



**TOMINGLEY**  
GOLD OPERATIONS PTY LTD  
(A wholly owned subsidiary of Alkane Resources Ltd)

# Tomingley Gold Operations

## Hazardous Materials Management Plan

**TABLE OF REVISIONS**

<b>Revision Number</b>	<b>Revision Date</b>	<b>Prepared By</b>	<b>Approved by</b>	<b>Comments</b>
Revision 1	May 2013	S. Barker	Sean Buxton	Submitted for Consultation
Revision 2	June 2013	C. Measday	Sean Buxton	Submitted for Approval
Revision 3	February 2015	Mark Williams	Sean Buxton	Annual review
Revision 4	April 2017	Mark Williams	Sean Buxton	MOD 3 Approval
Revision 5	November 2018	Mark Williams	Simon Parsons	Following review from DPE
Revision 6	September 2025	Lachlan Maher	David Pritchard	Following TGEP Approval

## Table of Contents

<b>1.</b>	<b>INTRODUCTION AND SCOPE</b> .....	<b>3</b>
<b>2.</b>	<b>DEFINITION OF HAZARDOUS MATERIALS</b> .....	<b>3</b>
<b>3.</b>	<b>LEGISLATIVE REQUIREMENTS</b> .....	<b>4</b>
<b>3.1</b>	<b>LEGISLATIVE FRAMEWORK</b> .....	<b>4</b>
3.1.1	PROJECT APPROVAL .....	4
<b>3.2</b>	<b>NSW SAFETY LEGISLATION AND REGULATIONS</b> .....	<b>5</b>
<b>3.3</b>	<b>CONSULTATION</b> .....	<b>5</b>
<b>4.</b>	<b>THE INTERNATIONAL CYANIDE MANAGEMENT CODE</b> .....	<b>6</b>
<b>5.</b>	<b>GENERAL MANAGEMENT MEASURES</b> .....	<b>7</b>
<b>5.1</b>	<b>PRODUCTION</b> .....	<b>7</b>
<b>5.2</b>	<b>TRANSPORT</b> .....	<b>7</b>
<b>5.3</b>	<b>STORAGE</b> .....	<b>8</b>
<b>5.4</b>	<b>OPERATIONS</b> .....	<b>9</b>
5.4.1	CHEMICAL INVENTORY REGISTER.....	9
5.4.2	TRAINING.....	9
5.4.3	EMERGENCY RESPONSE (ER).....	10
<b>6.</b>	<b>HAZARDOUS MATERIALS ON SITE</b> .....	<b>10</b>
<b>6.1</b>	<b>EXPLOSIVES</b> .....	<b>11</b>
6.1.1	EXPLOSIVES TRANSPORT.....	13
6.1.2	EXPLOSIVES STORAGE .....	14
<b>6.2</b>	<b>CYANIDE AND CYANIDE COMPOUNDS</b> .....	<b>15</b>
6.2.1	CYANIDE PRODUCTION .....	16
6.2.2	TRANSPORTATION OF CYANIDE .....	16
6.2.3	STORAGE OF CYANIDE .....	16
6.2.4	MONITORING LOCATIONS AND FREQUENCY .....	17
6.2.5	SAMPLE COLLECTION AND PRESERVATION .....	17
6.2.6	LABORATORY ANALYSIS OF CYANIDE .....	17
6.2.7	DATA MANAGEMENT .....	17
6.2.8	MONITORING PROGRAMME REVIEW .....	18
6.2.9	MONITORING OF HYDROGEN CYANIDE (HCN) IN THE PROCESSING PLANT	

6.2.10	HIGH HCN ALARM PROCEDURE .....	18
6.2.11	CONTINGENCY MEASURES FOR REDUCING HCN LEVELS PROCEDURE ...	18
6.2.12	CN <sub>FREE</sub> AND CN <sub>WAD</sub> LEVELS IN THE PROCESSING PLANT.....	19
6.2.13	CONTINGENCY MEASURES FOR REDUCING CN <sub>WAD</sub> DISCHARGE LEVELS..	19
6.2.14	WORKER SAFETY AROUND CYANIDE.....	19
6.2.15	RSF WILDLIFE MANAGEMENT AND MONITORING.....	20
6.2.16	EMERGENCY RESPONSE (ER) TO CYANIDE EXPOSURE.....	20
<b>6.3</b>	<b>SODIUM HYDROXIDE (CAUSTIC).....</b>	<b>22</b>
<b>6.4</b>	<b>HYDROCHLORIC ACID.....</b>	<b>22</b>
<b>6.5</b>	<b>LIME.....</b>	<b>23</b>
<b>6.6</b>	<b>SODIUM METABISULPHITE (SMBS).....</b>	<b>24</b>
<b>6.7</b>	<b>COPPER SULPHATE .....</b>	<b>25</b>
<b>6.8</b>	<b>DIESEL .....</b>	<b>25</b>
<b>6.9</b>	<b>HYDROCARBONS (OILS AND GREASES) .....</b>	<b>26</b>
<b>6.10</b>	<b>LIQUID PETROLEUM GAS (LPG) .....</b>	<b>26</b>
<b>6.11</b>	<b>LIQUID OXYGEN .....</b>	<b>27</b>
<b>6.12</b>	<b>ASBESTOS .....</b>	<b>27</b>
<b>6.13</b>	<b>POTASSIUM AMYL XANTHATE (PAX).....</b>	<b>28</b>
<b>7.</b>	<b>REPORTING OF EVALUATION AND COMPLIANCE.....</b>	<b>29</b>
<b>7.1</b>	<b>EPA NOTIFICATION OF ENVIRONMENTAL HARM .....</b>	<b>29</b>
<b>7.2</b>	<b>INCIDENT AND NON-COMPLIANCE NOTIFICATION.....</b>	<b>29</b>
<b>7.3</b>	<b>ACCESS TO INFORMATION .....</b>	<b>29</b>
<b>7.4</b>	<b>ANNUAL REVIEW.....</b>	<b>30</b>
<b>7.5</b>	<b>COMPLAINTS .....</b>	<b>30</b>
<b>8.</b>	<b>ROLES AND RESPONSIBILITIES .....</b>	<b>30</b>
<b>9.</b>	<b>COMPETENCE, TRAINING AND AWARENESS.....</b>	<b>30</b>
<b>10.</b>	<b>AUDITING AND REVIEW.....</b>	<b>31</b>
<b>11.</b>	<b>APPENDIX 1: HAZARDOUS MATERIALS ON SITE.....</b>	<b>32</b>
<b>12.</b>	<b>APPENDIX 2: REFERENCE TABLE .....</b>	<b>33</b>
<b>13.</b>	<b>APPENDIX 3: DPHI RFI RESPONSE.....</b>	<b>36</b>

## 1. INTRODUCTION AND SCOPE

The Hazardous Materials Management Plan (Plan) has been updated in accordance with relevant guidelines as stipulated in Development Consent (SSD 9176045) which was granted in February 2023 and the subsequent approval of Modification 1 in September 2023 for the development of the Tomingley Gold Extension Project (TGEP).

The plan has been prepared as a tool to manage hazardous materials and the environmental issues that may relate from the use of these materials at Tomingley Gold Operations (TGO) and TGEP, hereby collectively referred to as the Project or TGO. It will be used by TGO personnel as the first point of reference for Hazardous Material Management and as such, will be implemented in full.

TGO is a wholly owned subsidiary of Alkane Resources, located immediately south of the village of Tomingley and approximately 38km south of Narromine in Central West New South Wales.

Initial Project Approval (PA 09\_0155) for TGO was granted in July 2012 with the mining lease issued in 2013. The project includes a processing plant with associated residue storage facilities (RSF1 and RSF2).

The gold processing plant was commissioned in January 2014 and is designed to process up to 1.5 million tonnes per annum (Mtpa). The processing plant will be upgraded to process up to 1.75Mtpa with the approval of Development Consent SSD 9176045.

The four existing open cut pits at TGO are Wyoming One (completed 2019), Wyoming Three (completed 2015), Caloma One (completed 2023) and Caloma Two (completed 2019).

Underground mining development commenced in 2019 from the base of Wyoming One open cut with underground mining taking place in the Wyoming and Caloma ore bodies.

TGEP consists of the San Antonio and Roswell deposits which will be mined via open cut and underground methods. Open cut mining at the SAR deposit will only occur following the approval of all management plans.

This plan sits under the overarching Environmental Management Strategy (EMS) for the Project and with the other Environmental Management Plans, forms the basis for environmental management at the project.

## 2. DEFINITION OF HAZARDOUS MATERIALS

Those materials considered as hazardous materials at TGO are listed below:

- Materials identified as potential pollutants within the TGO Pollution Incident Response Management Plan (PIRMP).
- Materials identified as Hazardous within the Preliminary Hazard Analysis undertaken as part of the Environment Assessment (EA) for the Tomingley Gold Project (TGO).
- Materials identified as Hazardous within the Preliminary Hazard Analysis undertaken as part of the Environmental Impact Assessment (EIS) for TGEP.
- Asbestos (to ensure compliance with the Work Health and Safety (WHS) Act 2011 and WHS Regulation 2011);
- Process slurries and solutions that contain Weak Acid Dissociable (WAD) Cyanide > 30 ppm; and
- Hydrocarbons (including hydrocarbon contaminated materials).

A list of materials on site that fits the above definitions is included as **Appendix 1**. Although tailings storage facility, dams and sediment basins are identified as (potentially) containing hazardous materials in **Appendix 1**, they are managed separately to this plan and thus no mention is included at all. Both tailings and water contained within site dams / ponds are appropriately managed in line with sites consents to avoid environmental impacts.

### **3. LEGISLATIVE REQUIREMENTS**

#### **3.1 LEGISLATIVE FRAMEWORK**

##### **3.1.1 Project Approval**

TGO operates under Development Consent (SSD 9176045) where mining operations may be carried out onsite until 31 December 2032.

