrobium Mine. The inventories include details of potential pollutants at the storages, the maximum quantity that is likely to be stored or held at the facilities, and whether the storages have the potential to be associated with a material pollution incident.

The pollutant inventories for the facilities are provided as Appendix 1.

The storage facilities are assigned a specific identification number with the location of the storage facility reflected in the site maps (refer to Appendix 3).

A register of hazardous substances and dangerous goods is maintained. The information requirements for the hazardous materials register are detailed in the Substance Management Procedure (IMCP0054). A copy of the National Code of Practice Compliant Safety Data Sheets (SDS) for each hazardous material is maintained within the register.

## 6. DESCRIPTION AND LIKELIHOOD OF HAZARDS

An Aspects and Impacts Register has been developed and is maintained to identify the main hazards to human health or the environment associated with a pollution or other incident at the site.

The listing and assessment of pollution and other incidents with potentially material consequences are provided in the 'Hazard Assessment Summary Tables' in Appendix 2. The hazard assessments provide a description of the event, likely causes, consequences, responses and controls and ranking for materiality of the consequences.

Note: Regardless of whether a particular incident is captured within the hazard assessment tables, any pollution incident with the potential for material consequences will be addressed as per the 'incident response protocols' of this plan.

## 7. EMERGENCY RESPONSE

An Emergency Response Control Plan (DENMP0088) is in place which describes the on-site actions to be taken in response to an incident that has resulted (or has the potential to result) in a material impact to human health and/or the environment. This plan will be activated in parallel with the PIRMP as required to minimise the impacts of the pollution incident as much as practically possible through early response/management. The Emergency Response Control Plan defines the roles and responsibilities of key site personnel and provides information on evacuation protocols and muster points.

If there is an emergency on site, the person who received the initial notification must initiate the emergency response by notifying the Control Room Operator at Dendrobium Mine, either by telephone, radio or other means.

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Surface personnel will assemble at the appropriate muster point and will await instructions from the person assuming the Incident Controller responsibilities. If evacuation is not required, personnel will remain on site and await instructions from the person assuming the Incident Controller responsibilities and assist in the management and containment of the emergency.

The IMC Incident Controller will communicate with emergency services personnel to identify actions to be taken as appropriate.

## 8. PRE-EMPTIVE ACTIONS TO REDUCE THE RISK OF HARM TO HUMAN HEALTH OR THE ENVIRONMENT

Appendix 2 describes specific pre-emptive actions that are in place to reduce the risk of harm to human health or the environment where a specific incident may occur. In addition, the following proactive actions are implemented (as relevant) to reduce the risk of harm occurring as a result of a pollution incident:

- a) an ISO 14001 certified Environmental Management System is in place;
- b) site personnel receive regular training as outlined in Section 11;
- c) relevant personnel are trained in the appropriate use of safety equipment and general use of pollution control equipment;
- d) risk assessments are undertaken for tasks and activities to identify health, safety and environmental risks (including Take 2s, Task Analyses, Qualitative Risk Assessments);
- e) regular monitoring of noise, dust and water impacts is undertaken in accordance with the management plans required under the Development Consent and the EPL;
- f) regular site inspections are undertaken by the Specialist Environment and other site personnel;
- g) maintenance regimes and checks are in place for site equipment and storage facilities;
- h) site equipment is checked prior to its use on site to verify it meets safety and environmental standards;
- i) pre-shift communications and toolbox talks are provided to site personnel at start of shift to communicate incidents, hazards and corrective actions;
- j) incidents are investigated, and corrective actions are developed and implemented to prevent a reoccurrence;
- k) governance reviews are undertaken internally to verify compliance with site management plans;
- l) bunds are in place for the storage of hazardous materials;
- m) substance approval processes are in place for the introduction of new chemicals to site; and

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- n) Independent Environmental Audits are undertaken on a triennial basis to assess compliance against the conditions in the EPL and Development Consent.

## 9. MINIMISATION OF HARM TO PERSONS ON THE PREMISES

Actions and arrangements are in place to minimise the risk of harm to any persons who will be on the premises, or who are likely to be on the premises, should an incident occur. These actions and arrangements include:

- a) site personnel are informed, trained, and competent, relating to their responsibility and required actions during an emergency;
- b) emergency response teams have been established that undertake regular training;
- c) training in emergency response for site personnel includes evacuation points and procedures;
- d) evacuation points are clearly recognised on site by appropriate signage;
- e) all visitors are familiarised with the site and made aware of the evacuation procedure;
- f) fire alarms are in place;
- g) access to site is restricted to inducted (or otherwise approved) personnel;
- h) access to high risk areas is restricted to appropriately qualified personnel;
- i) minimum personal protective equipment (PPE) requirements are in place; and
- j) signage is in place where hazardous materials are stored.

