Pollution Incident Response Management Plan – EPL 2504 (APN)

Name	Position
Document Owner	Superintendent Environment and Community
Document Approver	Superintendent Environment and Community

People involved in the review of this plan

Name	Position	Company/Site	Exp (yrs)	Revision
Chris Schultz	Superintendent Environment	ICHPL	30	Nov 2025
James Alchin	Specialist Environment	ICHPL	7	Sep 2025
Joah Furney-Goodwin	Graduate Environment	ICHPL	1	Sep 2025
Antony Leone	Superintendent Environment and Community	ICHPL	16	June 2026
Zarah Anderson	Specialist Environment	ICHPL	3	June 2026

Version History

Version	Description of Changes	Date
IMC Document - IMCMP0229		
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
4.1	Update of plan following PIRMP exercise	October 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 to contact names and numbers and PIRMP test. Addition of two storages.	February 2021
Conversion to APN Document – APNMP0124		
1.0	General update of document and personnel.	November 2021
2.0	General update of document and personnel. Revision of section references from *POEO Regulation* update.	March 2023
2.1	General update. Removal of reference to temporary Water Treatment Plant.	November 2023
3.0	General update. Amend references from South32 to GM^3. Update to penalties. Update of personnel. Inclusion of Ventilation Shaft 7/8. Update of storages for Appin North.	December 2024
3.1	General update. Update to position titles.	November 2025
3.2	General update. Amended communication protocol to provide additional guidance for external agency notification requirements. Clarified PIRMP testing requirements.	June 2026

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1 Introduction

1.1 Facility Details

The facility details, as defined in Environment Protection Licence (EPL) 2504, are summarised in Table 1.

Table 1: Facility Details

Company:	Endeavour Coal Pty Ltd
EPL Number:	2504
Postal Address:	PO Box 514, Unanderra, NSW 2526
Scheduled Activities:	Coal Works Mining for Coal
Facility Name and Address:	Appin Colliery - West Douglas Park Drive Douglas Park NSW 2569 Appin Colliery - East Off Appin Road Appin NSW 2560 Appin Colliery – North, West Cliff Coal Preparation Plant and North Cliff Wedderburn Road Appin NSW 2560

1.2 Overview of Operations

The premises and facilities associated with EPL 2504 are wholly owned and operated by Endeavour Coal Pty Ltd, a subsidiary company of Illawarra Coal Holdings Pty Ltd (ICHPL), which is a wholly owned subsidiary of Gear M Illawarra Met Coal Pty Ltd (trading as GM^3).

The premises and facilities covered by EPL 2504 are for Appin Mine, which is comprised of Appin Colliery – West (Appin West), Appin Colliery - East (Appin East), Appin Colliery – North (Appin North), West Cliff Coal Preparation Plant (WCCPP) and North Cliff.

Underground mining activities have been carried out at Appin North (formerly West Cliff Mine) since 1976. Underground mining activities within the Appin Holdings commenced at Appin East in 1962 and at Appin West (formerly Tower Colliery) in 1978.

Run-of-Mine (RoM) coal from the Appin underground mining operations is transported from the Appin East Pit Top via truck, along Appin Road and Wedderburn Road to the WCCPP. Processed coal (clean coal product) from the WCCPP is transported by road to the Port Kembla Coal Terminal for shipping to domestic and international customers, or to BlueScope Steel or other local customers.

The coal wash generated as part of the washing process is emplaced at the purpose-built emplacement area located at Appin North.

No mining activities are undertaken at the North Cliff site. This site is located in the Dharawal National Park. Rehabilitation of this site is planned.

1.3 Plan Objectives

This Pollution Incident Response Management Plan (PIRMP) has been prepared in accordance with Part 5.7A Section 153A and 153C of the *Protection of the Environment Operations Act 1997 (POEO Act)* and Sections 71, 72 and 73 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
ANCOLD	Australian National Committee on Large Dams
BCD	Brennans Creek Dam
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ICHPL	Illawarra Coal Holdings Pty Ltd
LDP	Licence Discharge Point
PCB	Polychlorinated biphenyl
PIRMP	Pollution Incident Response Management Plan
POEO Act/Regulation	*Protection of the Environment Operations Act/Regulation*
PPE	Personal Protective Equipment
RoM	Run of Mine
SDS	Safety Data Sheet
WCCPP	West Cliff Coal Preparation Plant

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 – *POEO Act* Section 148 and 149	Section 4
Action to be taken following a pollution incident - *POEO Act* 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 – *POEO Act* 153C(c)	Section 4 and Section 7
Description of hazards to human health or environment associated with the relevant activity – *POEO Act* Section 153C(d) and *POEO Regulation* 72(a)	Appendix 2
Likelihood of hazards occurring – *POEO Act* Section 153C(d) and POEO Regulation 72(b)	Appendix 2
Pre-emptive actions to minimise or prevent risk of harm to human health or environment – *POEO Act* Section 153C(d) and *POEO Regulation* 72(c)	Section 8
Inventory of potential pollutants – *POEO Act* Section 153C(d) and *POEO Regulation* 72(d)	Section 5, Appendix 1
Maximum quantity of pollutant to which the licence relates – *POEO Act* Section 153C(d) and *POEO Regulation* 72(e)	Appendix 1
Safety equipment to minimise the risks to human health or environment – *POEO Act* Section 153C(d) and *POEO Regulation* 72(f)	Section 10
Names, positions and contact details – *POEO Act* Section 153C(d) and *POEO Regulation* 72(g)	Section 4.5.1 – Table 4
Contact details of each relevant authority- *POEO Act* Section 148 and *POEO Regulation* 72(h)	Section 4.5.2 – Table 5
Early warning mechanism for people off site – *POEO Act* Section 153C(a), (d) and *POEO Regulation* 72(i)	Section 4.5.3
Arrangements for minimising risk of harm to persons on the premises – *POEO Act* Section 153C(d) and *POEO Regulation* 72(j)	Section 9
Detailed maps – *POEO Regulation* 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 - *POEO Regulation* 72(l)	Section 7, Section 8, Section 9
Training - *POEO Act* Section 153C(d) and *POEO Regulation* 72(m)	Section 11
Testing of plan – *POEO Act* Section 153C(d) and Section 153E and *POEO Regulation* 72(n) and 75	Section 12.2
Updating of plan - *POEO Regulation* 72(o)	Section 12.3
Manner in which plan is tested and maintained – *POEO Act* Section 153C(d) and *POEO Regulation* 72(p)	Section 12.2

Availability of plan – *POEO Act* Section 153D and *POEO Regulation* 74	Section 12.1

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 cause or have 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
Site General Manager	• Undertake or delegate Superintendent Environment and Community responsibilities in their absence.
Superintendent Environment and Community (or delegate)	• Assess materiality of incident and activate relevant response system. • Assess potential for off-site impacts. • Notify internal stakeholders as appropriate. • Notify relevant agencies (written and verbal notifications as required). • Coordinate media response/s and community notifications (Note: Only the Chief Executive Officer or nominated delegate is authorised to speak to the media).
Site Personnel (including Specialist Environment)	• Report actual or potential incidents and hazards immediately. • Assist in site response and clean-up activities.
ICHPL Incident Controller[1]	• Coordinate incident response activities. • Communicate with emergency services personnel to identify actions to be taken as appropriate.
Site based Incident Management Teams	• Coordinate incident response activities (as appropriate).
Specialist Communities	• Coordinate communication with impacted community members.
Control Room Officer	• Coordination of initial emergency response and internal notifications.

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* definition of a **'pollution incident**' is:

*'**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 $50,000 (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:

(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 and Community. If the Superintendent is not available immediately, then determination can be made by site General Manager in consultation with the site Specialist Environment.

If the Control Room Officer cannot contact the Superintendent Environment and Community, 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.

4.4 Incident Response Process

The incident response protocols are shown in Figure 1. This includes the communication protocol and 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).