Development Consent Condition B95 requires the preparation of a Hazardous Materials Management Plan. Management plan requirements are covered in Condition D5. The specific requirements of condition B95 are listed below.

- B95 The applicant must submit a Hazardous Materials Management Plan for the mine development to the satisfaction of the Planning Secretary. This plan must:
- a) Be prepared in consultation with relevant government agencies including Council, DCCEE Water, TfNSW, EPA and Resources Regulator;
  - b) Be consistent with the International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold;
  - c) Describe the measures that would be implemented to:
    - i. Ensure sodium cyanide and other toxic chemicals and dangerous goods are stored and handled onsite in accordance with the relevant guidelines;
    - ii. Ensure the transportation of hazardous materials to or from the site is undertaken in accordance with the Department's Hazardous Industry Planning Advisory Paper No.11 – Route Selection and the Australian Code for the Transport of Dangerous Goods by Road and Rail, or its latest version;
    - iii. Ensure that the storage, handling, and transport of explosives are managed in accordance with the requirements of the Resources Regulator; and
  - d) Detail the emergency procedures for the development consistent with the Department's Hazardous Industry Planning Advisory Paper No. 1 – Emergency Planning.

While there is a requirement to include emergency procedures in line with Condition B95(c)(iv), these are not detailed within this plan. The Emergency Management Plan (EMP) details a range of scenarios (including hazardous material spills, leaks, fires, explosions, accidents, etc.) and the emergency responses to these scenarios. There is only a brief mention of emergency response in this plan (Section 5.4.3) to avoid inconsistencies or misunderstandings in the event of an emergency.

In addition to SSD 9176045, the site also operates under an Environmental Protection Licence (EPL 20169). This EPL governs particular polluting activities and consideration has been made to the conditions of the licence when developing this plan.

### 3.2 NSW SAFETY LEGISLATION AND REGULATIONS

Tomingley Gold Operations has a duty of care to ensure the health and safety of its workforce and nearby community.

Three key pieces of legislation apply to the use of Hazardous Materials at TGO, including:

- *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2017*
- *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022*
- *Explosives Act 2003* and *Explosives Regulation 2013*

The key requirements from this legislation are listed below:

- Identify reasonably foreseeable hazards that could give rise to the risk to health and safety;
- Eliminate the risk to health and safety, so far as is reasonably practicable;
- If it is not reasonably practicable to eliminate the risk to health and safety, minimise it so far as is reasonably practicable by implementing control measures in accordance with the hierarchy of risk control;
- Maintain the implemented control measure so that it remains effective;
- Review and, if necessary, revise risk control measures so as to maintain, so far as is reasonably practicable, a work environment that is without risks to health and safety;
- A detailed emergency management plan will be prepared and implemented for the site that covers emergency response plans for hazardous materials including explosives.

As the hazardous materials discussed within this plan cannot be operationally eliminated or substituted, this plan outlines steps required to minimise the risks to the environment.

### 3.3 CONSULTATION

This plan has been developed in consultation with a range of government agencies. The agencies involved, their comments and TGOs response is included within **Table 1** below and **Appendix 3**.

Table 1: Consultation with government agencies

Agency	Comment	Response
Narromine Shire Council (NSC)	<p>There are multiple typographic/spelling errors that could be rectified prior to adoption.</p> <p>The <i>Work Health and Safety (Mines) Act 2013</i> was renamed <i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i>.</p> <p>The Plan could be benefitted by a reference section to list the related/relevant procedures that support the management plan.</p>	<p>Spelling issues rectified.</p> <p>Act renamed.</p> <p>Reference table included as Appendix 2.</p>
Department of Climate Change, Energy, the	No comments	Noted.

Environment and Water (DCCEEW)		
Transport for NSW (TfNSW)	<p>Controls for transport and use of any dangerous goods must be in accordance with <i>State Environmental Planning Policy (Resilience and Hazard) 2021</i>, the <i>Australian Dangerous Goods Code</i> and <i>AS4452 Storage and Handling of Toxic Substances</i>.</p> <p>The applicant is to consult with relevant government agencies including Council, EPA and the Department of Climate Change Energy, the Environment and Water (DCCEEW). The Management Plan should adopt any recommendations made during agency consultation in accordance with Condition B95.</p> <p>The HMMP will need to be updated in the future to reflect the realignment of the Newell Highway prior to public gazettal. It is recommended a note be included within the HMMP as a reminder.</p>	<p>Noted. The transport section (5.2 &amp; 6.2) detail that this is managed by distributors and delivery companies. TGO has committed to auditing these companies to ensure they are compliant with the SSD.</p> <p>Storage on site is compliant (6) with AS4454.</p> <p>Noted. Consultation with these agencies has occurred.</p> <p>Noted. The Management plans are reviewed on a regular basis and will be updated to reflect any changes in the operation of site, including once the Newell Highway Realignment is completed.</p>
Environment Protection Agency (EPA)	No comments	Noted
Resources Regulator	No comments	Noted

#### 4. THE INTERNATIONAL CYANIDE MANAGEMENT CODE

The cyanide management strategy adopted by TGO is consistent with the standards of practice outlined in the International Cyanide Management Code (ICMC). The ICMC is a voluntary initiative developed for the gold mining industry and the producers and transporters of the cyanide used in gold mining.

The ICMC focuses on the safe management of cyanide that is produced, transported and used for the recovery of gold. The ICMC was developed for gold mining operations, and addresses production, transport, storage, and use of cyanide and the decommissioning of cyanide facilities. It also includes requirements related to financial assurance, accident prevention, emergency response, training, public reporting, stakeholder involvement and verification procedures.

## 5. GENERAL MANAGEMENT MEASURES

There are a number of management measures that are similar to all hazardous materials. These are discussed below. Management measures that are specific to a particular hazardous material are detailed within the sections further within the plan.

### 5.1 PRODUCTION

TGO will ensure (via a contract) that hazardous materials are purchased from a company that has a proven track record of safety and quality for the relevant hazardous material.

### 5.2 TRANSPORT

TGO will ensure there are written agreements with hazardous materials producers, distributors and transporters, designating the specific responsibilities for each aspect of chemical transport. The written agreements shall include (but not limited to):

- The supplier will comply with all legislative requirements, statutory acts and regulations plus industry guidelines for the safe operation of their mobile equipment. Specific requirements to comply with include relevant parts of the latest version of the *Australian Code for the Transport of Dangerous Goods by Road and Rail* and *AS1940*.
- The supplier shall ensure the personnel engaged in the performance of the contract be skilled and experienced in the supply of the hazardous material and adopt their own safe system of work,
- The supplier will comply with TGO site based procedures (such as, induction and training requirements),
- Supply the Safety Data Sheet (SDS) for each hazardous material to TGO before supplying the material to site. Any updates to the SDS will also be supplied to TGO in a timely manner,
- The supplier must provide to personnel PPE required as outlined by the SDS and as required by site standards, and
- If requested by TGO the supplier will provide training materials in the safe handling and emergency response for the hazardous material being supplied.

It will be a contractual requirement that suppliers of Sodium Cyanide, LPG and other hazardous materials have undertaken an assessment on the route selection to minimise risk to the public and environment in accordance with the DPHI's *Hazardous Industry Planning Advisory Paper No. 11 – Route Selection*.

TGO will conduct audits of the aforementioned requirements for distributors and transporters, to ensure all deliveries are compliant with the requirements of the SSD.

Specific requirements for individual hazardous materials will be outlined within the relevant sections.

### 5.3 STORAGE

All chemical tanks on site are to be contained within impervious concrete bunded areas with sump pumps located in each bund. The sumps will return any potential spillage back to the process plant. All bunds will have a capacity of 110% of the volume of the largest bulk container as a minimum.

All hazardous materials storage areas will have appropriate signage.

All hazardous materials will be stored and handled in accordance with relevant standards and requirements including AS/NZ 445, AS1940 and AS159 and the EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Handbook*.

The general layout of site (**Figure 1**) and the locations of hazardous material storage at TGO (**Figure 2**) are shown below.