## 10. EQUIPMENT AVAILABLE TO CONTROL OR CONTAIN A POLLUTION INCIDENT

The Spill Management Procedure (IMCP0183) outlines the process to be followed in the event of a spill. Spill kit type and locations are identified in the procedure.

In addition, the Spill Trigger Action Response Plan (TARP) (IMCTARP0006) is made available in the Control Room for use in the event of a spill to determine the action that needs to be taken.

Other safety equipment and information available includes:

- a) a selection of PPE (hard hats, gloves, glasses, masks, goggles) (available from spill kits, PPE dispensers and the warehouse);
- b) fire extinguishers and hydrants;
- c) gas monitors (available from control room);
- d) SDS (available electronically through ChemaAlert); and
- e) eye wash stations and safety showers.

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## 11. STAFF TRAINING

Environmental personnel responsible for the initiation of the PIRMP are familiarised with the PIRMP on commencement in the role and are involved in the regular review and testing of the PIRMP.

Site personnel are made aware of the PIRMP during the IMC site induction process. Completion of this induction package is a pre-requisite for working on any IMC controlled operation. Personnel are required to complete refresher training on an annual basis for underground workers and two-yearly basis for surface personnel.

In addition to the above induction, spill response and chemical handling aspects will also be provided to key personnel on site (i.e. personnel that can influence the environmental performance of the operation) as part of an Environmental eLearning Training Package. This training package was developed with input from the Environment Team and is administered by the Training Team.

Training records are managed through the Learning Management System.

Additional information will be provided to site personnel through pre-shift communications, toolbox talks and environmental awareness sessions as required.

## 12. PLAN ADMINISTRATION

### 12.1 Availability of Plans

In accordance with Section 153D of the *POEO Act* and Section 74 of the *POEO Regulation*, the plan will be made available to all site personnel via the site document control system.

In addition, the plan framework, protocols and processes (public version) will be made available to the public via the following methods:

- uploading a public version of the plan to the IMC website (<https://www.south32.net/what-we-do/our-locations/australia/illawarra-metallurgical-coal>); and
- providing copies of the public version of the plan, without charge, to any person who requests a copy.

### 12.2 PIRMP Testing

This plan will be tested at least once every 12 months in accordance with Part 5.7A Section 153E of the *POEO Act* and Section 75 of the *POEO Regulation* to check that the information contained within the plan is accurate and up to date, and that the plan is capable of being implemented in a workable and effective manner.

A record of tests is provided in Table 6.

The primary method for testing the plan will be via desktop simulations which will be supplemented by periodic practical exercises or drills, however, should an event occur, this may also be considered as a test.

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The PIRMP will also be tested within one month of any pollution incident occurring that caused or threatened material harm to the environment. **Table 6: Record of PIRMP tests**

Date of testing of plan	Person testing plan	Persons involved in the testing of the plan
30/07/2015	Michelle Grierson	Dendrobium Site Personnel
5/12/2016	Peter McMillan	Illawarra Coal Environmental Team
4/04/2017	Joanne Page	Peter McMillan
13/08/2018	Michelle Grierson	Michelle Grierson, warehouse personnel
3/07/2019	Chris Schultz	Polly Barlow, Peter Mitrovski, Luke Oliver
3/09/2020	Tom McMahon	Jason Demmery – Supervisor Warehouse, Josh Ellem – Administrator Warehouse, Jason Nutt – Administrator Warehouse) and Programmed staff (John Testa – Warehouse support)
30/11/2021	Chris Schultz	Luke Oliver (Superintendent Infrastructure and RTV), Tim Fan (Specialist Environment), Ben O'Rourke (Control Room Officer)
11/10/2022	James Alchin	Daniel Malby (Lead Logistics), Peter Mitrovski (Facility Operations) Reece Simmonds (Control Room Officer)
29/09/2023	Luca Franceschini	Daniel Malby (Lead Logistics), Shayne Gillespie (Control Room Officer), Chris Schultz (Superintendent Environment)

### 12.3 PIRMP Review

The PIRMP will be nominally reviewed on a three-yearly basis. Updates may occur following PIRMP tests where any improvements are identified, where personnel or contact details for regulatory agencies have changed or there is an update to site procedures.