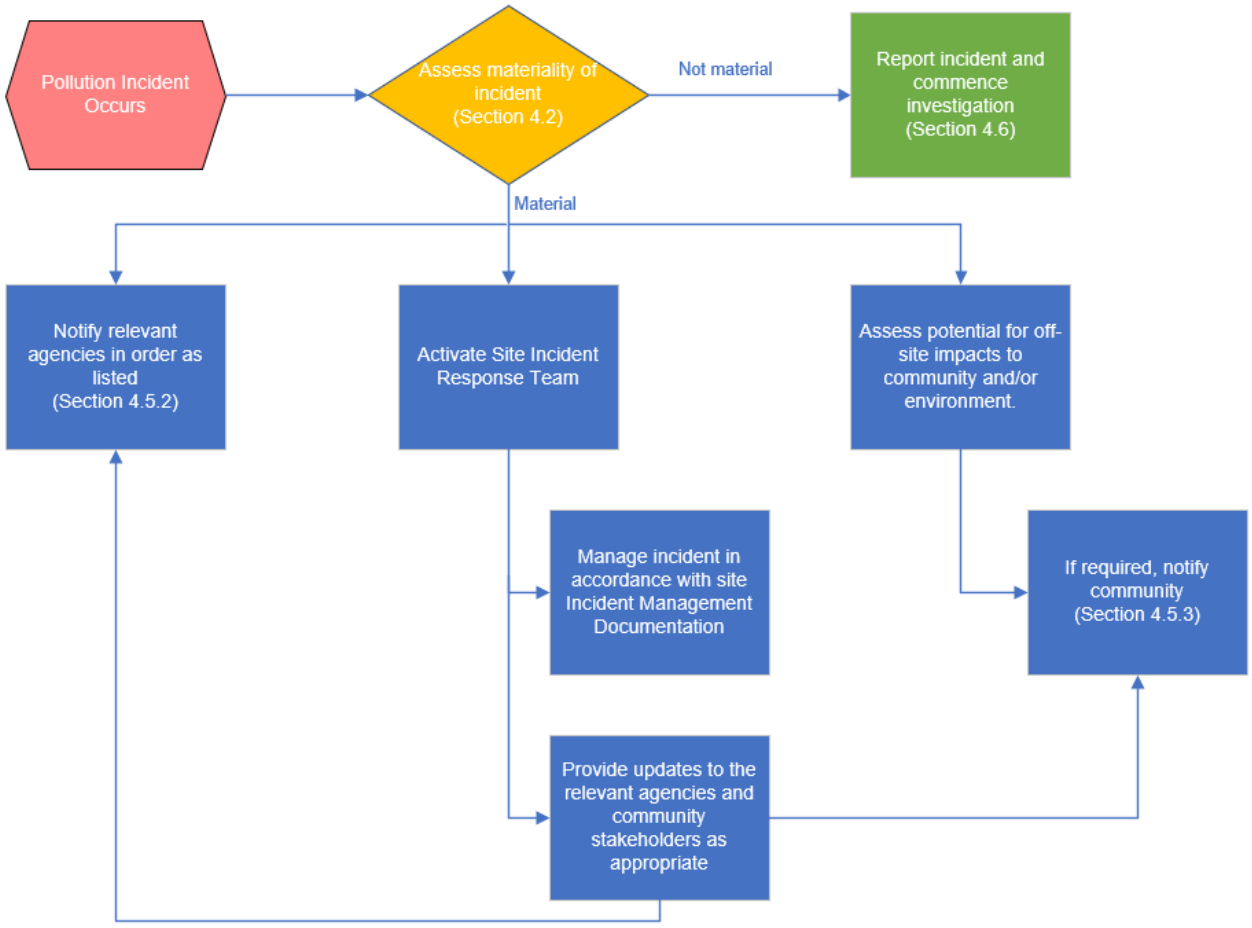


Figure 1: Incident Response Process Flow

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

Table 4: Key Contacts Table

ICHPL	
Superintendent Environment and Community – Antony Leone	1800 102 210 (GM³ Community Call Line)
Specialist Environment (Appin North) – Zarah Anderson	
Specialist Environment (Appin East and West) – James Alchin	
General Manager – Andy Hyslop	

4.5.2 Government Agencies

Pollution incidents will be notified to each relevant authority as defined in section 148(8) of the POEO Act, whereby 'Relevant authority' means:

(a) the appropriate regulatory authority,

(b) if the EPA is not the appropriate regulatory authority—the EPA,

(c) if the EPA is the appropriate regulatory authority—the local authority for the area in which the pollution incident occurs,

(e)[2] SafeWork NSW (as referred to in the Work Health and Safety Act 2011)[3]

WHS Act 2011 (NSW), Schedule 2, Clause 1(b):
"The regulator is, in relation to a mine site, [defined], under the Work Health and Safety (Mines and Petroleum Sites) Act 2013."
WHS (Mines and Petroleum Sites) Act 2013 (NSW), section 5(3):
"The regulator is to be known as the NSW Resources Regulator."

(f) Fire and Rescue NSW

The relevant authorities (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

External Agencies to Be Notified (Mandatory POEO Act notification)	Contact Details
Environment Protection Authority (EPA) To EPA will be notified immediately for any pollution incident, or where notification is otherwise required by EPL 2504. Following initial notification, written details of the incident must be provided within 7 days[4].	**131 555** *Select Option 1* *Record the EPA Notification number for reference in related correspondence.*
Department of Planning, Housing and Infrastructure (DPHI) - Compliance The Department will be notified via the NSW planning portal (Major Projects) within 24 hours[5]. A subsequent incident report must be submitted within 7 days of the incident notification.	**1300 305 695** Wollongong Office Email: compliance@planning.nsw.gov.au Major Projects Portal www.planningportal.nsw.gov.au/major-projects
NSW Resources Regulator The Regulator will be notified where the pollution incident occurs on a mine site, arises from mining activities, creates a risk to workers or mine infrastructure, or is otherwise a reportable event under WHS legislations. As described in Section 4.5.2, the NSW Resources Regulator is the appropriate contact for SafeWork NSW in these circumstances.	**1300 814 609** *Select Option 1* *Office Hours 9 am - 5 pm. Urgent calls outside this time will be directed to after-hours service* Email: nswresourcesregulator@service-now.com

[2] Section 148(8)(d), formerly referring to the Ministry of Health, was repealed in September 2025.

[3] Accordingly, the relevant authority is the NSW Resources Regulator.

[4] As per EPL 2504 (Section R2.2)

[5] As set out in BSO Consolidated Consent (PA08_0150) Condition 7 of Schedule 6; See also *Appendix 7 Incident Notification and Reporting Requirements*

Wollondilly Shire Council (WSC) The WSC is the relevant local authority to be notified if the incident occurs within, or potentially impacts, the Wollondilly LGA, including Council land, roads, drainage, waterways or infrastructure; or there is potential impact to local residents.	**(02) 4677 1100** *Request Environmental Health Officer*
Fire and Rescue NSW To be contacted first if the incident presents an immediate threat to human health or property and emergency services are required. Fire and Rescue NSW must still be notified as a relevant authority under the POEO Act notification process.	**000** *(Emergency)* **1300 729 579** *(Pollution Incident)*
External Agencies Notified (As relevant)	**Contact Details**
Public Health **(South Western Sydney Local Health District)** To be notified where the incident has caused, or has the potential to cause, public health impacts.	**(02) 9794 0855** *Request Environmental Health Officer* Email: SWSLHD-esu @health.nsw.gov.au
SafeWork NSW As described above, SafeWork NSW do not regulate mines. They will be notified if the pollution incident occurs offsite, or as deemed relevant.	**13 10 50** *Select Option 1 then Option 2*
NSW State Emergency Service To be notified where the incident requires assistance with emergency management including severe weather response, evacuation support, or road impacts.	**132 500**
WaterNSW To be notified where a pollution incident occurs on WaterNSW owned or managed land, or where access consent conditions may apply. If applicable, the listed Principal Contact must be notified as soon as practicable.	**1300 662 077** *(General contact; Select 6, then select 2)* **1800 061 069** *(24-hour emergency)* Email: customer.helpdesk @waternsw.com.au)
Dams Safety NSW To be notified in the event of a Brennans Creek Dam incident.	**0403 681 645**

Relevant 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); and
- action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

ICHPL will, through the ICHPL 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/SMS by company representative;
- email from a company representative;
- letterbox drops;
- BCD Emergency Notification Alert System (for residents potentially impacted by dam failure); or
- other method as determined by the Superintendent Environment and Community.

The appropriate method for communication will be determined by the Superintendent Environment and Community 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 GM360. Reporting is to be undertaken in accordance with the Reporting and Investigation Standard (IMCSTD0069), Event Report and 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 Appin 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

Emergency Response Control Plans (APNMP0005 and WCPMP0009) are in place which describe 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 Plans define the roles and responsibilities of key site personnel and provide 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 Appin Mine, either by telephone, radio, or other means.

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

The BCD Safety Emergency Plan (WCPMP0004) is in place. The BCD Safety Emergency Plan has been developed in accordance with the *Dams Safety Act* requirements and provides details of the emergency response procedures (including internal and external communication protocols) that are to be used in the event of a dam failure. The BCD Safety Emergency Plan has been prepared through consultation with the NSW State Emergency Service.

8 Pre-emptive action 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 5s (previously Take 2s), Task Analyses, and Qualitative Risk Assessments);
e) regular monitoring of noise, dust and water impacts is undertaken in accordance with the management plans required under the Project Approval 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
n) Independent Environmental Audits are undertaken on a triennial basis to assess compliance against the conditions in the EPL and Project Approval.

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 are 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 the lamp rooms at each pit top);
d) SDSs (available electronically through Chemalert); and
e) eye wash stations and safety showers.

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 annual testing of the PIRMP.

Site personnel are made aware of the PIRMP during the ICHPL site induction process. Completion of this induction package is a pre-requisite for working on any ICHPL 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 GM³ website (link); 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. The PIRMP will also be tested within one (1) month of any pollution incident occurring that caused or threatened material harm to the environment.

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. Activation of the PIRMP in response to a pollution incident is not, of itself, considered a test, however, testing may take the form of a post-incident debrief to assess whether the PIRMP was implemented efficiently, or whether any updates are required.

Table 6: Record of PIRMP tests

Date of testing of plan	Person testing plan	Persons involved in the testing of the plan
25/08/2015	David Gregory	West Cliff Coal Prep Plant Crews
5/12/2016	Peter McMillan	Illawarra Coal Environmental Team
4/4/2017	Joanne Page	Peter McMillan
18/10/2018	Peter McMillan	Ben Davis (Specialist Environment), Lisa Williamson (Manager Surface and Infrastructure), Appin East Fitters (note that this was as part of the Ferric Chloride incident at Appin East)
3/07/2019	Chris Schultz	Simon Pigozzo, Aaron Buzinski, Meli Pitt, Andrew Bull, Ryan Carr
9/08/2019	Chris Schultz	Simon Pigozzo, Robert McAlpine (Fitter) Brad Dewhurst (Control).
10/07/2020	Simon Pigozzo	Timothy Cottrell (CAC Truck Operator), Cory Wilson (Supervisor Water Plant)
26/10/2021	Simon Pigozzo	Harley Nortje (Ixom Plant Operator), Mugunthan Kandasamy (Process Engineer – Governance); Pollyanna Barlow and Jackson Allenby (Specialist Environment)
2/11/2022	Hubert Mhangami	John Kicielinski (Surface Maintenance Supervisor), Glen Cooper (Mechanical Fitter), John Bowlay (Forklift Operator)
5/07/2023	Hubert Mhangami	Lachlan Cunningham (Construction Manager), Chris McEvoy (Environment Manager), Kyle Brown (Environment Officer); Kelie Pittaway, Nigel Bennett, Mathew Middlebrook, Walter Attard (RUC)
27/06/2024	Polly Barlow	Pollyanna Barlow (Specialist Environment), Keith Easther (Water Treatment Supervisor); Michael Paterson, Grant Brown (Operator Water Treatment Plant)
14/08/2025	Joah Furney-Goodwin	James Alchin (Specialist Environment), Ben Hart (Yard Operator), Ryan Carr (Control Officer), Antony Leone (Appin Superintendent Environment and Community).
11/05/2026	Zarah Anderson	James Alchin (Specialist Environment), Keith Easther (Appin Water Treatment Supervisor), Antony Leone (Appin Superintendent Environment and Community), Ryan Carr (Officer Control Room).

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.

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 - $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.

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 - $4,000,000, and for continuing offences, a further penalty of $480,000 per day the offence continues; and
- for individuals - $1,000,000, and for continuing offences, a further penalty of $240,000 per day the offence continues.