Figure 1

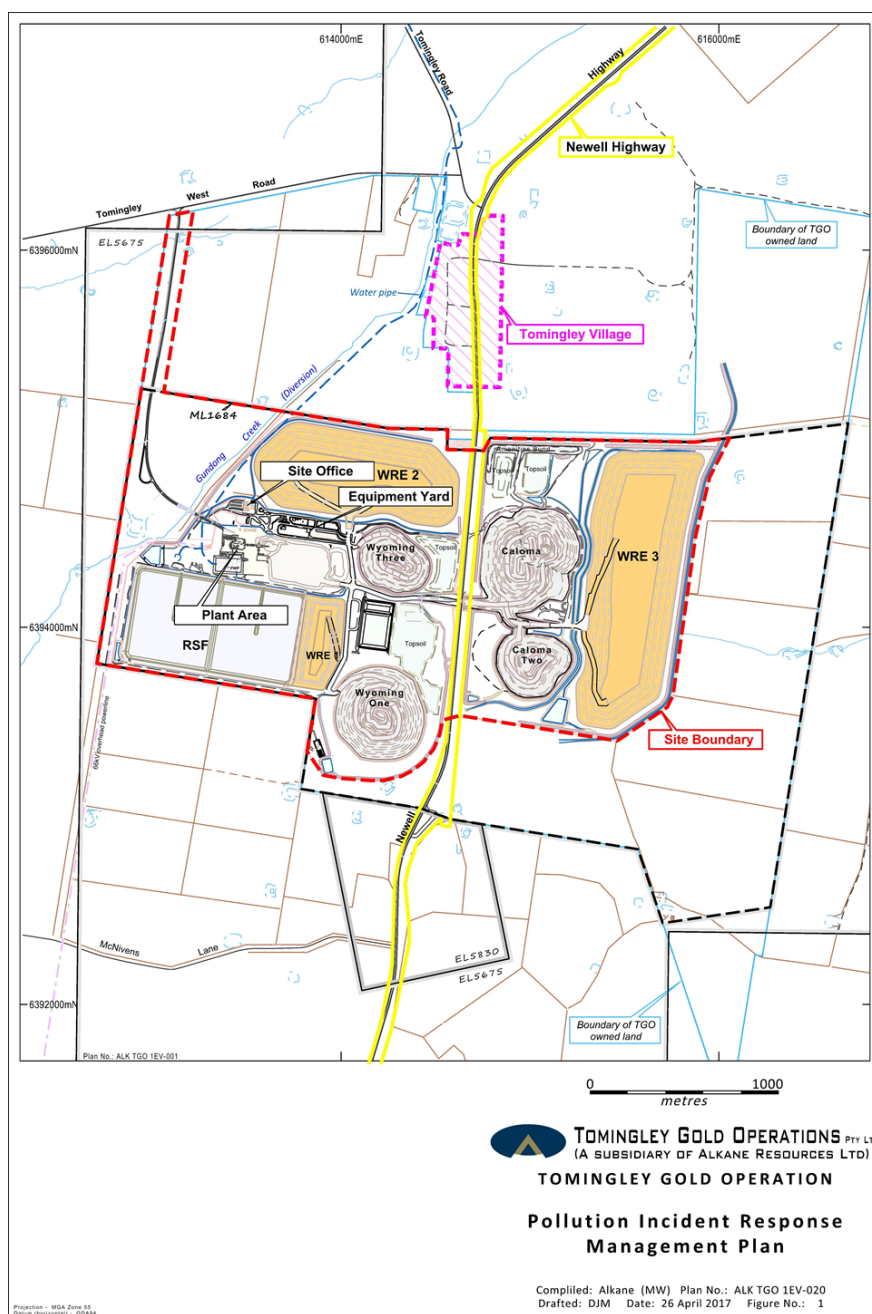
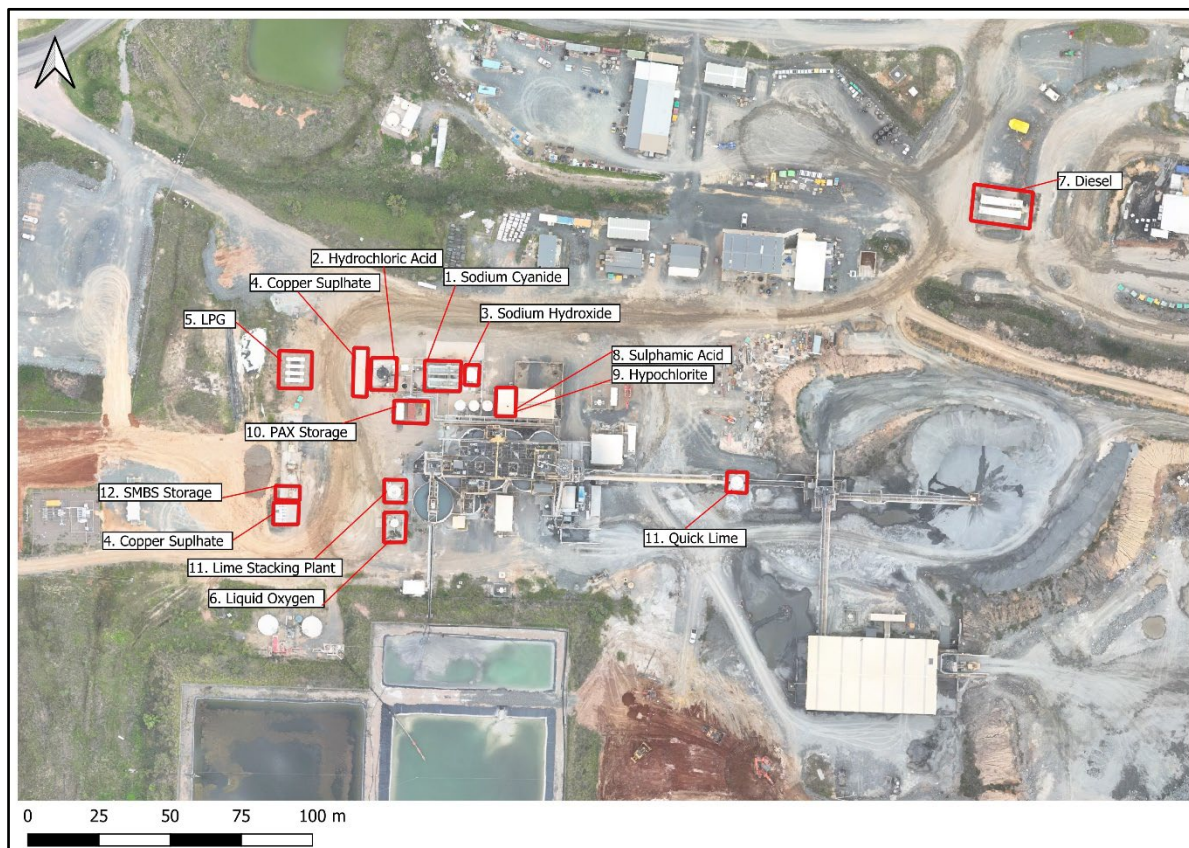


Figure 2



## 5.4 OPERATIONS

### 5.4.1 Chemical Inventory Register

All chemicals brought to site (and relevant SDS) are recorded in the Chemical Inventory Register. The Chemical Inventory Register is updated and maintained by the Safety department.

When new chemicals are brought to site, SDS are assessed using the TGO risk management process to determine whether the chemical:

- is fit for purpose;
- poses a safety or environmental hazard; or
- requires controls to be implemented.

### 5.4.2 Training

TGO trains mine workers and Emergency Response Team personnel in the safe and environmentally responsible handling of hazardous materials. Training includes:

- induction training - outlining the high risk hazardous materials at TGO;
- chemical awareness training, including SDS availability;
- hazard identification training for specific hazardous materials;
- use of PPE required for hazardous materials,

- refresher training (at a frequency determined by the risk level) for relevant site personnel,
- simulated emergencies including hazardous materials scenarios, and
- first response actions for process plant personnel in the event of hazardous material release.

### 5.4.3 Emergency Response (ER)

TGO has implemented the following emergency response strategies and capabilities.

- Development of an *Emergency Response Plan* and *Pollution Incident Response Management Plan*.
- Implementation of the relevant response plan in the event of a significant hazardous materials release.
- Consultation with emergency response authorities on the content of these response plans.
- Training and resourcing of a site First Response Team, and
- Ensuring that emergency response procedures are consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1 – Emergency Planning*.

Detailed emergency response plans are prepared on an event-by-event basis and are not annexed to this plan. They are regularly reviewed and updated with training scenarios undertaken by the emergency response team and management on a regular basis.

## 6. HAZARDOUS MATERIALS ON SITE

TGO manages the following Hazardous Materials on site.

- Explosives
- Cyanide and Cyanide Compounds
- Sodium Hydroxide
- Hydrochloric Acid
- Lime
- Sodium Metabisulphite
- Copper Sulphate
- Diesel
- Hydrocarbons
- Liquefied Petroleum Gas
- Hazardous Waste
- Liquid oxygen
- Potassium Amyl Xanthate

A summary of management requirements for each material is outlined in the following sections.

## 6.1 EXPLOSIVES

Several explosives products are used at TGO for the fragmentation of hard rock strata prior to excavation. TGO has prepared an explosive site security plan (as required under the *Explosive Regulation 2013*) and Blast Management Plan (as required by condition of Project Approval), to govern the safety and security requirements of blasting operations. A suite of management plans and procedures has also been implemented to ensure the safe use and storage of explosive products. These have been developed in accordance with best practice and the requirements of the Resources Regulator.

The following explosives are kept on site:

- Ammonium Nitrate Emulsion
- Sensitising Agent Acetic Acid
- Packaged Emulsion
- Primer
- Detonator
- Ammonium Nitrate

Key characteristics of these explosives are described in Tables 2 - 8.

**Table 2 – Key Characteristics Ammonium Nitrate Emulsion**

Chemical Name	Ammonium Nitrate Emulsion
Common Name	Emulsion, EPI
Chemical Formula	HN <sub>4</sub> NO <sub>3</sub> T
UN Number	3375
Hazchem Code	1[Y]E.
Dangerous Goods Class	5.1 (Oxidising Agent)
Transport Method	Bulk tanker
Storage Method	Bulk tank in a secure compound

**Table 3 – Key Characteristics Sensitising Agent Acetic Acid**

Chemical Name	Sensitising Agent Acetic Acid
Common Name	EGB, Ezigasser B
Chemical Formula	CH <sub>3</sub> CO <sub>2</sub> H
UN Number	2790
Hazchem Code	2R
Dangerous Goods Class	8 (Corrosive)
Transport Method	200L drums via licensed contractor
Storage Method	In 200L drum in bunded storage shed

**Table 4 – Key Characteristics Packaged Emulsion**

Chemical Name	Packaged Emulsion
Common Name	Megadrive, Econotrim, Buttbuster, Sentinel
Chemical Formula	H <sub>3</sub> NHNO <sub>3</sub>
UN Number	0082 & 0241
Hazchem Code	E
Dangerous Goods Class	1.1B (Explosive)
Transport Method	20 kg box via explosive transport contractor
Storage Method	Licensed high explosives magazine

**Table 5 – Key Characteristics Primer**

Chemical Name	Primer, Booster
Common Name	Mighty Atom, Ezistarter, Megaprime, Pentex
UN Number	0042
Hazchem Code	E
Dangerous Goods Class	1.1D (Explosive)
Transport Method	20 kg box via explosive transport contractor
Storage Method	Licensed high explosives magazine

**Table 6 – Key Characteristics Detonator**

Chemical Name	Detonator
Common Name	Dets Non-Electric LP/MS Series, Excel
UN Number	0360
Hazchem Code	E
Dangerous Goods Class	1.1B (Explosive)
Transport Method	20 kg box via explosive transport contractor
Storage Method	Stored in licensed dedicated facility

**Table 7 – Key Characteristics Ammonium Nitrate (Solid)**

Chemical Name	Ammonium Nitrate (Solid)
Common Name	AN

Chemical Formula	HN <sub>4</sub> NO <sub>3</sub>
UN Number	1942
Hazchem Code	1[Y]
Dangerous Goods Class	5.1 (Oxidising Agent)
Transport Method	1.2t Bulka Bags via licensed contractor
Storage Method	Storage shed in secure compound

**Table 8 – Key Characteristics Ammonium Nitrate Fuel Oil**

Chemical Name	Ammonium Nitrate Fuel Oil
Common Name	ANFO
Chemical Formula	H <sub>3</sub> NHNO <sub>3</sub>
UN Number	0082
Hazchem Code	E
Dangerous Goods Class	1.1D (Explosive)
Transport Method	20 kg bags via explosives transport contractor
Storage Method	In high explosives magazine

### 6.1.1 Explosives Transport

Supply contractors will be licenced to transport Security Sensitive Ammonium Nitrate (SSAN) and will be required to comply with the latest version of the *Australian Code for the Transport of Explosives by Road and Rail (AEC)*.