The PIRMP is a controlled document in the document management system. The document control process will be followed for updating the PIRMP.

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### 13. PENALTIES FOR NON-COMPLIANCE

There are offences set out in the *POEO Act* in relation to PIRMP requirements. These relate to the failure to:

- prepare a PIRMP that complies with Part 5.7A of the *POEO Act*;
- ensure the PIRMP is kept at the premises the EPL relates to, and make parts of it available to the public; and
- test the PIRMP in accordance with the *POEO Regulations*.

The maximum penalties for the above offences are:

- for corporations - \$1,000,000, and for continuing offences, a further penalty of \$120,000 per day the offence continues; and
- for individuals - \$250,000, and for continuing offences, a further penalty of \$60,000 per day the offence continues.

It is also an offence if a person carrying out an activity does not implement the relevant PIRMP if a pollution incident occurs in the course of an activity, so material harm to the environment is caused or threatened.

The maximum penalties for this offence are:

- for corporations - \$2,000,000, and for continuing offences, a further penalty of \$240,000 per day the offence continues; and
- for individuals - \$500,000, and for continuing offences, a further penalty of \$120,000 per day the offence continues.

### 14. REFERENCES AND ASSOCIATED DOCUMENTS

Dendrobium Mine Development Consent DA 60-03-2001, as modified

Emergency Response Control Plan– Dendrobium Mine - DENMP0088

Spill Management Procedure – IMCP0183

Spill TARP – IMCTARP0006

Environmental Compliance/Conformance Assessment and Reporting – IMCP0186

Reporting and Investigation Standard - IMCSTD0069

Event Report and Basic Investigation Procedure - IMCP0098

*Protection of the Environment Operations (POEO) Act 1997*

*Protection of the Environment Operations (General) Regulation 2022*

Bushfire Management Plan - DENMP0034

Dealing with Bushfire Risk Procedure - DENP0093

Substance Management Procedure - IMCP0054

South32 Environment and Climate Change Standard

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## 15. APPENDICES

### Appendix 1: Pollutant Inventories

**Table 7: Pollutant Inventory – Dendrobium Pit Top**

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
DEN.01	Waste Oil Area - rear of workshop	Waste Oil	2,000 litres	Y
DEN.02	Transient Oil Storage Area (at rear of workshop)	Engine Oil Hydraulic Oil Transmission Oil Engine Coolant (inhibit) Gear Oil	7,000 litres (7 IBCs)	Y
DEN.03	Gas Cylinder Storage Depot (at entrance to Bulkstore)	Compressed Oxygen Acetylene Dissolved Methane Nitrogen	35 x G, D, and E size cylinders	N
DEN.04	Solcenic Oil Bulk Storage	Solcenic 2020	15,000 litres	Y
DEN.05	Diesel Bulk Storage	Diesel	25,000 litres	Y
DEN.06	Silent Seal Resin storage	Silent Seal Resin	2 pallets	N
DEN.07	Pit Top Treatment Plant	Oily water Grey water General Surface Runoff	120,000 litres	Y
DEN.08	Transient Oil Storage Area (portal road)	Engine Oil Hydraulic Oil Transmission Oil Gear Oil Transmission Oil Engine coolant (inhibit) Compressor Oil	25,000 litres (20 pallets + 10 IBCs)	Y

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		Lockset resin (Minova)	15 pallets	
DEN.09	Portal Road	Dustpro (roadway dust suppressant)	3,000 litres (3 IBCs)	Y
		Dustchem 76	3,000 litres (3 IBCs)	
		Suppress CP20		
DEN.10	Sediment Pond	Surface water run-off	<5 ML	Y
DEN.11	Explosives Storage Area (portal road)	Detonators	1,000 detonators (max)	N
		Explosives Powder (Senatel)	300 kg (max)	

**Table 8: Pollutant Inventory – Kemira Valley Coal Loading Facility**

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
KV.01	Magnasol 572 Storage Area	Magnasol 572	5,000 litres	N <sup>9</sup>
KV.02	Transient Oil Storage Area (at rear of amenities area)	Engine Oil Hydraulic Oil Transmission Oil Magnasol 572	1280 litres (2 pallets)  1 IBC	N
KV.03	Diesel Storage (stockpile)	Diesel	4,000 litres	Y
KV.04	Fire Fighting Water Storage Tank	Recycled Water / Sediment Pond Water	750,000 litres	Y
KV.05	Mine Water Pipeline	Mine Water	700,000 litres	Y
KV.06	Sediment Pond	Site water run-off / operational water	≤ 12 ML	Y
KV.07	Coal stockpile	Coal fines and turbid water	140,000 tonnes	Y

<sup>9</sup> This storage is currently not being utilised however the infrastructure is still in place and may be used if required.