14 References and Associated Documents

Bulli Seam Operations Project Approval 08_0150 (as modified)

Emergency Response Control Plan – Appin Mine - APNMP0005

Emergency Response Control Plan – West Cliff Coal Preparation Plant - WCPMP0009

Brennans Creek Dam Safety Emergency Plan (WCPMP0004)

Spill Management Procedure – IMCP0183

Spill TARP – IMCTARP0006

Environmental Compliance/Conformance Assessment and Reporting Procedure – IMCP0186

Reporting and Investigation Standard - IMCSTD0069

Event Reporting and Basic Investigation Procedure - IMCP0098

Substance Management Procedure – IMCP0054

Protection of the Environment Operations (POEO) Act 1997

Protection of the Environment Operations (General) Regulation 2022

Preparing for and Responding to a Bush Fire (APNP0044)

Appin Mine Bushfire Management Plan (APNMP0108)

15 Appendices

Appendix 1: Pollutant Inventories

Table 7: Pollutant Inventory – Appin West

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
AW.01	Bulk Diesel Storage Tank	Diesel	42,200 litres	Y
AW.02	Biocides Storage Area (within the methane extraction plant enclosure)	Nalco 7330 3D Trasar 3DT222	15.52 kg 2.45 kg	N
AW.03	Oil Storage Area (transient)	Engine Oil Transmission Oil Gear Oil Lubricants Degreaser Scrubber Disinfectant	Combined maximum: 48,000 litres	N
AW.04	Liquid Waste Storage Area	Scrubber Various waste oil/liquid	8,000 litres	N
AW.05	Chlorine Dioxide Storage Area	Hydrochloric Acid 9% Sodium Hypochlorite 7%	3,000 litres 3,000 litres	Y
AW.06	Water Filtration Plant	Aluminium Chlorohydrate 100%	1,500 litres 1,500 litres 2,000 litres	Y

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
		Aluminium Chlorohydrate 50% Antiscalant Memguard AS102 Antiscalant PC191T.61 Biocide RO1032 Brine Chlorine Dioxide Citric Acid Hydrochloric Acid 9% Hydrochloric Acid 33% IWTSC32 Lagoon Sludge Memguard 44 Memguard 61 OxalicAcid Reflux R405 Sodium Bisulfite 35% Sodium Chlorite 7.5% Sodium Hydroxide 35% Sodium Hypochlorite 12.5% Sulfamic Acid, Dihydrate WAC Waste Worth CMC	1,500 litres Nominal volume 430 kL 2,100 litres 3,000 litres 25,000 litres Nominal volume 15 kL Nominal volume Nominal volume Nominal volume Nominal volume 500 litres 3,000 litres 9,000 litres 6,000 litres Nominal volume 76 kL Nominal volume	

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
AW.07	Brine Storage Tank	Brine Waste (from Water Filtration Plant)	300,000 litres	Y
AW.08	Sewage Treatment Package Plant (STP)	Untreated effluent	5,000 litres	N
AW.09	Explosive Storage Area	Type 1 Explosives & Detonators	2 tonne	-
AW.10	Mine Water Dams	Mine waste water (elevated Conductivity)	5 ML	N
AW.11	Storm water / site catchment dams	Potentially contaminated water	5 ML	Y
AW.12.1	STP treated effluent stabilisation lagoon	Untreated effluent	1.2 ML	Y
AW.12.2	STP treated effluent stabilisation lagoon	Treated effluent	1.2 ML	N
AW.13	Pump Seal water overflow Tanks (Gas Plant)	Potentially contaminated water	Combined 60,000 litres: (3 x 20kL)	Y
AW.14	Bulk Solcenic Storage Tank	Solcenic 2020	28,000 litres	Y
TNFA702	Appin West Main Switchyard	Mineral Oil	8560 litres	Y
TNFA703	Appin West Main Switchyard	Mineral Oil	8560 litres	Y
TNFA404	BCW Switchroom	Mineral Oil	818 litres	N – PCB level below detection limit
TNFA410	Compressor Building	Mineral Oil	818 litres	Y
TNFA409	Workshop	Mineral Oil	1010 litres	Y

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
TNFA408	Bathhouse	Mineral Oil	1003 litres	Y
TNFA423	Men and Material Winder	Mineral Oil	755 litres	N – PCB level below detection limit
TNFA411	Gas Plant	Mineral Oil	1409 litres	N – PCB level below detection limit
TNFA412	Gas Plant	Mineral Oil	1110 litres	N – PCB level below detection limit
TNFA403	Water Treatment Plant	Mineral Oil	1415 litres	N – PCB level below detection limit
TFNA715	Douglas North Switchyard	Mineral Oil	9830 litres	N – PCB level below detection limit
TFNA716	Douglas North Switchyard	Mineral Oil	13429 litres	N – PCB level below detection limit
TFNA717	Douglas North Switchyard	Mineral Oil	1396 litres	N – PCB level below detection limit

Table 8: Pollutant Inventory – Appin East

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
AE.01	Sodium Hypochlorite Storage Shed	Sodium Hypochlorite Solution	2,000 litres	N
AE.02	Bulk Sodium Hypochlorite Storage Bulk Ferric Chloride Storage	Sodium Hypochlorite Solution Ferric Chloride	2,000 litres 2,000 litres	N
AE.03	Waste Oil Storage Area	Various Waste Oils (transient)	2,000 litres	N
AE.04	Bulk Diesel Storage Tank	Diesel	36,600 litres	Y
AE.06	Oil Storage Area (transient)	Engine Oil Transmission Oil Gear Oil Lubricants	40,000 litres	N
AE.07	Hydraulic Testing Storage Tank	Solcenic 2020 4% V/V Emulsion	2,000 litres	N
AE.08	Ferric Chloride Treatment Plant	Ferric Chloride Solution	2,000 litres	Y
AE.10	Explosives Storage Area	Type 1 Explosives & detonators	1 tonne	N
AE.11	Storm water / site catchment dam	Potentially contaminated water	20 ML	Y
TX1	Car Park Switchyard	Mineral Oil	10200 litres	N – PCB level below detection limit

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
TNFA043	Workshop	Mineral Oil	460 litres	N – PCB level below detection limit
TNFA042	Workshop	Mineral Oil	1081 litres	N – PCB level below detection limit
TNFA038	Workshop	Mineral Oil	1000 litres	N – PCB level below detection limit
TNFA40	Winder Switchroom	Mineral Oil	1000 litres	N – PCB level below detection limit
TNFA035	Vent Shaft No.2 Switchyard	Mineral Oil	7085 litres	N – PCB level below detection limit
TNFA036	Vent Shaft No.2 Switchyard	Mineral Oil	7085 litres	N – PCB level below detection limit
TNFA037	Vent Shaft No.2 Switchyard	Mineral Oil	10000 litres	N – PCB level below detection limit
TXFZN TNF211	Vent Shaft No.2 Switchyard	Mineral Oil	2770 litres	N – PCB level below detection limit
TNFA010	Vent Shaft No.2	Mineral Oil	1110 litres	N – PCB level below detection limit
TNFA011	Vent Shaft No.2	Mineral Oil	1110 litres	N – PCB level below detection limit

Table 9: Pollutant Inventory – Appin North and West Cliff Coal Preparation Plant

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
WC.01	Reagent Storage Area (CPP)	2-Ethylhexanol	60,000 litres	N
WC.02	Water Separator (Gas Drainage Plant)	Biocide	200 litres	N
WC.03	Magnetite Storage Area (CPP)	Magnetite	100 tonnes	N
WC.04	Bulk Diesel Storage Tank (Road)	Diesel	95,000 litres	Y
WC.05	Water Treatment System – Concrete Settling Tanks (CPP)	Magnasol 572	45,000 litres	N
WC.06	Water Treatment System – Pond P4A	Magnasol 572	64,000 litres	N
WC.07	Water Treatment System – Pond EP2	Magnasol 572	14,000 litres	N
WC.08	Water Treatment System – Pond 7	Magnasol 572	2,000 litres	N
WC.10	Bulk Diesel tank – No.2 shaft	Diesel	33,000 litres 5,000 litres	N
WC.11	Bulk Diesel Storage Tank (Pit Top)	Diesel	30,000 litres	N
WC.12	Bulk Solcenic Storage Tank (Pit Top)	Solcenic 2020	30,000 litres	Y
WC.13	Oil Storage Area (transient)	Lubricating Oils Engine Oils Dust Suppressant	15,000 litres 20,000 litres 3 IBCs	N

WC.15	Brennans Creek Dam	Mine water/storm water blend (other contaminants)	320 ML	Y
WC.16	West Cliff CPP	Magnafloc 333 (powder and solution) (anionic)	5 tonne powder 40,000 litres and 10,000 litres of solution	Y
WC.17	West Cliff CPP	Magnafloc 1510	12,000 litres	Y
WC.18	West Cliff CPP	Hicat Fa2 (dewatering aid)	8,000 litres	N
WC.19	West Cliff CPP	Magnafloc 336 (Storage hopper/powder)	7,000 kg	N
WC.20	West Cliff CPP	Oil store (lubricating oils)	30 x 20 litres	N
WC.21	West Cliff CPP	2-Ethylhexanol	2 x 11,000 litres	N
WC.23	West Cliff CPP	Magnetite solution	110 tonnes throughout CPP	N
WC.24	Chlorine Dioxide Plant (Brennans Creek Dam)	Hydrochloric Acid 9% Sodium Hypochlorite 7.5%	5,000 litres 5,000 litres	Y
WC.25	West Cliff CPP admin office	Raw sewage effluent	2 x 5000 litre holding tanks	N
WC.26	Sewage Treatment Plant	Raw sewage effluent	65,000 litre holding tank 65,000 litre treatment plant	N
WC.27	Waste sorting pad oil collection tank	Lubricating Oils Engine Oils	1,000 litres	N
WC.29	Water Treatment Plant	Hypersperse MDC776 Hypersperse MSI410 Biomate MBC2881 Biomate MBC781 Citric Acid 50% Ferric Chloride 42% Hydrochloric Acid 33%	1,300 litres 1,300 litres 400 litres 400 litres 1,300 litres 1,300 litres 17,000 litres	Y