The SSAN must be transported in a locked or sealed container or be under the constant surveillance of an authorised person clearly identified in the security plan. Transport must be from one secure location to another via the most direct route, both of which must be identified in the security plan, and the SSAN must never be left unattended in an unsecured location. Strict record-keeping is required, both for inventory purposes (and any discrepancies reported to authorities) and to demonstrate that the SSAN has been obtained from an authorised person and supplied to an authorised person.

Explosives transport companies must hold a licence to transport explosives. Vehicles used to transport explosives must comply with the AEC if the explosive is transported on a public road. Vehicles used to transport explosives within the mine site also need to comply with AEC, however they do not need to be licenced if they stay within the mine site.

## 6.1.2 Explosives Storage

Two purpose built security compounds with perimeter exclusion fencing will be present on site to house TGO's precursor security sensitive products and banded explosive magazine. One is present at the existing TGO site, and the other is included as part of the TGEP expansion.

The design and construction of the explosive magazine has been assessed by the NSW Government Department of Trade and Investment for compliance with *AS 2187.1:1998 Explosives – Storage, Transport and Use – Storage*, in accordance with Clause 80(1)(c) of the *Explosives Regulation, 2013* with licencing issued by NSW Work Cover.

The storage for ammonium nitrate emulsion (EPI) has been constructed in accordance with *AS 4326:2008 The Storage and Handling of Oxidising Agents*. Storage facilities for EPI consist of emulsion tanks on a concrete slab base. Sensitising agents are stored in a separate shed with a concrete base and stored on banded pallet systems that can contain 110% of stored product. All explosive storage facilities and structures will be banded as required by *AS 1940:2004 The Storage and Handling of Flammable and Combustible Liquids*. TGO will manage its storage of stocks to levels that do not exceed licensed capacities.

## 6.2 Cyanide And Cyanide Compounds

Cyanide will be used on the TGO to leach gold from ores. Alternatives to Cyanide in the recovery of gold have proven to be uneconomic. Therefore, elimination and substitution of cyanide is not viable for the project. The term Cyanide refers to any compound which contains the cyano group (CN). The following cyanide and cyanide compounds will be managed at TGO;

- Sodium Cyanide (Solid) ,
- Sodium Cyanide Solution (30%), and
- Hydrogen Cyanide Gas.

The key characteristics of each compound is described in Table 9 to 11 below.

**Table 9 – Key Characteristics of Sodium Cyanide (Solid)**

Chemical Name	Sodium Cyanide (Solid)
Common Name	Cyanide
Chemical Formula	NaCN
UN Number	1689
Hazchem Code	2X
Dangerous Goods Class	6.1 (Toxic)
Transport Method	Solid briquettes in 20 tonne isotainers via rail and road

**Table 10 – Key Characteristics of Sodium Cyanide Solution (30%)**

Chemical Name	Sodium Cyanide Solution (30%)
Common Name	Cyanide Solution
Chemical Formula	NaCN
UN Number	3414
Hazchem Code	2X
Dangerous Goods Class	6.1 (Toxic)
Storage Method	Two 100,000 litre tanks

**Table 11 – Key Characteristics of Hydrogen Cyanide Gas**

Chemical Name	Hydrogen Cyanide Gas
Common Name	Cyanide Gas
Chemical Formula	HCN

UN Number	1051
Hazchem Code	2WE
Dangerous Goods Class	6.1 (Toxic), 2.1 (Flammable Gas)

### 6.2.1 Cyanide Production

TGO will only purchase cyanide from manufacturers certified as compliant International Cyanide Management Institute Code.

### 6.2.2 Transportation of Cyanide

TGO will ensure written agreements with cyanide producers, distributors and transporters, address the following aspects:

- Packaging as required by, and labelling in languages necessary to identify the material in, the governmental jurisdiction/s the shipment passes through,
- Storage prior to shipment,
- Evaluation and selection of routes to reduce risks, including community involvement,
- Storage and security at ports of entry,
- Interim loading, storage and unloading during shipment,
- Transport to the operation,
- Unloading at the operation,
- Safety and maintenance of the means of transportation (e.g. vehicles and trains, etc.) throughout transport,
- Task and safety training for transporters and handlers throughout transport,
- Security throughout transport,
- Emergency response throughout transport.

### 6.2.3 Storage of Cyanide

Unloading of cyanide at TGO will be conducted in accordance with the following requirements:

- Unloading will occur on a concrete loading bay that drains into a cyanide facility bund.
- A minimum of two personnel will be present during connection and disconnection phases of the unloading process.
- Cyanide storages will;
  - be bunded and be able to contain 110% of the largest vessel plus a 500mm contingency,
  - have a sump pump directing spillage or rain build up to the process plant,
  - meet engineering standards such as distances between stored chemicals,
- Regular planned inspection of the unloading process will occur.

- A preventative maintenance schedule for the unloading and storage facility.

#### **6.2.4 Monitoring Locations and Frequency**

CN<sub>WAD</sub> levels and pH of the aqueous component of the tailings slurry stream reporting to the Residue Storage Facility (RSF) will be monitored twice daily.

CN<sub>WAD</sub> levels in the decant water of the RSF will be monitored twice daily.

#### **6.2.5 Sample Collection and Preservation**

The twice daily CN<sub>WAD</sub> sample collected from the tailings slurry stream reporting to the RSF will be a representative composite sample.

A sub-sample of the decant water will be collected for CN<sub>WAD</sub>.

CN<sub>WAD</sub> sample collection and preservation procedures are aligned with the Department of Resources Energy and Tourism 2008, Leading Practice Sustainable Development in Mining handbook on Cyanide Management.

Additional CN<sub>WAD</sub> and CN<sub>TOTAL</sub> samples will be collected from the tailings slurry stream reporting to the RSF monthly for analysis at a National Association of Testing Authorities (NATA) accredited laboratory.

A sample register will be maintained on site for each sample collected.

Sample collection will be undertaken by appropriately qualified staff and appropriate safety precautions (such as gloves and protective clothing) will be employed.

#### **6.2.6 Laboratory Analysis of Cyanide**

##### **ON-SITE LABORATORY ANALYSIS**

The samples will be analysed for CN<sub>WAD</sub> in the on-site laboratory using Cynoprobe analytical instruments.

The results of the on-site analysis will be verified by including a control standard.

##### **OFF-SITE LABORATORY ANALYSIS**

The additional CN<sub>WAD</sub> and CN<sub>TOTAL</sub> monthly samples collected from the tailings slurry stream reporting to the RSF in accordance with AS/NZS 5667:1:1998 Water Quality – Sampling and APHA (1998 or subsequent version) Standard Methods for the Examination of Water and Wastewater will be sent as soon as practicable for analysis at an off-site NATA-accredited laboratory.

The CN<sub>WAD</sub> results from the NATA accredited laboratory can be used to verify the CN<sub>WAD</sub> results from the on-site laboratory.

For samples sent to off-site laboratories, a sample chain-of-custody (CoC) form will be completed for each sample collected. A copy of the CoC will be provided to the laboratory with the samples. A copy of the CoC will be held on site for the life of the Project.

#### **6.2.7 Data Management**

Data obtained by the monitoring of CN<sub>WAD</sub> levels in the tailings stream reporting to the RSF and in the decant water of the RSF will be maintained on site by the Processing Manager (or delegate).

### **6.2.8 Monitoring Programme Review**

The monitoring programme for CN<sub>WAD</sub> levels in the tailings stream reporting to the RSF and in the decant water of the RSF will be reviewed annually, unless otherwise directed by the Director-General, and the changes will be made and approved through the Annual Review process.

### **6.2.9 Monitoring of Hydrogen Cyanide (HCN) in the Processing Plant**

HCN gas levels will be determined using both ambient and personal monitoring devices.

The ambient monitoring units will take continuous readings and display the results in the process control centre. In addition to the ambient monitors, employees may be required to carry personal monitoring units in designated areas.

The on-line monitoring of HCN gas will be carried out at multiple locations in the Carbon-In-Leach (CIL) circuit.

Both personal and ambient HCN gas monitoring units will trigger alarms at the National Occupational Exposure Limits detailed in the relevant SDS. Personal monitoring units will vibrate and sound a high-pitched alarm.

### **6.2.10 High HCN Alarm Procedure**

In the event the ambient or personal monitoring units trigger an alarm the following procedure will be used to reduce HCN levels for employee safety:

Step 1 – Personal or ambient monitoring alarms sound indicating HCN levels are at or above 10 ppm.

In the case of an ambient monitor, a siren and/or flashing lights will be activated and HCN levels will be displayed in the process control centre.

In the case of a personal monitor, the monitor will vibrate and emit a high pitched alarm.

Step 2 – Personnel will be evacuated from the alarm-activated area and the appropriate standard operating procedure will be initiated.

Personnel will not be permitted to enter the area in question without the correct personal protective equipment.

Step 3 – Process control centre personnel will investigate the possible causes of the alarm and implement appropriate contingency measures where necessary.