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## Appendix 2: Hazard Assessment Summary Tables

<b>Facility</b>	<b>Dendrobium Mine and KVCLF</b>		
<b>Storage ID</b>	N/A		
<b>Hazard</b>	<b>Bushfire</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Drought conditions</li> <li>- High fuel load in surrounding bushland</li> <li>- Arson</li> <li>- Lightning strike</li> </ul>		
<b>Impact</b>	<ul style="list-style-type: none"> <li>- Damage to site storages and potential release of contents causing land and/or water pollution</li> <li>- Potential for explosion (dependent on storages impacted)</li> <li>- Potential for coal stockpile fire resulting in the release of air pollutants including fine particulates, heavy metals and various oxides.</li> </ul>		
<b>Likelihood</b>	Low	<b>Materiality</b>	High
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Maintenance of asset protection zones as required</li> <li>- Hazard reduction activities are undertaken as required</li> <li>- Involvement with Bushfire Management Committees (Wollongong and Wollondilly)</li> <li>- Maintain relationship with Rural Fire Service</li> <li>- IMC Emergency Response Team in place</li> <li>- Big gun water cannons installed at Dendrobium Pit Top</li> <li>- Coal stockpile dust suppression sprays in place at Kemira Valley</li> <li>- Bushfire Management Plan (DENMP0034) in place</li> <li>- Dealing with Bushfire Risk Procedure (DENP0093) in place</li> <li>- Water sources available for fire fighting</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Instigate Incident Management Team</li> <li>- Actions to be taken will be dependent on the impact of bushfire on site infrastructure.</li> </ul>		

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<b>Facility</b>	<b>Dendrobium Mine and Kemira Valley</b>		
<b>Storage ID</b>	<b>N/A</b>		
<b>Hazard</b>	<b>Flooding</b>		
<b>Cause</b>	- Intense rainfall events		
<b>Impact</b>	<ul style="list-style-type: none"> <li>- Overflow of site storages and potential release of contents causing land and/or water pollution</li> <li>- Landslips of steep areas of the site</li> <li>- Inability to safely access site</li> <li>- Slope instability</li> <li>- Scour erosion and sediment movement</li> <li>- Damage to site infrastructure</li> </ul>		
<b>Likelihood</b>	Low	<b>Materiality</b>	High
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Keep bunds empty and take appropriate measures where practical to prevent them being filled with stormwater</li> <li>- IMC Emergency Response Team in place</li> <li>- Weather forecasts</li> <li>- Dewatering pipeline</li> <li>- Underground water storages</li> <li>- Maintain sediment ponds clear of build-up</li> <li>- Continually treat and remove stormwater from retention basins according to licence conditions to maintain capacity</li> <li>- Keep chemicals stored above areas that are prone to inundation</li> <li>- Secure all loose items to prevent them coming into contact with floodwater</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Instigate Incident Management Team</li> <li>- Actions to be taken will be dependent on the impact of flooding on site infrastructure.</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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<b>Facility</b>	<b>Dendrobium Mine and Kemira Valley</b>		
<b>Storage ID</b>	<b>N/A</b>		
<b>Hazard</b>	<b>Epidemic/Pandemic</b>		
<b>Cause</b>	- Spread of virus through contact or exposure to infected persons		
<b>Impact</b>	<ul style="list-style-type: none"> <li>- Reduced access to site for maintenance and compliance activities</li> <li>- Usual personnel may not be able to conduct compliance activities</li> <li>- Business as usual activities may not be able to be undertaken</li> </ul>		
<b>Likelihood</b>	Rare	<b>Materiality</b>	High
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Preventative maintenance of bunds and other control equipment</li> <li>- IMC Emergency Response Team in place</li> <li>- Split rosters</li> <li>- Identification of back up personnel</li> <li>- Improvements in personal hygiene practices enforced</li> <li>- Restrictions on access to site (and between sites) by personnel (to prevent spread)</li> <li>- Prioritisation of activities to maintain compliance</li> <li>- Procedures in place for compliance activities</li> <li>- Planned shutdown of site if required (safe, stable and non-polluting)</li> </ul> <p><i>Note: These controls are only implemented when required/if an event occurs. During normal operations these controls are not implemented.</i></p>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Instigate Incident Management Team</li> <li>- Actions to be taken will be dependent on the limitations for site access to maintain equipment and conduct inspections and monitoring.</li> </ul>		