		Kleen MCT103 Kleen MCT515 MetClear MR2447 Potassium Permanganate 6% Sodium Bisulfite 32% Sodium Hydroxide 35% Sodium Hypochlorite 12.5% MF CIP tank RO CIP tank Backwash tank Brine storage tank RO concentrate tank UF backwash sump Chemical waste storage tank Flocc tank HCL 33% scrubber HCL 33% overflow lute	24 x 20L Pails 24 x 20L Pails 1,300 litres 1,300 litres 1,300 litres 1,300 litres 32 x 20L Pails 2,000 litres 10,000 litres 290,000 litres 493,000 litres 20,000 litres 9,000 litres 40,000 litres 30,000 litres 250 litres 250 litres	
WC.30	Bulk Diesel Storage Tank (South Coast Equipment)	Diesel	10,000 litres	N
WC.31	Bulk Adblue Storage Tank	AdBlue	11,500 litres	N
TX1	Main Appin North Switchyard	Mineral Oil	11,570 litres	Y
TX2	Main Appin North Switchyard	Mineral Oil	11,570 litres	Y
TNFW310	No.2 Shaft	Mineral Oil	2,030 litres	N – PCB level below detection limit
Station Aux Tx	Station	Mineral Oil	1,640 litres	N – PCB level below detection limit

TX308	Gas Plant	Mineral Oil	2,180 litres	N – PCB level below detection limit
TX307	Gas Plant Control Building	Mineral Oil	2,160 litres	Y
TNFW311	Appin North Drift	Mineral Oil	2,030 litres	Y
TX3	Brennans Creek Dam Switchyard	Mineral Oil	10,500 litres	N – PCB level below detection limit
TX4	Brennans Creek Dam Switchyard	Mineral Oil	10,500 litres	N – PCB level below detection limit
Aux TX	Brennans Creek Dam Switchyard	Mineral Oil	1,396 litres	N – PCB level below detection limit
TNFW312	Brennans Creek Dam Pumping Station	Mineral Oil	585 litres	N – PCB level below detection limit

Table 10: Pollutant Inventory – AMVA Project

Storage ID	Storage Description	Pollutant	Maximum Quantity	Potential for association with a Material Harm Event (Yes = see hazard assessment Appendix 2)
AMVA.01	Bulk Diesel Storage	Diesel	31,000 litres	Y
AMVA.02	Diesel Storage	Diesel	4,000 litres	Y
AMVA.03	Sediment Basin	Potentially contaminated water	24,500,000 litres	Y
AMVA.04	Workshops transient oil storage	Engine oil Hydraulic oil Lubricating oil Gear oil	15,000 litres	Y
AMVA.5	Transient Oil Storage	Engine oil Hydraulic oil Lubricating oil Gear oil	10,000 litres	N
AMVA.06	Emulsion storage	Ammonium Nitrate Emulsion (ANE)	5,000 kg	N
AMVA.07	Diesel storage	Diesel	1,045 litres	Y
TX.01	Vent Shaft 7/8 Switchyard	EnviroTemp FR3 Fluid	16,000 litres	N – PCB level below detection limit
TX.02	Vent Shaft 7/8 Switchyard	EnviroTemp FR3 Fluid	16,000 litres	N – PCB level below detection limit
TX.201	Vent Shaft 7/8 Switchyard	EnviroTemp FR3 Fluid	1,000 litres	N – PCB level below detection limit
TX.202	Vent Shaft 7/8 Switchyard	EnviroTemp FR3 Fluid	1,000 litres	N – PCB level below detection limit

Appendix 2: Hazard Assessment Summary Tables

Appin Mine (General)

Facility	Appin Mine		
Storage ID	**N/A**		
Hazard	**Bushfire**		
Cause	• Drought conditions • High fuel load in surrounding bushland • Arson • Lightning strike • Train exhaust[6]		
Impact	• Damage to site storages and potential release of contents causing land and/or water pollution • Potential for explosion (dependent on storages impacted) • Potential for coal stockpile fire resulting in the release of air pollutants including fine particulates, heavy metals and various oxides. •		
Likelihood	Low	**Materiality**	High
Controls (includes pre-emptive actions and safety devices)	• Maintenance of asset protection zones as required • Hazard reduction activities are undertaken as required • Involvement with Bushfire Management Committees (Wollongong and Wollondilly) • Maintain relationship with Rural Fire Service • ICHPL Emergency Response Team in place • Preparing for and Responding to a Bush Fire Procedure (APNP0044) in place • Water sources available for fire fighting • Bushfire Management Plan (APNMP0108) in place		

[6] Cause of grass fire in vicinity of AMVA Project site in November 2023.

Facility	Appin Mine		
Storage ID	**N/A**		
Hazard	**Flooding**		
Cause	Intense rainfall events		
Impact	• Overflow of site storages and potential release of contents causing land and/or water pollution • Inability to safely access site • Slope instability • Scour erosion and sediment movement • Damage to site infrastructure		
Likelihood	Low	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Keep bunds empty and take appropriate measures where practical to prevent them being filled with stormwater ICHPL Emergency Response Team in place • Weather forecasts • Underground water storages • Maintain sediment ponds clear of build-up • Continually treat and remove stormwater from retention basins according to licence conditions to maintain capacity • Actively reuse treated stormwater from retention basins on site as required • Keep chemicals stored above areas that are prone to inundation • Secure all loose items to prevent them coming into contact with floodwater		
Actions to be taken **(if incident were to occur)**	• Instigate Incident Management Team • Actions to be taken will be dependent on the impact of flooding on site infrastructure.		

Facility	Appin Mine		
Storage ID	**N/A**		
Hazard	**Epidemic/Pandemic**		
Cause	Spread of virus through contact or exposure to infected persons		
Impact	• Reduced access to site for maintenance and compliance activities • Usual personnel may not be able to conduct compliance activities • Business as usual activities may not be able to be undertaken • Spread of virus to surrounding Appin communities		
Likelihood	Rare	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Preventative maintenance of bunds and other control equipment • ICHPL Emergency Response Team in place • Split rosters • Identification of back up personnel • Improvements in personal hygiene practices enforced • Restrictions on access to site (and between sites) by personnel (to prevent spread) • Prioritisation of activities to maintain compliance • Procedures in place for compliance activities • Planned shutdown of site if required (safe, stable and non-polluting) • Notification of risk to local sensitive receptors as required *Note: These controls are only implemented when required/if an event occurs. During normal operations these controls are not implemented.*		
Actions to be taken **(if incident were to occur)**	• Instigate Incident Management Team • Actions to be taken will be dependent on the limitations for site access to maintain equipment and conduct inspections and monitoring.		

Facility	Appin Mine		
Storage ID	**N/A**		
Hazard	**Climate Change**		
Cause	• Generation of greenhouse gases from burning fossil fuels • Deforestation • Changes in the earth's reflectivity/absorption		
Impact	• Increased risk of pollution incidents • Changes to vegetation communities • Changes in weather patterns (more frequent and intense drought and storms) • Increased risk of bushfire and flooding • Increased temperatures requiring increased cooling • Lack of water security • Overflow/flooding/damage to bunds/tanks/containers and spillage of contaminants • Reduced flow in watercourses		
Likelihood	Possible	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Preventative maintenance of bunds and other control equipment • ICHPL Emergency Response Team in place • Prioritisation of activities to maintain compliance • Maintenance of asset protection zones as required • Hazard reduction activities are undertaken as required • Water sources available for fire fighting • Secure water supplies for ongoing operations • Implementation of reasonable and feasible water efficiency measures • Maintain environmental flows to Georges River • Progressive rehabilitation of disturbed areas		
Actions to be taken **(if incident were to occur)**	• Instigate Incident Management Team • Actions to be taken will be dependent on the impact of climate change on site operations and infrastructure		