### **6.2.11 Contingency Measures for Reducing HCN Levels Procedure**

The contingency measures implemented by the process control centre to reduce HCN levels in the processing plant will vary depending on the circumstances (e.g. the particular HCN levels, the cause of the increased levels and the plant location). The following measures are available to reduce HCN levels in the processing plant:

- Reduce the amount or rate of cyanide addition;
- Increase the pH of the cyanide solution/process stream;
- Reduce the rate of ore feed;
- Shut down the process plant.

Each of the above measures will take some time to reduce the level of HCN. Employees will not be permitted to access the area in question without the correct personal protective equipment or until safe HCN levels are achieved.

### **6.2.12 CN<sub>FREE</sub> and CN<sub>WAD</sub> Levels in the Processing Plant**

CN<sub>FREE</sub> and CN<sub>WAD</sub> levels will be monitored in the processing plant to provide information relevant to process control and/or cyanide destruction, as described below.

CN<sub>FREE</sub> levels in solution will be monitored at a number of locations in the processing plant for process control and cyanide destruction (i.e. to control the rate of cyanide addition and efficiency of dissolution of the gold in the leach circuit).

CN<sub>FREE</sub> levels in solution will be determined using Cynoprobe instruments and/or silver nitrate titration method. Elevated levels of CN<sub>FREE</sub> will be reported to the process control centre where corrective actions will be implemented.

CN<sub>WAD</sub> levels will also be sampled at a number of locations and analysed at the on-site laboratory. (i.e. to regulate the dosage of SMBS/O<sub>2</sub> and to ensure cyanide in the tailings is destroyed down to the required levels).

CN<sub>WAD</sub> samples will be taken of the cyanide destruct feed and discharge streams. In the event CN<sub>WAD</sub> levels at the discharge point to the tailings storages exceed 20 mg/L (90 percentile) or 30 mg/L (maximum) one or more of the contingency measures outlined below will be implemented to reduce CN<sub>WAD</sub> levels to below these levels.

### **6.2.13 Contingency Measures for Reducing CN<sub>WAD</sub> Discharge Levels.**

TGO's processing plant has been designed so that CN<sub>WAD</sub> levels in the tailings discharge stream do not exceed 20 mg/L (90 percentile) and 30 mg/L (maximum). As a result, it is not anticipated that the contingency measures provided below would ever need to be activated.

In the event CN<sub>WAD</sub> levels in the tailings discharge stream exceed 20 mg/L (90 percentile) or 30 mg/L (maximum), one or more of the following contingency measures will be implemented to reduce CN<sub>WAD</sub> levels to below these levels:

- Discharge to the tailings storages will cease until CN<sub>WAD</sub> levels can be achieved below the levels stated above;
- Increase the amount or dosage rate of cyanide destruction chemicals being used in the cyanide destruction circuit to achieve lower cyanide levels in the tailings discharge stream;
- Reduce the amount or rate of cyanide addition;
- Reduce the rate of ore feed;
- Add dilution water, if available.

Monitoring of the effectiveness of the contingency measures will be undertaken.

### **6.2.14 Worker Safety around Cyanide**

TGO will protect workers' health and safety from exposure to cyanide by:-

- Supply and training in the use of appropriate PPE, including personnel HCN monitors,
- Maintaining the slurry pH >9.5,
- No personnel to work in a HCN environment > 5 ppm,

- Any exposure to > 10ppm HCN is considered an incident and investigated accordingly,
- Warning signs (where appropriate) regarding potential cyanide exposure, and
- Train ERT personnel in the use of the Oxy Viva.

### **6.2.15 RSF Wildlife Management and Monitoring**

The following management measures have been implemented to protect wildlife from interactions with the RSF and cyanide:

- Mechanisms to keep wildlife away from the RSF's:
  - minimising the area of open water in the RSF;
  - site perimeter fencing to prevent fauna access from entering the area;
  - making the area non-conducive to the establishment of wildlife habitats, as far as possible; and
- Monitoring twice daily the usage of the RSF by wildlife.
- Any recovered dead wildlife will be referred to veterinarian for post-mortem to establish cause of death

Wildlife monitoring at the RSF will occur twice a day to observe and record wildlife usage. The monitoring results will be utilised to determine the requirement for modification to the mechanisms being implemented to keep wildlife away from the RSF.

In the event that native wildlife are affected or deaths are recorded, the Environment and Community Manager will be notified immediately.

### **6.2.16 Emergency Response (ER) to Cyanide Exposure**

Symptoms of cyanide poisoning are dependent on the level of exposure; the level of poisoning can be described as mild or moderate to severe.

Mild poisoning can produce the following symptoms:

- Headache,
- Anxiety,
- Dizziness,
- Nausea and vomiting—particularly if the cyanide has been ingested,
- Shortness of breath and a sense of suffocation, and
- General weakness with heaviness of arms and legs.

If treatment is not started quickly, symptoms may progress and the person's condition can deteriorate to include signs of:

- Increased shortness of breath or gasping for air,
- Falling blood pressure,
- Cardiac arrhythmia—disturbance in heart rhythm and pulse,
- Cyanosis—blue or purple colouration of the skin or mucous membranes, and
- Deteriorating levels of consciousness.

Moderate to severe poisoning results from exposure to higher concentrations of cyanides and symptoms include:

- Rapid loss of consciousness,
- Seizures,
- Gasping for breath, weakness or absence of breathing, and
- Cardiac arrest.

TGO have a cyanide emergency kit available. The following is a checklist of items that will be kept in the TGO Rescue Vehicle:

- An oxygen resuscitator and a source of oxygen and a resuscitation bag or mask,
- A minimum of four pairs of impervious gloves—double gloving is recommended,
- Safety eyewear,
- Plastic bags labelled as 'Contaminated with Cyanide',
- A copy of the current MSDS for the cyanide compound(s) being used, and
- A copy of first aid procedures and emergency contact numbers.

It is the responsibility of the WHS Manager to maintain the cyanide emergency kit.

The first aid steps for suspected cyanide exposure are:-

#### STEP 1 – REMOVE CASUALTY FROM CYANIDE EXPOSURE

The first priority in a rescue is to try and remove the casualty, if possible, from further exposure to cyanides and ideally into a source of fresh air. Rescuers must be properly trained in emergency procedures and wear appropriate PPE, especially goggles and protective gloves and, where hydrogen cyanide or cyanide solutions/liquids are involved, a suitable respirator which protects the wearer—for instance those respirators which comply with Australian Standard AS/NZS 1716: Respiratory protective devices. Rescuers should ensure their own safety while assisting the casualty.

Even if the casualty recovers quickly after removing from exposure to cyanide, administer 100 per cent oxygen and arrange transfer to a medical facility, whilst continuing to monitor his or her condition.

#### STEP 2 – SUPPORT AIRWAY, BREATHING AND CIRCULATION

Speed is critical in treating a casualty with cyanide poisoning. Check the casualty's airway. Remove blockages or restrictions as necessary. Check the casualty's breathing. If the casualty is breathing, place in recovery position and administer 100 per cent oxygen. If the casualty is unconscious, insert an oral airway if available and the first aider has been trained in its use.

If the casualty is not breathing, begin resuscitation using a resuscitation bag or mask connected to an oxygen source or 100 per cent oxygen via a non-rebreathing facemask. Mouth-to-mouth resuscitation should be avoided due to the risk of contamination of the rescuer either through exhaled breath from the victim or from skin contamination. It is less efficient than mechanical resuscitation. Check for a pulse. If no pulse is present, start external cardiac massage.

#### STEP 3 – DECONTAMINATION

Care should be taken in handling a casualty whose clothing has been contaminated with cyanides. Contaminated clothing should be carefully removed and placed in a sealed bag for decontamination or disposal. Wash down the casualty with copious fresh water. Do not delay first aid by decontaminating the casualty. Treatment should be started immediately.

#### STEP 4 – TRANSFER OF CASUALTY TO MEDICAL CARE

If not already arranged, immediately organise urgent ambulance transfer to the nearest medical facility. If located remotely, arrange for transfer to the nearest registered medical practitioner. The casualty should be accompanied by someone trained in cardiopulmonary resuscitation (CPR) and able to continue the rescue.

TGO will liaise with the local hospitals to determine the appropriate antidote form and to ensure cyanide antidote kits are available at the hospital.

TGO will Protect communities and the environment through the development of emergency response strategies and capabilities by:-

- Maintaining the Pollution Incident Response Management Plan and training staff in the use of this plan,
- This plan shall include multiple muster points to account for differing wind directions and include the requirement to have a wind direction indicator (e.g. windsock) to show wind direction.
- Procedures for inspecting and maintaining cyanide emergency kits, paying particular attention to PPE and expiry dates of antidotes—if stocked—and breathing oxygen to ensure supplies are fresh and useable.

### 6.3 SODIUM HYDROXIDE (CAUSTIC)

Caustic is used within the elution circuit of processing plant. Caustic is pumped from the bulk storage tank via a dosing pump to two locations in the processing plan (into the suction of the strip solution pump and directly to the Intensive Leach Reactor). The discharge from both of these streams report to the CIL circuit to ensure maximum gold recovery. The addition of caustic into the CIL circuit assists in maintaining the slurry pH >9.5 (required for cyanide safety). The key characteristics of Sodium Hydroxide are detailed in Table 12.

**Table 12 – Key characteristics of sodium hydroxide**

Chemical Name	Sodium Hydroxide
Common Name	Caustic, Caustic Soda
Chemical Formula	NaOH
UN Number	1824
Hazchem Code	2R
Dangerous Goods Class	8 (Corrosive)
Transport Method	~50% strength liquid in Tanker
Storage Method	60,000 litre tank
Operational Function	Gold recovery pH control

### 6.4 HYDROCHLORIC ACID

Hydrochloric Acid is used in the gold recovery step of the elution process. A dilute hydrochloric acid solution (approximately 3%) is produced by pumping the delivered acid strength (32%) into a mixing pipeline with water into the acid wash hopper. The key characteristics of Hydrochloric Acid are included in Table 13.