<b>Facility</b>	<b>Dendrobium Mine and Kemira Valley</b>		
<b>Storage ID</b>	<b>N/A</b>		
<b>Hazard</b>	<b>Climate Change</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Generation of greenhouse gases from burning fossil fuels</li> <li>- Deforestation</li> <li>- Changes in the earth's reflectivity/absorption</li> </ul>		
<b>Impact</b>	<ul style="list-style-type: none"> <li>- Increased risk of pollution incidents</li> <li>- Changes to vegetation communities</li> <li>- Changes in weather patterns (more frequent and intense drought and storms)</li> <li>- Increased risk of bushfire and flooding</li> <li>- Increased temperatures requiring increased cooling</li> <li>- Lack of water security</li> <li>- Overflow/flooding/damage to bunds/tanks/containers and spillage of contaminants</li> <li>- Reduced flow in watercourses</li> </ul>		
<b>Likelihood</b>	Possible	<b>Materiality</b>	High
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Preventative maintenance of bunds and other control equipment</li> <li>- IMC Emergency Response Team in place</li> <li>- Prioritisation of activities to maintain compliance</li> <li>- Maintenance of asset protection zones as required</li> <li>- Hazard reduction activities are undertaken as required</li> <li>- Water sources available for fire fighting</li> <li>- Secure water supplies for ongoing operations</li> <li>- Implementation of reasonable and feasible water efficiency measures</li> <li>- Progressive rehabilitation of disturbed areas</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Instigate Incident Management Team</li> <li>- Actions to be taken will be dependent on the impact of climate change on site operations and infrastructure</li> </ul>		





<b>Facility</b>	<b>Dendrobium Mine</b>		
<b>Storage ID</b>	<b>DEN.01, DEN.02, DEN.04, DEN.08 (Workshop Area and Minor Oil Storage)</b>		
<b>Hazard</b>	<b>Oil spill resulting in release to local site drainage system</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Oil handling incident</li> <li>- Oil storages impacted by surface mobile equipment</li> <li>- Overflow of oil separation pit</li> </ul>		
<b>Impact</b>	Contamination of site water treatment system and site sediment pond		
<b>Likelihood</b>	Low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Sealed oil storage area which drains to the site drainage system</li> <li>- Dirty area site drainage system reports to the lower level waste water treatment plant which incorporates an oil separator</li> <li>- Level alarms on initial stage of waste water treatment plant sump</li> <li>- Overflow of water treatment plant reports to the sediment pond</li> <li>- Level alarms/controls on the sediment pond</li> <li>- Ability to transfer water from the sediment pond into the pit top water treatment plant (minimise potential to release to the environment)</li> <li>- Routine inspections of storages</li> <li>- Spill response/cleanup equipment</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Isolate and contain spill</li> <li>- Transfer contaminated water in sediment pond to the pit top water treatment plant</li> <li>- Arrange for tanker to recover contaminated water and dispose of to a licenced waste facility (if needed).</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		