Appin West

Facility	Appin West Colliery		
Storage ID	**AW.01 – Bulk Diesel Storage Tank**		
Hazard	**Bulk diesel spill resulting in release to local site drainage system**		
Cause	• Bulk diesel tank integrity failure • Diesel tank bund breached when containing spilled diesel • Damage to bulk diesel tank by surface mobile equipment • Site speed limits not complied with • Diesel bowser pump left running unattended • Loss of diesel from road tanker during refuelling		
Impact	• Contamination of site water management system and storm water / site catchment dam • Soil contamination		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Concrete bund in place • Area around tank sealed preventing land contamination • Spill response/clean-up equipment available • Bowser operating procedures available • Ability to isolate the mine storm water / site catchment dams • Discharges from site are undertaken under controlled conditions • Routine inspection of storages		
Actions to be taken **(if incident were to occur)**	• Isolate and contain diesel spill • Mobilise hydrocarbon spill clean-up equipment • Activate internal communication and notification protocols • Arrange for tanker to recover spilled diesel and contaminated water and dispose of to a licensed waste facility • Treat polluted water in place if practical to do so • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.05 – Chlorine Dioxide Storage Area**		
Hazard	**Uncontrolled mixing of Sodium Hypochlorite and Hydrochloric Acid resulting in release of chlorine dioxide gas to the local atmosphere**		
Cause	• Mobile equipment impact rupturing both the Sodium Hypochlorite 7% and Hydrochloric Acid 9% containment vessels • Other intrusive breach of both chemical containment vessels		
Impact	• Uncontrolled release of Chlorine Dioxide gas • Chlorine dioxide gas drift towards persons • Potential personnel exposure and/or community exposure (dependent on weather conditions)		
Likelihood	Unlikely	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Storage tanks located in separate concrete bunds • Spill response/clean-up equipment • Impact protection (Armco railing) for bunded area • Partition wall between tank storages • Routine inspection of storages		
Actions to be taken (if incident were to occur)	• Assess weather conditions to determine zone of influence • Activate internal communication and notification protocols • Activate Appin Mine Incident Management Team (which may include activation of evacuation process for site personnel) • If impact possible to surrounding community (as determined by weather conditions and volume released), activate community notification protocol. • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.06 – Water Filtration Plant**		
Hazard	**Bulk spill of acid resulting in release to local site drainage system** **Mixing of chemicals resulting in chemical reaction**		
Cause	• Tank integrity failure • Bund breached		
Impact	• Contamination of site water management system and storm water/ site catchment dam • Soil contamination • Chemical reaction		
Likelihood	Very Low	**Materiality**	Medium
Controls (includes pre-emptive actions and safety devices)	• Concrete bund in place • Area around tanks sealed preventing land contamination • Spill response/clean-up equipment • Ability to isolate the mine storm water/site catchment dams • Discharges from site are undertaken under controlled conditions • Routine inspection of storages		
Actions to be taken (if incident were to occur)	• Isolate and contain spill • Activate internal communication and notification protocols • Arrange for tanker to recover spilled material and contaminated water and dispose of to a licensed waste facility • Treat polluted water in place if practical to do so • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.07 – Brine Storage Tank**		
Hazard	**Bulk brine spill resulting in release to land or local site drainage system**		
Cause	• Brine tank integrity failure • Impact to tank by surface mobile equipment • Loss of brine during transfer from brine tank to road tanker		
Impact	• Contamination of adjacent mine water dams and/or lower level site storm water / catchment dams and raising of conductivity levels of mine water storages • Soil contamination		
Likelihood	Low	**Materiality**	Low
Controls **(includes pre-emptive actions and safety devices)**	• Brine tank concrete bund in place – designed to overflow into the mine water dams • Bunded area around tank sealed preventing land contamination • Low speed limits for mobile equipment • Spill response/cleanup equipment • Ability to isolate the mine dams and storm water / site catchment dams • Routine inspection of storages		
Actions to be taken **(if incident were to occur)**	• Contain spill to site by isolating the mine dams and storm water/ site catchment dams • Arrange for tanker to recover spilled brine and dispose of via Dendrobium LDP 5 or treat on site if appropriate • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.11 – Storm water / Site Catchment Dams**		
Hazard	**Pollution of storm water / site catchment dams and release to local environment**		
Cause	• Bulk diesel spill • Hazardous substance spill • Major brine spill • Mine water dam failure		
Impact	Pollution of local receiving environment (Sandy Creek, Allens Creek, adjacent land)		
Likelihood	Very low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• All hazardous substance storages are bunded and contained within the site catchment • All areas with potential for contamination report to the storm water/ site catchment dams • Water from the storm water/site catchment dams is only released under controlled conditions • Site storm water/catchment dams have input and output isolation valves • Regular site inspections of storages • Spill response/clean-up equipment available • Spill response procedures in place • Key personnel trained in spill response		
Actions to be taken **(if incident were to occur)**	• Isolate and contain polluted waters within the site storm water/ catchment dams • Arrange for recovery and disposal of polluted waters at licensed premises off site • Treat polluted waters in place and only release when water quality limits are met • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.12 – STP Effluent Stabilisation Lagoon**		
Hazard	**Overflow of effluent dams and release to local environment**		
Cause	• Intense and/or prolonged rainfall event • Dam wall failure • Operational equipment failure (irrigation pump or programmable logic control)		
Impact	Pollution of local receiving environment (Sandy Creek, Allens Creek, adjacent land)		
Likelihood	Low	**Materiality**	Low
Controls **(includes pre-emptive actions and safety devices)**	• Clean water is directed away from effluent dams • Programmable logic control in place, including water level monitoring • Dam levels are monitored • Ongoing irrigation or water from ponds to irrigation area to maintain water level (LDP 38) • Regular site inspections of storages • Spill response procedures in place • LDP 39 in place for emergency discharge		
Actions to be taken **(if incident were to occur)**	• Isolate and contain polluted waters within the site storm water / catchment dams if possible • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.13 – Pump Seal Water Overflow Tanks (Gas Plant)**		
Hazard	**Pollution of storm water and release to local environment**		
Cause	• Tank integrity failure • Impact to tank by surface mobile equipment • Tank capacity exceeded • Bulk spill during transfer		
Impact	Pollution of local receiving environment (Sandy Creek, Allens Creek, adjacent land)		
Likelihood	Very low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Area around tanks sealed preventing land contamination • Spill response/clean-up equipment readily available • Regular site inspections of storages • Spill response procedures in place • Key personnel trained in spill response		
Actions to be taken **(if incident were to occur)**	• Isolate and contain polluted waters within the site storm water/ catchment dams • Arrange for recovery and disposal of polluted waters at licensed premises off site • Treat polluted waters in place and only release when water quality limits are met • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**AW.14 – Bulk Solcenic Storage Tank**		
Hazard	**Bulk Solcenic spill resulting in release to local site drainage system**		
Cause	• Tank integrity failure • Impact to bulk solcenic tank by surface mobile equipment • Bulk spill during transfer from road tanker to bulk solcenic storage tank • Bulk spill during transfer from bulk solcenic tank to underground transport pod		
Impact	Contamination of site water management system and site storm water/catchment dam		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Solcenic tank self-bunded • Self-bunded tank in concrete bund • Area around tanks sealed preventing land contamination • Spill response/clean-up equipment readily available • All site drainage reports to the site storm water / catchment dam • Discharges from the site storm water / catchment dam is undertaken under controlled conditions • Routine inspections of storages		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Activate spill response procedures • Arrange for tanker to recover spilt material and contaminated water and dispose of to a licenced waste facility • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**TNFA702 - Appin West Main Switchyard**		
Hazard	**Loss of containment from large Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Large volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	Medium
Controls (includes pre-emptive actions and safety devices)	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such that intrusive impact is unlikely • Spill response/clean-up equipment readily available		
Actions to be taken (if incident were to occur)	• Activate site spill response protocols • Contain / restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**TNFA703 - Appin West Main Switchyard**		
Hazard	**Loss of containment from large Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Large volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such that intrusive impact is unlikely • Spill response/clean-up equipment readily available		
Actions to be taken **(if incident were to occur)**	• Activate site spill response protocols • Contain / restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**TNFA410 – Compressor Building**		
Hazard	**Loss of containment from Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Minor volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	Materiality	Low
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such that intrusive impact is unlikely		
Actions to be taken **(if incident were to occur)**	• Activate site spill response protocols • Contain / restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**TNFA409 – Workshop**		
Hazard	**Loss of containment from Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Minor volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	Low
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such that intrusive impact is unlikely		
Actions to be taken **(if incident were to occur)**	• Activate site spill response protocols • Contain / restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin West Colliery		
Storage ID	**TNFA408 – Bathhouse**		
Hazard	**Loss of containment from Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Minor volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	Low
Controls (includes pre-emptive actions and safety devices)	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such that intrusive impact is unlikely		
Actions to be taken (if incident were to occur)	• Activate site spill response protocols • Contain / restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

AMVA Project

Facility	Ventilation Shaft 7/8		
Storage ID	**AMVA.01 - Diesel Storage**		
Hazard	Diesel spill resulting in release to local site drainage system		
Cause	• Bulk diesel tank integrity failure • Diesel tank bund breached when containing spilled diesel • Damage to bulk diesel tank by surface mobile equipment • Site speed limits not complied with • Loss of diesel from road tanker during refuelling		
Impact	• Contamination of site water drainage system and site sediment basin		
Likelihood	Very Low	**Materiality**	Medium
Controls (includes pre-emptive actions and safety devices)	• Diesel storage self-bunded • Spill response/clean-up equipment available • Discharges from site are undertaken under controlled conditions		
Actions to be taken (if incident were to occur)	• Isolate and contain diesel spill • Mobilise hydrocarbon spill clean-up equipment • Activate internal communication and notification protocols • Arrange for tanker to recover spilled diesel and contaminated water and dispose of to a licensed waste facility • Treat polluted water in place if practical to do so • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Ventilation Shaft 7/8		
Storage ID	**AMVA.02- Diesel Storage**		
Hazard	Diesel spill resulting in release to local site drainage system		
Cause	• Diesel tank integrity failure • Diesel tank bund breached when containing spilled diesel		
Impact	• Contamination of site water drainage system and site sediment basin		
Likelihood	Very Low	**Materiality**	Low
Controls (includes pre-emptive actions and safety devices)	• Diesel storage self-bunded • Spill response/clean-up equipment available • Discharges from site are undertaken under controlled conditions		
Actions to be taken (if incident were to occur)	• Isolate and contain diesel spill • Mobilise hydrocarbon spill clean-up equipment • Activate internal communication and notification protocols • Arrange for tanker to recover spilled diesel and contaminated water and dispose of to a licensed waste facility • Treat polluted water in place if practical to do so • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Ventilation Shaft 7/8		
Storage ID	**AMVA.03 - Sediment Basin**		
Hazard	Pollution of sediment basin and release to local environment		
Cause	• Diesel spill • Mobile plant oil spill • Hazardous substance spill		
Impact	• Pollution of local receiving environment (Foot Onslow Creek)		
Likelihood	Very Low	**Materiality**	Medium
Controls (includes pre-emptive actions and safety devices)	• All hazardous substance storages are bunded and contained within the site catchment • All areas with potential for contamination report to the storm water/ site catchment dams • Water from the storm water/site catchment dams is only released under controlled conditions • Regular site inspections of storages • Spill response procedures in place		
Actions to be taken (if incident were to occur)	• Arrange for recovery and disposal of polluted waters at licensed premises off site • Treat polluted waters in place and only release when water quality limits are met • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Ventilation Shaft 7/8		
Storage ID	**AMVA.04 - Workshops transient oil storage**		
Hazard	Oil spill resulting in release to local site drainage system		
Cause	• Oil spill due to damage by mobile equipment • Oil spill during maintenance activities		
Impact	• Contamination of site water drainage system and site sediment basin		
Likelihood	Very Low	**Materiality**	Low
Controls (includes pre-emptive actions and safety devices)	• All areas with potential for contamination report to the storm water/ site catchment dams • Water from the storm water/site catchment dams is only released under controlled conditions • Spill response/clean-up equipment available • Spill response procedures in place		
Actions to be taken (if incident were to occur)	• Arrange for recovery and disposal of polluted waters at licensed premises off site • Treat polluted waters in place and only release when water quality limits are met • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Ventilation Shaft 7/8		
Storage ID	**AMVA.07- Diesel Storage**		
Hazard	Diesel spill resulting in release to local site drainage system		
Cause	• Diesel tank integrity failure • Diesel tank bund breached when containing spilled diesel		
Impact	• Contamination of site water drainage system and site sediment basin		
Likelihood	Very Low	**Materiality**	Low
Controls (includes pre-emptive actions and safety devices)	Diesel storage self-bunded • Spill response/clean-up equipment available • Discharges from site are undertaken under controlled conditions		
Actions to be taken (if incident were to occur)	• Isolate and contain diesel spill • Mobilise hydrocarbon spill clean-up equipment • Activate internal communication and notification protocols • Arrange for tanker to recover spilled diesel and contaminated water and dispose of to a licensed waste facility • Treat polluted water in place if practical to do so • If there is actual or potential for material environmental harm, activate the PIRMP		