**Table 13 – Key characteristics of Hydrochloric Acid Solution**

Chemical Name	Hydrochloric Acid Solution (~33%)
Common Name	Hydrochloric Acid
Chemical Formula	HCL
UN Number	1789
Hazchem Code	2R
Dangerous Goods Class	8 (Corrosive)
Transport Method	~ 33% solution strength in Tanker
Storage Method	30,000 litre tank
Operational Function	Removal of inorganic foulants on activated carbon

## 6.5 LIME

Lime is used to increase the pH of slurry streams on site. Quicklime (CaO) is delivered into a lime silo 20-BN-03 and can be discharged as a solid onto the mill feed belt and mixed with ore prior to milling to provide pH control.

In addition, milk of lime (Ca(OH)<sub>2</sub>) is produced on site. Quicklime is delivered to 60-BN-150. From the silo it is transferred by the Lime Slaking Vibrating Feeder (60-FE-150) which discharges into the Lime Slaking Pre-Wetter (60-SR-150), where process water is added to begin the slaking process. A milk of lime slurry is stored in tank 60-TK-154 and distributed throughout the circuit via a ring main pumping system.

The key characteristics of the two lime based products are detailed within Tables 14 and 15. Note that Hydrated Lime is stored in both wet and dry forms. Hydrated lime is not considered a hazardous material but is included in this document for clarity.

**Table 14 – Key characteristics of Quick Lime**

Chemical Name	Calcium Oxide
Common Name	Quicklime, Lime
Chemical Formula	CaO
UN Number	1910
Hazchem Code	4W
Dangerous Goods Class	N/A
Transport Method	~ 18t Sealed road tanker
Storage Method	100 tonne purpose built silo

Operational Function	pH control in CIL to minimise risk of HCN evolution.
----------------------	--

**Table 15 – Key Characteristics of Milk of Lime**

Chemical Name	Calcium Hydroxide
Common Name	Hydrated Lime, Lime
Chemical Formula	Ca(OH) <sub>2</sub>
UN Number	None allocated
Hazchem Code	None allocated
Dangerous Goods Class	None allocated
Transport Method	N/A
Storage Method (wet)	In a slurry in purpose built tank 60-TK-154
Storage Method (dry)	Purpose built silo 60-BN-150
Operational Function	pH control in cyanide detoxification process

## 6.6 SODIUM METABISULPHITE (SMBS)

SMBS is used in the cyanide detoxification circuit to oxidize the free and weakly complexed metal cyanides (i.e., WAD cyanides) to cyanate by the addition of sulphur dioxide and air in the presence of a soluble copper catalyst.

SMBS is supplied in 1000-1250t bulka bags and opened via a bag splitter to discharge contents into a mixing tank. Personnel conducting mixing activities require PPE. SMBS is stored and pumped as a mixed liquid to the detoxification tank. The key characteristics of Sodium Metabisulphite are detailed below in Table 16.

**Table 16 – Key Characteristics of Sodium Metabisulphite**

Chemical Name	Sodium Metabisulphite
Common Name	SMBS
Chemical Formula	Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub>
UN Number	None allocated
Hazchem Code	None allocated
Dangerous Goods Class	None allocated
Transport Method	20 x 1250t bulka bag delivered by road transport

Storage Method	As solid in covered purpose built shed
Operational Function	Reagent in the CIL cyanide detoxification process

## 6.7 COPPER SULPHATE

Copper is required in the cyanide detoxification circuit as a catalyst to the destruct reaction. The copper sulphate is supplied as liquid in 1m<sup>3</sup> IBC's that are stored in a bunded, covered purpose built shed. The liquid is pumped directly to the detoxification tank. The key characteristics of copper sulphate are detailed below in Table 17.

**Table 17 – Key Characteristics of Copper Sulphate**

Chemical Name	Copper Sulphate Solution
Common Name	Cupric Sulphate
Chemical Formula	CuSO <sub>4</sub>
UN Number	3082
Hazchem Code	2X
Dangerous Goods Class	9 (Misc.)
Transport Method	1m <sup>3</sup> Intermediate Bulk Container (IBC)
Storage Method	On concrete bunded storage pad.
Operational Function	Catalyst in the cyanide detoxification process

## 6.8 DIESEL

Diesel will be stored in a double skinned sealed (so to keep out rain) engineering designed structure.

Any diesel spills will be cleaned up immediately using spill kits with any contaminated soil or water being removed and directed to a bioremediation or licenced disposal facility. The key characteristics of diesel are detailed within Table 18.

**Table 18 – Key Characteristics of Diesel**

Chemical Name	Diesel
Common Name	Distillate
Chemical Formula	Various
UN Number	None allocated
Hazchem Code	None allocated
Dangerous Goods Class	C1

Transport Method	Bulk transport tanker
Storage Method	100kL tank with internal bunding
Operational Function	Mobile equipment fuel

## 6.9 HYDROCARBONS (OILS AND GREASES)

Hydrocarbons (and related waste streams) used at TGO include:

- Oils
- Greases and lubricants
- Contaminated rags
- Used oil filters
- Waste oil and greases (including specialist products such as ball mill lubrication products)

All hydrocarbons will be stored (before use) in a designated storage vessel (such as a sea container).

Prior to removal from site by a licensed contractor, hydrocarbon waste is stored in sealed drums, or bunded sheds/ areas with minimum capacity of 110% of the largest container stored and an impermeable surface. Hydrocarbons (e.g. liquids) and hydrocarbon contaminated materials (e.g. rags and used oil filters) are separated by stream for disposal and segregated from other wastes to minimise the risk of contamination.

## 6.10 Liquid Petroleum Gas (LPG)

LPG is used on site as the fuel for heating of:

- Elution heater,
- Carbon regeneration furnace, and
- Gold smelting furnace.

The LPG facility is leased by TGO and maintenance on this facility is conducted by the facility owner.

Plant and equipment using LPG will be engineer designed to the appropriate Standard and operated by TGO in accordance with the specified requirements. The key characteristics of Liquid Petroleum Gas are detailed within Table 19.

**Table 19 – Key Characteristics of Liquid Petroleum gas**

Chemical Name	Liquid Petroleum Gas
Common Name	LPG
UN Number	1075
Hazchem Code	2WE

Dangerous Goods Class	2.1 (Flammable Gas)
Transport Method	Bulk tanker
Storage Method	4 x 7.5 m3 bullets

## 6.11 Liquid Oxygen

Bulk liquid oxygen is stored on site in a single 60,000 litre capacity cryogenic tank, vapourised and injected into the ore processing process. The system was designed and installed by BOC Limited, specialist industrial gas providers, and the installation was in accordance with the relevant Australian Standard AS1894-1997: The storage and handling of non-flammable cryogenic and refrigerated liquid. The main hazard associated with oxygen is oxygen enrichment.

The LOX system is located on the edge of the existing processing area within the mine site approx. 60 m away from the separated LPG storage compound.

Sherpa Consulting Pty Ltd conducted a Final Hazard Analysis (FNA) of the LOX system prior to it commencing operation and found that at the LOX installation at TGO is regarded as extremely unlikely that a significant release of LOX would occur. The FNA noted that the separation distance significantly exceeds the requirement of 15m in AS1894 -1997 from LOX storage to a flammable liquefied gas storage of less than 60 m3 capacity.

To ensure that the likelihood of an incident involving oxygen is low, the following occur:

- Processing and maintenance personnel are made aware of the hazards of oxygen
- There is no smoking, no open flame and no hot work near the Liquid Oxygen
- Specialist maintenance procedures are in place for working on oxygen systems.

The key characteristics of Liquid Oxygen are detailed within Table 20.

**Table 20 – Key Characteristics of Liquid Oxygen**

Chemical Name	Oxygen, Refrigerated Liquid
Common Name	Liquid Oxygen (LOX)
UN Number	1073
Hazchem Code	2 PE
Dangerous Goods Class	2.2 (Non-Flammable/non-toxic gas)
Transport Method	Bulk tanker
Storage Method	Cryogenic vertical tank

## 6.12 ASBESTOS

Where older infrastructure is re-used at TGO from other sites, or asbestos is suspected of being present anywhere onsite, a suitably qualified contractor will inspect and advise TGO of:

- asbestos details (location, form, identification, management) for inclusion in the Asbestos Register, if **low risk**, or
- asbestos management, removal and disposal standards and requirements, if **high risk**.

If Asbestos exists on the TGO lease then an Asbestos Management Plan will be required (in accordance with Workplace Health and Safety Regulations Chapter 8 paragraph 432).

The key characteristics of asbestos are detailed within Table 21.

**Table 21 – Key Characteristics of asbestos**

Chemical Name	Asbestos
UN Number	2590, 2212
Hazchem Code	2X
Dangerous Goods Class	9 Misc.

## 6.13 POTASSIUM AMYL XANTHATE (PAX)

PAX is used as a flotation reagent to collect gold rich particles for fine grinding to improve their leaching characteristics.

PAX is supplied in 1m<sup>3</sup> bulka bags and opened via a bag splitter to discharge contents into a mixing tank. Personnel conducting mixing activities require PPE (coveralls and respirator face mask).

PAX is stored and pumped as a mixed liquid to the detoxification tank. Two sea containers are used for onsite storage to allow simple stock rotation management. The key characteristics of Sodium Metabisulphite are detailed below in Table 22.