<b>Facility</b>	<b>Dendrobium Mine</b>		
<b>Storage ID</b>	<b>DEN.08, DEN.09 (Storages along portal road)</b>		
<b>Hazard</b>	<b>Dust suppressant (Dustpro) or oil spill reporting to the clean water diversion drain or site water management system</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Mobile equipment impact</li> <li>- Storage handling incident</li> <li>- Spill reports to clean water diversion channel</li> <li>- Spill reports to site water management system</li> </ul>		
<b>Impact</b>	<p>Contamination of local environment (land or creek) if the spill reported to the clean water diversion channel or clean water drainage system</p> <p>Contamination of site water management system if the spill reported to the site sediment pond and/or pit top water treatment plant</p>		
<b>Likelihood</b>	Low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Storages limited to 1,000 litre IBCs for Dustpro and pallets of 20 litre drums for oils</li> <li>- Bunding in place</li> <li>- Site speed restrictions for mobile equipment</li> <li>- Spill response/clean up equipment readily available</li> <li>- Routine inspection of storages</li> <li>- Ability to transfer water from sediment ponds into the pit top water treatment plant (minimise potential to release to the environment)</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Isolate and contain spill</li> <li>- Clean up local contamination</li> <li>- Transfer contaminated water in sediment pond to the pit top water treatment plant</li> <li>- Recover spill and contaminated water and dispose of to a licenced waste facility (if needed).</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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<b>Facility</b>	<b>Dendrobium Mine</b>		
<b>Storage ID</b>	<b>DEN.04, DEN.05 (Bulk Diesel and Solcenic storages)</b>		
<b>Hazard</b>	<b>Bulk Diesel or Solcenic spill reporting to the surface water management system</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Tank integrity failure</li> <li>- Substance transfer incident</li> <li>- Mobile equipment impact</li> </ul>		
<b>Impact</b>	Contamination of site drainage system Contamination of site water management system if the spill reported to the site sediment pond and/or pit top water treatment plant		
<b>Likelihood</b>	Low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Tanks located in a concrete bunded area</li> <li>- Area around tank sealed preventing land contamination</li> <li>- Spill response/clean up equipment readily available</li> <li>- Routine inspection of storages</li> <li>- Ability to transfer water from sediment ponds into the pit top water treatment plant (minimise potential to release to the environment)</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Isolate and contain spill</li> <li>- Clean up local contamination</li> <li>- Transfer contaminated water in sediment pond to the pit top water treatment plant</li> <li>- Recover spill and contaminated water and dispose of to a licenced waste facility (if needed).</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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<b>Facility</b>	<b>Dendrobium Mine</b>		
<b>Storage ID</b>	<b>DEN.07 (Pit Top Water Treatment Plant)</b>		
<b>Hazard</b>	<b>Loss of containment of polluted waters</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Tank integrity failure</li> <li>- Oil separator pit overflow</li> <li>- Heavy rainfall event overloads the system</li> <li>- Transfer pump system failures</li> </ul>		
<b>Impact</b>	Contaminated water overflow to the adjacent sediment pond Local land contamination		
<b>Likelihood</b>	Low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Level alarms on system first stage water pit (alarms remotely to 24 hr manned control room)</li> <li>- Generally overflows to sediment pond</li> <li>- Routine site inspection of storages</li> <li>- Routine pump maintenance and tests</li> <li>- Emergency pump mobile transfer pump available</li> <li>- Ability to transfer water from sediment pond into the pit top water treatment plant (minimise potential to release to the environment)</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Transfer contaminated water in sediment pond to the pit top water treatment plant if capacity available</li> <li>- Arrange for tanker to recover spilled diesel contaminated water and dispose of to a licensed waste facility (if needed)</li> <li>- Clean up local contamination</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		



<b>Facility</b>	<b>Dendrobium Mine</b>		
<b>Storage ID</b>	<b>DEN.10 (Sediment Pond)</b>		
<b>Hazard</b>	<b>Loss of containment of contaminated water to the local environment</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Pond overflows when full of contaminated water</li> <li>- Contamination of sediment pond caused by upstream hazardous substance spill</li> </ul>		
<b>Impact</b>	Pollution of local creek system and environment		
<b>Likelihood</b>	Low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Routine inspection of storages</li> <li>- Sediment pond transfer pump in place (float switch and manual activation present)</li> <li>- Spill response equipment readily available</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Transfer contaminated water in sediment pond to the pit top water treatment plant if capacity available</li> <li>- Arrange for tanker to recover contaminated water and dispose of to a licensed waste facility (if needed).</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		