Appin East

Facility	Appin East Colliery		
Storage ID	**AE.04 – Bulk Diesel Storage Tank**		
Hazard	**Bulk diesel spill resulting in release to local site drainage system**		
Cause	• Tank integrity failure • Impact to tank by surface mobile equipment • Bulk spill during transfer from road tanker to bulk diesel storage tank • Bulk spill during transfer from bulk diesel tank to underground transport pod		
Impact	Contamination of site water management system and site storm water /catchment dam		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Concrete bund in place • Area around tanks sealed preventing land contamination • Vehicle intrusion barriers in place • Spill response/clean-up equipment readily available • All site drainage reports to the site storm water/catchment dam • Discharges from the site storm water/catchment dam is undertaken under controlled conditions • Routine inspections of storages		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Arrange for tanker to recover spilt material and contaminated water and dispose of to a licenced waste facility • Treat polluted water on site and release when water quality limits are met • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin East Colliery		
Storage ID	**AE.08 – Ferric Chloride Treatment Plant**		
Hazard	**Ferric chloride flow into sediment pond resulting in overdosing[7]**		
Cause	• Failure of storage container • Excessive dosing of water flow • Replacement of pump with incorrectly sized pump • Failure of/modification to bund		
Impact	Contamination of site water management system and site storm water / catchment dam, with potential for discharge to Georges River and harm to aquatic ecosystems		
Likelihood	Very Low	**Materiality**	Low
Controls **(includes pre-emptive actions and safety devices)**	• Concrete bund in place • Procedure available for managing facility, including dosing pump replacement and commissioning • Water from the storm water/site catchment dam is only released under controlled conditions • Automated shut off of discharge when pH is out of specification • Routine inspections • Spill response/clean-up equipment		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Activate spill response procedures • Arrange for tanker to recover spilt material and contaminated water and dispose of to a licenced waste facility • Activate internal communication protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

[7] Event occurred on 18 October 2018. Ferric chloride was discharged into the sediment pond and released into the Georges River as a result of a pump change out.

Facility	Appin East Colliery		
Storage ID	**AE.11 – Storm water / Site Catchment Dam**		
Hazard	**Pollution of storm water / site catchment dam and release to local environment**		
Cause	• Bulk diesel spill • Bulk solcenic spill • Large hazardous substance spill • Uncontrolled release of polluted dam water to the local environment		
Impact	• Pollution of receiving water and local environment • Contamination of site water management system		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• All hydrocarbon and hazardous substance storages are bunded and contained within the site catchment • All site drainage reports to the storm water / site catchment dam • Water from the storm water / site catchment dam is only released under controlled conditions • Regular site inspections of storages • Spill response procedures in place • Spill response equipment readily available on site • Key personnel trained in spill response		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Arrange for tanker to recover spilt material and contaminated water and dispose of to a licensed waste facility. • Activate internal communication protocols as necessary • If impact possible to surrounding community (as determined by weather conditions, site conditions and volume released), activate community notification protocol • If there is actual or potential for material environmental harm, activate the PIRMP		

Appin North

Facility	Appin North Colliery		
Storage ID	**WC.04 – Bulk Diesel Storage Tank (Road)**		
Hazard	**Bulk diesel spill at the roadside bulk diesel site**		
Cause	• Tank integrity failure • Impact to tank by vehicle • Tanker to bulk diesel tank transfer incident		
Impact	• Contamination of site water management system • Ground contamination • Pollution of BCD		
Likelihood	Very low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Bulk diesel tank double lined (self bunded) • Diesel tank located in a concrete bund which drains to the mines surface drainage system • All site drainage contained to site • Spill response/cleanup equipment readily available • Significant site water / drainage storage capacity to contain spills • Ability to isolate water storages to minimise the potential for transfer polluted water to down grade storages • Discharges from site are undertaken under controlled conditions • Routine site inspection of storages		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Isolate discharges from BCD (if required) • Isolate water supply to operations (if required) • Arrange for tanker to recover spilt material and dispose to a licensed waste facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin North Colliery		
Storage ID	**WC.12 Bulk Solcenic Storage Tank (Pit Top)**		
Hazard	**Bulk solcenic spill resulting in release to local site drainage system**		
Cause	• Tank integrity failure • Impact to bulk solcenic tank by surface mobile equipment • Bulk spill during transfer from road tanker to bulk solcenic storage tank • Bulk spill during transfer from bulk solcenic tank to underground transport pod		
Impact	Contamination of site water management system and site water storages		
Likelihood	Very Low	**Materiality**	Very Low
Controls **(includes pre-emptive actions and safety devices)**	• Solcenic tank enclosed within concrete bund • Roof to minimise rainwater ingress • Area around tanks sealed preventing land contamination • Spill response/cleanup equipment readily available • Periodic spill response training drills • All site drainage contained to site drainage systems and site water storages • Discharges from site water storages undertaken under controlled conditions • Routine inspections of storages		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Activate spill response procedures • Arrange for tanker to recover spilt material and contaminated water and dispose of to a licensed waste facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin North Colliery		
Storage ID	**WC.15 – Brennans Creek Dam**		
Hazard	**Release of polluted / contaminated water from BCD to the local environment**		
Cause	• Water in dam heavily polluted by a major upstream hazardous substance spill event • Dam wall structural failure • Uncontrolled discharge of polluted water • Rapid draw-down procedure implemented • Flooding/extreme rainfall event		
Impact	• Uncontrolled release of large volume of water • Potential for flooding of downstream dwellings and public occupation areas • Pollution of downstream waterways and environment • Loss of operational water supply for the WCCPP operation		
Likelihood	Low	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Inspections/audits undertaken as per ANCOLD requirements • Automated monitoring equipment in place to monitor key elements of dam integrity • BCD Safety Emergency Plan in place (including downstream evacuation system) • Controlled drawdown facility in place • Dam water released under controlled conditions • Dam water levels managed to maintain a buffer for rain/storm events		
Actions to be taken **(if incident were to occur)**	• Activate internal communication and notification protocols as per the BCD Safety Emergency Plan • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin North Colliery		
Storage ID	**WC.16, WC.17 – WCCPP**		
Hazard	**Loss of containment from large Magnafloc storages**		
Cause	• Container integrity failures • Equipment failures • Intrusive impact on containment vessels • Replacement of pumps with incorrect equipment		
Impact	• Excessive Magnafloc concentration in process waters • Excessive Magnafloc concentration within site water storages • Harm to aquatic eco-system if contaminated waters are released from site		
Likelihood	Low	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located so intrusive impact is unlikely • Bunding in place • Area around storages is sealed preventing land contamination		
Actions to be taken **(if incident were to occur)**	• Activate site spill response protocols • Contain/restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin North Colliery		
Storage ID	**WC.24 – Chlorine Dioxide Plant (BCD)**		
Hazard	**Uncontrolled release of Chlorine Dioxide gas**		
Cause	• Uncontrolled mixing of Sodium Hypochlorite and Hydrochloric Acid resulting in release of chlorine dioxide gas to the local atmosphere • Mobile equipment impact rupturing both the Sodium Hypochlorite 7% and Hydrochloric Acid 9% containment vessels • Other intrusive breach of both chemical containment vessels		
Impact	• Chlorine Dioxide gas released to general atmosphere • Potential impacts on health and safety of persons		
Likelihood	Very low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Chlorine Dioxide production plant specifically designed and engineered to manufacture the gas • Facility enclosed within a concrete bund • Chemical storages segregated and isolated from each other • Chemical filling points designed so that cross connection is not possible • Spill response/clean-up equipment readily available • Facility located away from direct line of surface mobile equipment		
Actions to be taken **(if incident were to occur)**	• Assess weather conditions to determine zone of influence • Activate internal communication and notification protocols • Activate Appin Mine Incident Management Team (which may include activation of evacuation process for site personnel) • If there is actual or potential for material environmental harm, activate the PIRMP • If impact possible to surrounding community (as determined by weather conditions and volume released), activate community notification protocol		

Facility	Appin North Colliery		
Storage ID	**WC.29 – Water Treatment Plant**		
Hazard	**Bulk spill of hazardous chemical resulting in release to local site drainage system** **Mixing of chemicals resulting in chemical reaction**		
Cause	• Tank integrity failure • Impact to tanks by surface mobile equipment • Bulk spill during transfer from road tanker to bulk storage tanks		
Impact	• Contamination of site water management system and storm water/site catchment dam • Potential harm to personnel interacting with chemicals and clean-up		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Concrete bunds in place • Area around tanks sealed preventing land contamination • Spill response/clean-up equipment available • Ability to isolate the mine storm water/site catchment dams • Discharges from site are undertaken under controlled conditions • Routine inspection of storages • Surface flow and drainage within the WTP is captured in a sump and retreated		
Actions to be taken **(if incident were to occur)**	• Isolate and contain spill • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP • Arrange for tanker to recover spilled material and contaminated water and dispose of to a licensed waste facility • Treat polluted water in place if practical		

Facility	Appin North Colliery		
Storage ID	**TX1 – Main Appin North Switchyard**		
Hazard	**Loss of containment from large Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Large volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such as intrusive impact is unlikely		
Actions to be taken **(if incident were to occur)**	• Activate site spill response protocols • Contain/restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