**Table 22 – Key Characteristics of Potassium amyl xanthate (PAX)**

Chemical Name	Potassium amyl xanthate (90%) Potassium hydroxide (1.5%)
Common Name	PAX
Chemical Formula	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> OCS <sub>2</sub> K.
UN Number	3342 CAS No 2720-73-2 (90%) CAS No 1310-58-3 (1.5%)
Hazchem Code	1Y
Dangerous Goods Class	4.2 Flammable Solids - Substances liable to spontaneous combustion
Transport Method	20 x 1 m3 bulka bag in box delivered by road transport
Storage Method	In bag, in box as solid in covered sea container

Operational Function	Reagent in the flotation process
----------------------	----------------------------------

## 7. REPORTING OF EVALUATION AND COMPLIANCE

TGO prepares a Monthly Environmental Management Report. This report includes and assessment of monitoring data against past performance criteria stipulated in EPL 20169 and SSD 9176045. This report is prepared by the Environmental Coordinator and made available to the public with TGOs website [www.alkane.com.au](http://www.alkane.com.au)

TGOs Annual Review includes a comprehensive review of the site's environmental performance for the previous financial year. This detailed report evaluates and reports on compliance and identifies trends in the monitoring data. As part of the Annual Review, performance of the management plan will be reviewed and any potential improvements identified. Any potential improvements to the plan that are practicable will be implemented in an effort to continuously improve the environmental performance of the project.

### 7.1 EPA NOTIFICATION OF ENVIRONMENTAL HARM

Incidents involving hazardous materials that cause or threaten material harm to the environment will be reported by telephoning the Environment Line service on 131 555 immediately after TGO becomes aware of an incident in accordance with the requirements of Part 5.7 of the Act. TGO will provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

### 7.2 INCIDENT AND NON-COMPLIANCE NOFITIFACTION

The Planning Secretary will be notified in writing via the Major Projects website immediately after TGO becomes aware of any incident. The notification will identify the development and set out the location and nature of the incident. Subsequent notification requirements will be given, and reports submitted in accordance with the requirements set out in Appendix 8 of the Development Consent.

The Planning Secretary will be notified in writing via the Major Projects website within seven days of TGO becoming aware of any incident or non-compliance. The notification will identify the development, set out the condition of consent that TGO is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

*Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*

### 7.3 ACCESS TO INFORMATION

Until the completion of all rehabilitation required under SSD 9176045, TGO will make available to the public any relevant environmental information, and compliance with regulatory requirements including condition D15 of the SSD (Appendix 2). All this information is made publicly available on the TGO website, [www.alkane.com.au](http://www.alkane.com.au) and that information is kept up to date to the satisfaction of the Secretary.

## 7.4 ANNUAL REVIEW

By the end of September each year or other timeframe agreed by the Planning Secretary, TGO must submit a report to the DPHI reviewing the environmental performance of the project, to the satisfaction of the Secretary. The review includes the conditions stipulated in Schedule 2 Condition D10 of the SSD. A copy of the Annual Review will be submitted to Narromine Shire Council (NSC) and relevant agencies and made available to the TGO Community Consultative Committee (CCC) and any interested person upon request.

## 7.5 COMPLAINTS

TGO maintains a 24-hour 7 day, Community Complaints Number (02 6865 6116). The purpose of this complaints line is to receive complaints from members of the public in relation to activities conducted at the premises or by vehicle or mobile plant.

In addition to this, complaints can be lodged by email at [tomingleygold@alkane.com.au](mailto:tomingleygold@alkane.com.au) or by visiting the site office.

Complaints are recorded and investigated in accordance with TGOs procedure detailed in the Environment Management Strategy for handling complaints.

The complaints register is maintained and updated on the TGO website monthly.

## 8. ROLES AND RESPONSIBILITIES

Roles and Responsibilities for implementation of this plan are outlined in Table 23:

**Table 23 – Roles and Responsibilities**

<b>Role</b>	<b>Responsibilities</b>
TGO General Manager Operations	Accountable for the overall environmental performance of the operations, including the outcomes of this Plan.
TGO WHS Manager	Maintain emergency response plan and ensure regular training is carried out. Maintain ChemAlert, chemicals register and site introduction of chemicals process.
TGO Environment & Community Manager	Ensure implementation of this Plan, including reporting of non-compliances, and implementation of corrective actions. Ensure employees are competent through training and awareness programs.
TGO Processing Manager.	Undertake laboratory testing for Cyanide. Maintain the CN <sub>WAD</sub> discharged to RSF at 20 mg/L (90 percentile) or 30 mg/L (maximum). Ensure wildlife observations at RSF are undertaken.
All Personnel	Follow direction provided by the General Manager Operations, Safety & Training Manager, Process Superintendent and Environment and Community Manager. Show due care not to cause environmental harm. Notify Supervisor/Environment and Community Manager of any non-compliance.

## 9. COMPETENCE, TRAINING AND AWARENESS

All personnel working at TGO will undergo an induction. This induction includes information on the storage and management of all hazardous materials while working on site.

After completing the induction workers will sign a statement of attendance and records of this will be kept in the site safety management system.

## 10. Auditing And Review

The revision of this plan is completed in accordance with Condition D6 and D7 of SSD 9176045 as described below.

- D6 Within three months of:
- a) the submission of an incident report under condition D8;
  - b) the submission of an Annual Review under condition D10;
  - c) the submission of an Independent Environmental Audit under condition D12; or
  - d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise);
  - e) notification of a change in development phase under condition A5; or
  - f) a direction of the Secretary under condition A3,
- the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.
- D7 If necessary, to either improve the environmental performance of the development or cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

As required under Schedule 2, Condition D12 and D13 of SSD9176045, TGO must commission an Independent Environmental Audit within one year of mining operations commencement, and every three years thereafter, unless the Secretary directs otherwise. TGO must submit this audit to the Planning Secretary and other NSW agencies that ask for it, and implement the recommendations to the satisfaction of the Secretary. The initial audit was completed in June 2015 with subsequent audits being completed in August 2018, May 2021 and November 2024.

## 11. Appendix 1: Hazardous Materials on Site

Hazardous Material	Location	Maximum Quantity
Diesel Fuel	Mining Contractor Yard	200,000 litres
Lubricants	Processing Workshop	3000 litres
Lubricants	Contractors Workshops (Emeco)	23000 litres
Lubricants	Contactors Workshop (Maxfield)	3000 litres
Sodium Cyanide	Reagents Compound	180,000 litres
Sodium Hydroxide	Reagents Compound	60,000 litres
Hydrochloric Acid	Reagents Compound	30,000 litres
Acetic Acid	Reagents Compound	2000 litres
Sodium Metabisulphite	Reagents Compound	20,000 litres
Copper Sulphate	Reagents Compound	20,000 litres
Liquid Oxygen	LOX Storage area	60,000 litres
LPG	LPG Storage Area	4 x 6750 litre tanks
Ammonium Nitrate	Magazine Yard	70000 litres
Ammonium Nitrate Prill	Magazine Yard	32000 litres
Process residue (plus supernatant water)	Residue Storage Facility (RSF)	201,000,000 Litres
Process water	Process Water Dam	10,000,000 litres
Mining impacted water	Central Storage Dam (dirty water cell)	78,200 Litres
Sediment Basin 1	West of processing plant	20,200,000 litres
Sediment Basin 2	South West corner of residue storage facility	5,200,000 litres
Sediment basin 3	South of magazine	10,700,000 litres
Sediment Basin 4	South of Waste Rock Emplacement 3	34,000,000 litres
Sediment Basin 5	North of Caloma 1 pit	9,700,000 litres
Sediment Basin 7	South West of Caloma 2 pit	4,600,000 litres
PAX solutions	Reagents Compound	5,600 litres

## 12. Appendix 2: Reference Table

Condition	Section Addressed
B94. The Applicant must store and handle all chemicals, fuels and oils in accordance with: (a) the requirements of all relevant Australian Standards, including and not limited to <i>Australian Standards 2187 Explosives – Storage, transport and use</i> ; and (b) the EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook, if the chemicals are liquids.	5,6 5, 6
B95. The Applicant must submit a Hazardous Materials Management Plan for the mine development to the satisfaction of the Planning Secretary. This plan must: (a) be prepared in consultation with relevant government agencies including Council, DPE Water, TfNSW, EPA and Resources Regulator; (b) be consistent with the International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold; (c) describe the measures that would be implemented to: (i) ensure sodium cyanide and other toxic chemicals and dangerous goods are stored and handled onsite in accordance with the relevant guidelines; (ii) ensure the transportation of hazardous materials to or from the site is undertaken in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 11 – Route Selection and the Australian Code for the Transport of Dangerous Goods by Road and Rail, or its latest version; (iii) ensure that the storage, handling, and transport of explosives are managed in accordance with the requirements of the Resources Regulator; and (iv) detail the emergency procedures for the development consistent with the Department's <i>Hazardous Industry Planning Advisory Paper No. 1 – Emergency Planning</i>	3.3 4 5, 6 5.2, 6.1.2, 6.2.2 5.2, 6.1, 6.2.2 5.4.3
B97. The Applicant must implement the approved Hazardous Materials Management Plan	1
D5 Management plans required under this consent must be prepared in accordance with relevant guidelines, and include where relevant: (a) summary of relevant background or baseline data; (b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c); (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (d); (f) a contingency plan to manage any unpredictable impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (g) a program to investigate and implement ways to improve the environmental performance of the development over time; (h) a protocol for managing and reporting any: (i) incident, non-compliance or exceedance of any impact assessment criterion or performance measure; (ii) complaint; or (iii) failure to comply with other statutory requirements; (i) Public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and (j) a protocol for periodic review of the plan.  <i>Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i>	N/A 3 N/A N/A 6 6 N/A N/A 5.7 N/A 7 7 7 N/A 7.4, 10
D6 Within three months of:	