<b>Facility</b>	<b>Kemira Valley Coal Loading Facility</b>		
<b>Storage ID</b>	<b>KV.03 (Diesel Storage)</b>		
<b>Hazard</b>	<b>Bulk diesel spill</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Tank integrity failure</li> <li>- Impact on storage by mobile equipment</li> <li>- Diesel transfer incident</li> </ul>		
<b>Impact</b>	Contamination of sediment pond		
<b>Likelihood</b>	Very low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Ability to isolate the sediment ponds (minimise potential to release to the environment)</li> <li>- Routine inspection of storages</li> <li>- Diesel storage bunded</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Isolate and contain in sediment pond</li> <li>- Remove or treat contaminated waters</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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<b>Facility</b>	<b>Kemira Valley Coal Loading Facility</b>		
<b>Storage ID</b>	<b>KV.04 (Firefighting water storage)</b>		
<b>Hazard</b>	<b>Loss of firefighting water to external natural environment</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Tank integrity failure</li> <li>- Impact to tank by surface mobile equipment</li> </ul>		
<b>Impact</b>	Release of recycled water (Conductivity $\leq 2,000$ uS/cm) to the external natural environment (Brandy and Water Creek)		
<b>Likelihood</b>	Very low	<b>Materiality</b>	Low
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Fire tank water level monitoring and alarming</li> <li>- Tank locality primarily drains to the facilities captive site drainage system and sediment ponds</li> <li>- Routine inspection of storages</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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<b>Facility</b>	<b>Kemira Valley Coal Loading Facility</b>		
<b>Storage ID</b>	<b>KV.05 (Mine Water Pipeline)</b>		
<b>Hazard</b>	<b>Loss of mine water from mine water pipeline to local environment</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Tank integrity failure</li> <li>- Pipeline failure</li> <li>- Impact by mobile equipment</li> <li>- Tank or pipeline rupture not detected for an extended period</li> </ul>		
<b>Impact</b>	Release of mine water (Conductivity 2,100 µS/cm - average) to the external natural environment (Brandy and Water Creek)		
<b>Likelihood</b>	Very low	<b>Materiality</b>	Low
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Routine inspections of site</li> <li>- Monitoring of flow meters</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Cease pumping mine water from underground</li> <li>- Activate internal communication protocols</li> <li>- If contaminated water leaves site or is discharged from the pipeline in an uncontrolled manner and there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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<b>Facility</b>	<b>Kemira Valley Coal Loading Facility</b>		
<b>Storage ID</b>	<b>KV.06 (Sediment Pond)</b>		
<b>Hazard</b>	<b>Loss of contaminated water to the external natural environment</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Sediment Pond overflows when full of contaminated water</li> <li>- Storage contaminated as a result of spill on site</li> <li>- Storage water level not maintained with a buffer for rainfall events</li> </ul>		