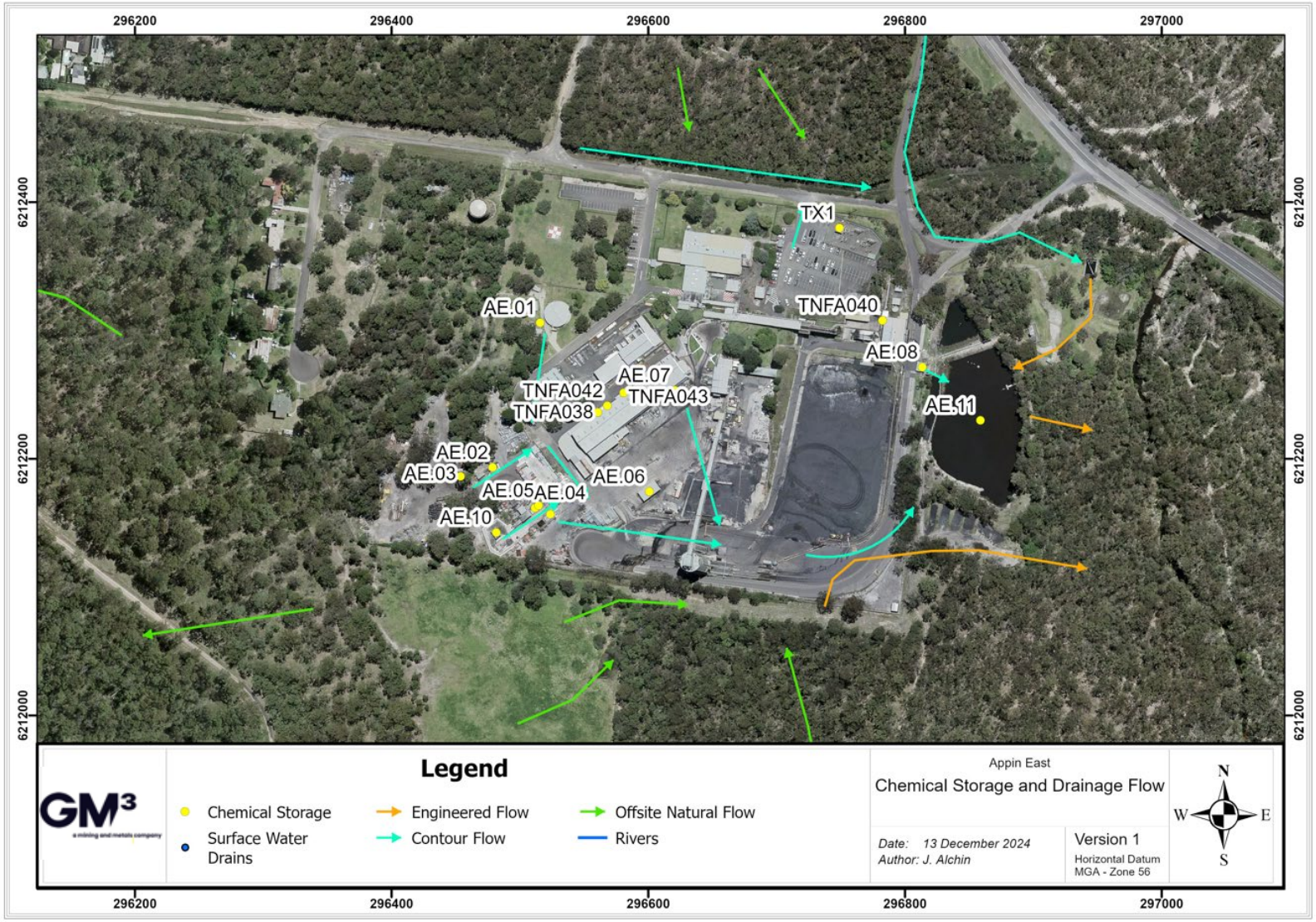
Facility	Appin North Colliery		
Storage ID	**TX2 – Main Appin North Switchyard**		
Hazard	**Loss of containment from large Mineral Oil storages**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Large volume of mineral oil spilled onto ground • PCB level above detection limit, below Status Level • Harm to aquatic eco-system if contaminated waters are released from site • Potential harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	Medium
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such as intrusive impact is unlikely		
Actions to be taken **(if incident were to occur)**	• Activate site spill response protocols • Contain/restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Facility	Appin North Colliery		
Storage ID	**TX307 – Gas Plant Control Building**		
Hazard	**Loss of containment from large Mineral Oil storages – PCB concentration above acceptable threshold**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Large volume of mineral oil spilled onto ground • PCB level above detection limit and Status Level – *5.6 mg/kg* • Harm to aquatic eco-system if contaminated waters are released from site • Perceived harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such as intrusive impact is unlikely		
Actions to be taken **(if incident were to occur)**	• Isolate and restrict access to the area • Activate site spill response protocols • Contain/restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

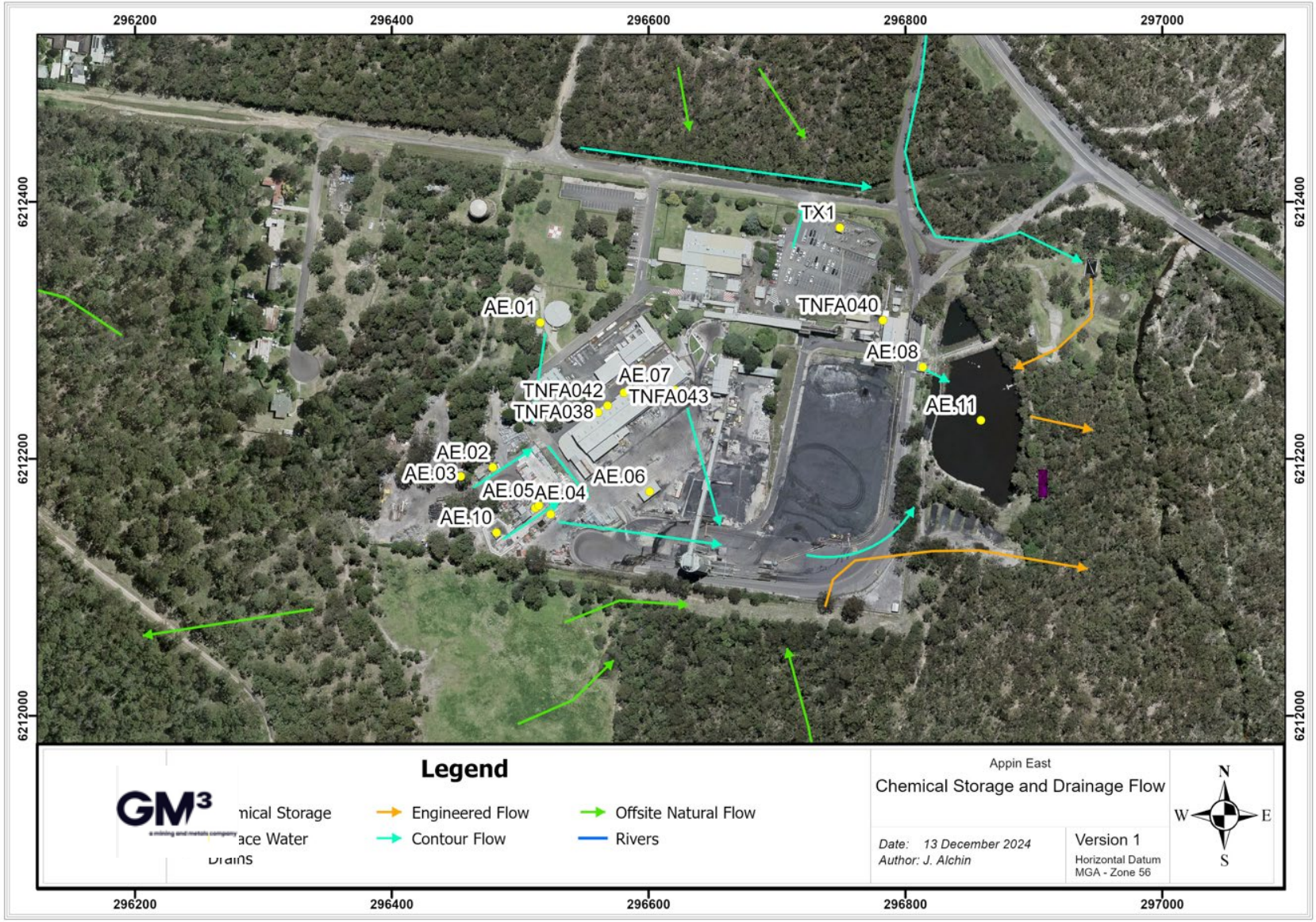
Facility	Appin North Colliery		
Storage ID	**TFNW311 – Appin North Drift Transformer**		
Hazard	**Loss of containment from large Mineral Oil storages – PCB concentration above acceptable threshold**		
Cause	• Transformer integrity failures • Equipment failures • Intrusive impact on containment vessel • Containment bund failure or lack of maintenance		
Impact	• Large volume of mineral oil spilled onto ground • PCB level above detection limit and Status Level – *5.6 mg/kg* • Harm to aquatic eco-system if contaminated waters are released from site • Perceived harm to personnel interacting with oils and clean-up		
Likelihood	Very Low	**Materiality**	High
Controls **(includes pre-emptive actions and safety devices)**	• Routine inspections of all storages • All drainage systems report to contained site storages • Storages located such as intrusive impact is unlikely		
Actions to be taken **(if incident were to occur)**	• Isolate and restrict access to the area • Activate site spill response protocols • Contain / restrict spill • Remediate contaminated areas • Recover contaminated waters and dispose off-site via a licensed contractor at an approved facility • Activate internal communication and notification protocols • If there is actual or potential for material environmental harm, activate the PIRMP		