<b>Impact</b>	Pollution of external natural environment (Brandy and Water Creek)		
<b>Likelihood</b>	Very low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Routine inspections of site</li> <li>- Storage level monitored remotely</li> <li>- Buffer maintained in pond to accommodate heavy rainfall events</li> <li>- Water is pumped out through the mine dewatering line as required to maintain freeboard</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Address spills on site</li> <li>- Prevent discharge to local environment where able</li> <li>- Transfer contaminated waters from storages</li> <li>- Treat contaminated waters in storages if practical</li> <li>- Install sediment controls at source and downstream of impact area</li> <li>- Remove sediment from impacted areas of the creek</li> <li>- Undertake aquatic health assessment (if required)</li> <li>- Undertake environmental monitoring (collection of water samples upstream and downstream of the impacted area)</li> <li>- Notify members of the public downstream of the incident</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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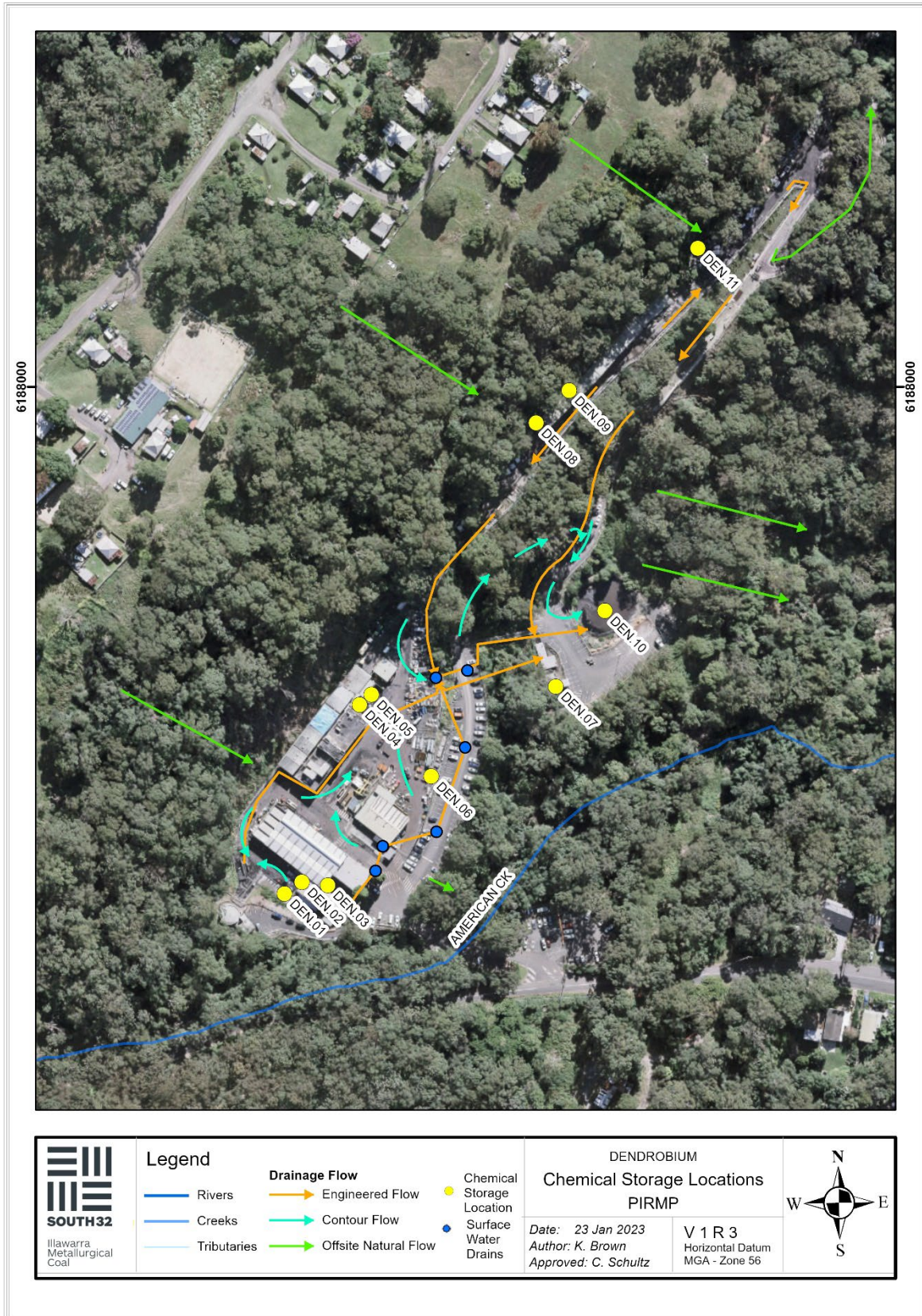
<b>Facility</b>	<b>Kemira Valley Coal Loading Facility</b>		
<b>Storage ID</b>	<b>KV.07 (Coal Stockpile)</b>		
<b>Hazard</b>	<b>Loss of coal fines and contaminated water to the external natural environment</b>		
<b>Cause</b>	<ul style="list-style-type: none"> <li>- Failure of retaining wall</li> <li>- Failure of drainage systems</li> <li>- Excessive water on stockpile area</li> <li>- Stockpiling of coal against retaining wall</li> </ul>		
<b>Impact</b>	Pollution of external natural environment (Brandy and Water Creek)		
<b>Likelihood</b>	Very low	<b>Materiality</b>	Medium
<b>Controls</b> (includes pre-emptive actions and safety devices)	<ul style="list-style-type: none"> <li>- Routine inspections of stockpile area</li> <li>- Berm installed along Brandy and Water Creek</li> <li>- Drainage systems in place</li> <li>- Retaining wall around stockpile area</li> <li>- Operational procedures for management of the stockpile area</li> </ul>		
<b>Actions to be taken</b> (if incident were to occur)	<ul style="list-style-type: none"> <li>- Prevent discharge to local environment where able</li> <li>- Transfer contaminated waters into sediment pond/buffer dam</li> <li>- Install sediment controls at source and downstream of impact area</li> <li>- Remove sediment from impacted areas</li> <li>- Undertake aquatic health assessment (if required)</li> <li>- Undertake environmental monitoring (collection of water samples upstream and downstream of the impacted area)</li> <li>- Notify members of the public downstream of the incident</li> <li>- Activate internal communication protocols</li> <li>- If there is actual or potential for material environmental harm, activate the PIRMP</li> </ul>		

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### Appendix 3: Plans

#### Plan 1: Dendrobium Pit Top – Storages Locality Plan



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**Plan 2: Kemira Valley Coal Loading Facility – Storages Locality Plan**



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