Appendix 3: Plans

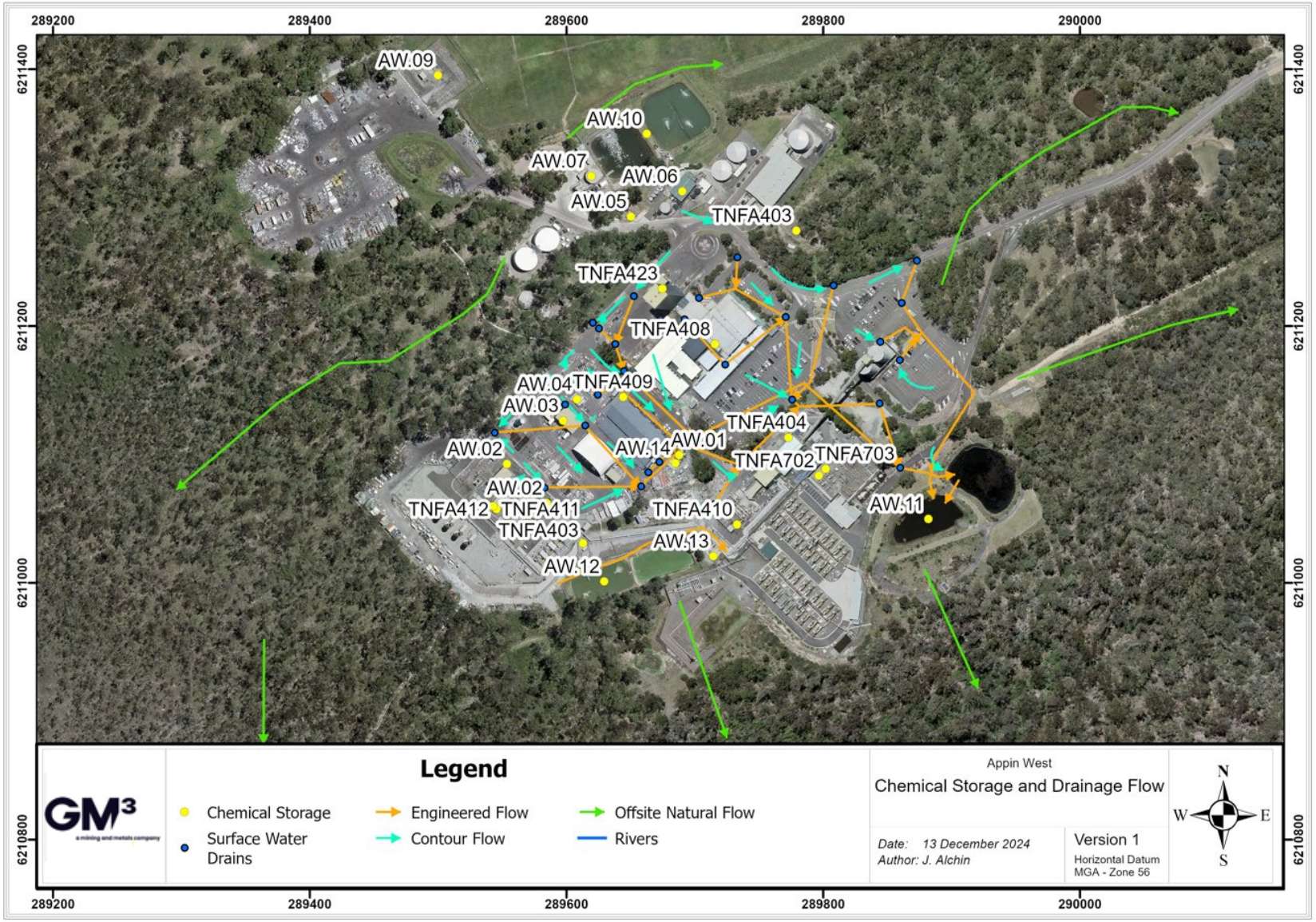
Plan 1: Appin East Pit Top – Storages Locality Plan



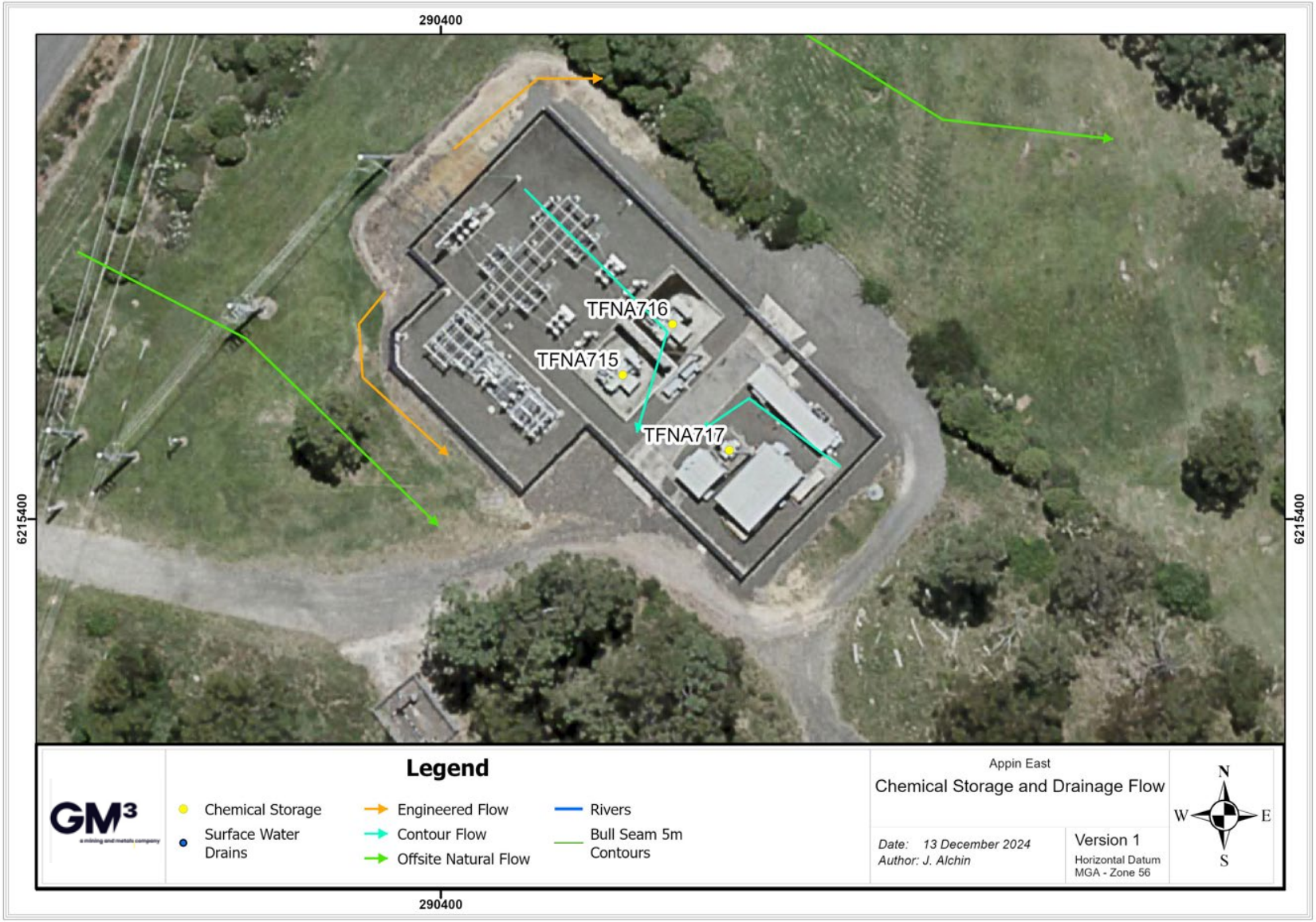
Plan 2: Appin East – Ventilation Shaft 2 – Storages Locality Plan



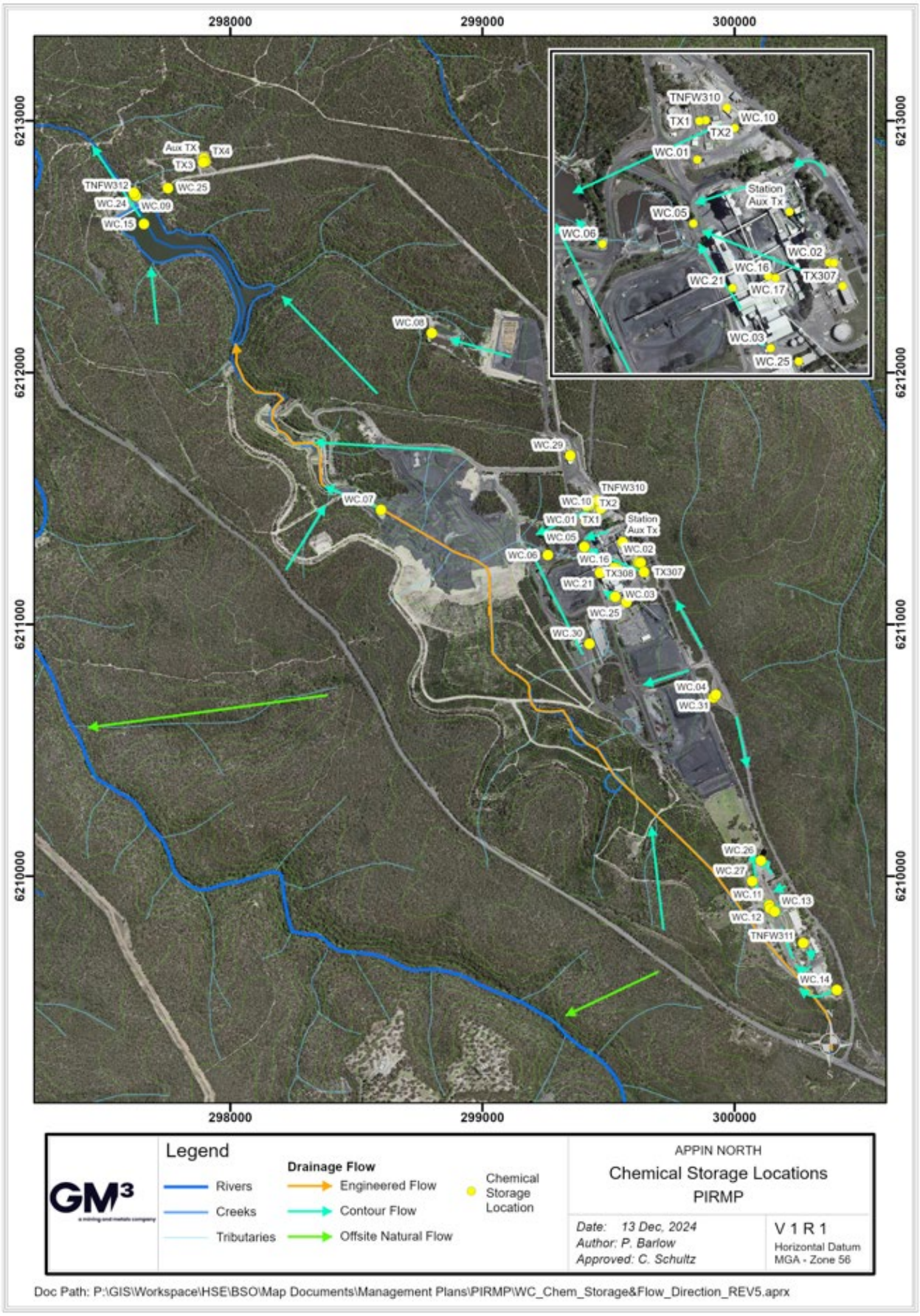
Plan 3: Appin West Pit Top – Storages Locality Plan



Plan 4: Appin West – Douglas Park Substation – Storages Locality Plan



Plan 5: Appin North – Storages Locality Plan



Plan 6 : Appin West - Ventilation Shaft 7/8