<p>(a) the submissions of an incident report under condition D8;                  (b) the submission of an Annual Review under condition D10;                  (c) the submission of an Independent Environmental Audit under condition D12; or                  (d) the modification of the conditions of this consent (unless the conditions require otherwise)                  (e) notification of a change in development phase under condition A5I or                  (f) a direction of the Secretary under condition A3</p> <p>The suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.</p>	10
<p>D7 If necessary, to either improve the environmental performance of the development or cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.</p>	10
<p>D8 The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 8.</p>	7.2
<p>D9 The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p>	7.2
<p>D10 By the end of September each year after the date of physical commencement of development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <p>(a) describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;                  (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the:</p> <p style="padding-left: 40px;">(i) relevant statutory requirements, limits or performance measures/criteria;                  (ii) requirements of any plan or program required under this consent;                  (iii) monitoring results of previous years; and                  (iv) relevant predictions in the document/s listed in condition A2(c);</p> <p>(c) identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;                  (d) evaluate and report on compliance with the performance measures, criteria and operating conditions of this consent;                  (e) identify any trends in the monitoring data over the life of the development;                  (f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and                  (g) describe what measures will be implemented over the next financial year to improve the environmental performance of the development.</p>	7.4
<p>D11 Copies of the Annual Review must be submitted to Council and made available to the CCC and any interested person upon request.</p>	7.4
<p>D12 Within one year of the date of physical commencement of development under this consent, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must:</p> <p>(a) be prepared in accordance with the Independent Audit Post Approval Requirements (NSW Government 2020); and                  (b) be submitted, to the satisfaction of the Planning Secretary, within two months of undertaking the independent audit site inspection, unless otherwise agreed by the Planning Secretary.</p>	10
<p>D13 In accordance with the specific requirements of the Independent Audit Post Approval Requirements (NSW Government 2020), the Applicant must:</p>	

<p>(a) review and respond to each Independent Audit Report prepared under condition D12 of this consent;</p> <p>(b) submit a response to the Planning Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations of the Independent Audit Report;</p> <p>(c) implement the recommendations to the satisfaction of the Planning Secretary; and</p> <p>(d) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary.</p>	<p>10</p>
<p>D15 Within three months of the date of physical commencement of development under this consent, until the completion of all rehabilitation required under this consent, the Applicant must:</p> <p>(a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:</p> <ul style="list-style-type: none"> <li>(i) the document/s listed in condition A2(c);</li> <li>(ii) all current statutory approvals for the development;</li> <li>(iii) all approved strategies, plans and programs required under the conditions of this consent;</li> <li>(iv) minutes of CCC meetings;</li> <li>(v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;</li> <li>(vi) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;</li> <li>(vii) a summary of the current phase and progress of the development;</li> <li>(viii) contact details to enquire about the development or to make a complaint;</li> <li>(ix) a complaints register, updated monthly;</li> <li>(x) the Annual Reviews of the development;</li> <li>(xi) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and</li> <li>(xii) any other matter required by the Planning Secretary; and</li> </ul> <p>(b) keep such information up to date, to the satisfaction of the Planning Secretary.</p>	<p>7.3</p>

### 13. Appendix 3: DPHI RFI Response

Condition	Sufficient (Yes/No/Partial)	Document reference and comment	Action required	Company response
A30. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Partial	Section 9 discusses training and awareness but makes specific reference to air quality and dust management, but no hazardous materials	Recommend updating Section 9 to include training for hazardous materials	Section 9 updated
B80. The applicant must ensure that the storage, handling, and transport of				
a) Dangerous goods is done in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the <i>Dangerous Goods Code</i> ; and	Partial	Section 5.2 (Transport) and Section 5.3 (Storage) describe the transport and storage of dangerous goods. However, the specific Australian Standards, particularly AS1940 and AS1596 are not mentioned.	Recommend including reference to the relevant Australian Standards, particularly AS1940 and AS1596 in Section 5.	Sections 5.2 and 5.3 updated.
b) Explosives are managed in accordance with the requirements of the Resources Regulator	No	Section 6.1 (Explosives) describes the use, storage and transport of explosives. However, it does not state that this will be managed in accordance with the requirements of the Resources Regulator	Recommend including a commitment Section 6.1 to manage explosives in accordance with the requirements of the Resource Regulator.	Section 6.1 updated
The applicant must store and handle all chemicals, fuels and oils in accordance with b) the EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook, if the chemicals are liquids.	No	Not addressed	Recommend including a statement in the Plan that addressed Condition B94(b).	Section 5.3 updated
B95. The Applicant must submit a Hazardous Materials Management Plan for the mine development to the satisfaction of the Planning Secretary. This plan must: a) be prepared in consultation with relevant government agencies including Council, <a href="#">DCCEEW Water</a> , TfNSW, EPA and Resources Regulator;	Yes	Section 3.3 (Consultation)  Section 3.1.1 (Project Approval) displays Condition B95 in its entirety. However, sub condition (a) incorrectly references DPE Water instead of DCCEEW Water.	Recommend replacing DPE Water with DCCEEW Water.	Section 3.1.1 and Section 3.3 updated
ensure the transportation of hazardous materials to or from the site is undertaken in	Partial	Section 5.2 (Transport) states <i>'It will be a contractual requirement that suppliers of</i>	Recommend including the term	Section 5.2 updated

accordance with the Department's Hazardous Industry Planning Advisory Paper No.11 – Route Selection and the Australian Code for the Transport of Dangerous Goods by Road and Rail, or its latest version;		<i>Sodium Cyanide and LPG have undertaken an assessment on the route selection to minimise risk to the public and environment in accordance with the DPHI's Hazardous Industry Planning Advisory Paper No. 11 – Route Selection.</i> However, this statement does not capture all other 'hazardous materials'.	'hazardous materials' in Section 5.2 to accompany Sodium Cyanide and LPG. This will further capture the requirement of Condition B95(c)(ii).	
ensure that the storage, handling, and transport of explosives are managed in accordance with the requirements of the Resources Regulator; and	No	Section 6.1 (Explosives) describes the use, storage and transport of explosives. However, it does not state that this will be managed in accordance with the requirements of the Resources Regulator.	Recommend including a commitment in Section 6.1 to manage explosives in accordance with the requirements of the Resource Regulator.	Section 6.1 updated
detail the emergency procedures for the development consistent with the Department's Hazardous Industry Planning Advisory Paper No. 1 – Emergency Planning.	Partial	Section 3.1.1 (Project Approval) states <i>'While there is a requirement to include emergency procedures in line with Condition B95(d), these are not detailed within this plan. The Emergency Management Plan (EMP) details a range of scenarios (including hazardous material spills, leaks, fires, explosions, accidents, etc.) and the emergency responses to these scenarios. No mention of emergency response is made in this plan to avoid inconsistencies or misunderstandings in the event of an emergency.'</i> However, Section 5.4.3 (Emergency Response) goes on to discuss emergency response.  Section 3.1.1 also incorrectly references Condition B95(c)(iv) as B95(d)	Recommend amending the wording in Section 3.1.1 in relation to Emergency Response to include reference to Section 5.4.3.  Recommend updating Section 3.1.1 to correctly reference B95(c)(iv).	Section 3.1.1 updated
B96. The Applicant must not commence mining in the SAR Mine until the Hazardous Materials Management Plan is approved by the Planning Secretary.	No	Not addressed.	Recommend including a statement in the Plan that states <i>'mining in the SAR Mine will not commence until</i>	Section 1 updated

			<i>the Hazardous Materials Management Plan is approved by the Planning Secretary.</i>	
B97. The Applicant must implement the approved Hazardous Materials Management Plan.	No	Not addressed	Recommend including a statement that specifically states ' <i>TGO will implement the approved Hazardous Materials Management Plan.</i> '	Section 1 updated
D5. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include where relevant: b) details of: i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); ii) any relevant limits or performance measures and criteria; and the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Partial	i) Section 3 (Legislative Requirements). However, other statutory requirements are not listed (EPL, WAL, ML, etc.) ii) N/A. No performance measures or criteria applicable.  N/A. No performance indicators applicable to this plan.	Recommend including all licences and lease conditions relevant to hazardous materials.	WAL and MLs have no conditions that would need addressing in this management plan. The EPL has a single condition that would be relevant to this MP and is now referenced in Section 3.
a program to investigate and implement ways to improve the environmental performance of the development over time;	Partial	Section 7 (Reporting of Evaluation and Compliance) discusses the assessment of monitoring data against past performance criteria. It also discusses the development of Annual Reviews. However, there is no mention of a program to investigate and implement ways to improve the environmental performance of the development over time.	Recommend including a paragraph that discusses how the site will investigate and implement ways to improve the environmental performance of the development over time.	Section 7 updated

<p>f) a protocol for managing and reporting any: incident, non-compliance or exceedance of any impact assessment criterion or performance measure;</p>	<p>Partial</p>	<p>Section 7.2 (Incident and Non-Compliance Notification). However, Section 7.2 only refers to air quality incidents.</p>	<p>Recommend updating Section 7.2 to state 'all incidents' and not just air quality incidents.</p>	<p>Section 7.2 updated</p>
<p>g) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and</p>	<p>Partial</p>	<p>Section 7.3 (Access to Information). However, Section 7.3 only refers to air quality information.</p>	<p>Recommend updating Section 7.3 to include 'all environmental information'.</p>	<p>Section 7.3 updated</p>
<p><b>Incident Notification</b> h) D8. The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 88.</p>	<p>Partial</p>	<p>Section 7.2 (Incident and Non-Compliance Notification). However, Section 7.2 only refers to 'air quality incidents'.</p>	<p>Recommend updating Section 7.2 from 'air quality incident' to 'incident'.</p>	<p>Updated</p>
<p><b>Non-Compliance Notification</b> D9. The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance. A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p>	<p>Partial</p>	<p>Section 7.2 (Incident and Non-Compliance Notification). However, Section 7.2 only refers to 'air quality non-compliances'.</p>	<p>Recommend updating Section 7.2 from 'air quality non-compliance' to 'any non-compliance'.</p>	<p>Updated</p>

<p>i) <b>Note:</b> A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</p>				
<p><b>Annual Review</b> D10. By the end of September each year after the date of physical commencement of development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <ul style="list-style-type: none"> <li>a) describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;</li> <li>b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, including a comparison of these results against the: <ul style="list-style-type: none"> <li>i. relevant statutory requirements, limits or performance measures/criteria;</li> <li>ii. requirements of any plan or program required under this consent;</li> <li>iii. monitoring results of previous years; and</li> <li>iv. relevant predictions in the document/s listed in condition A2(c);</li> </ul> </li> <li>c) identify any non-compliance or incident which occurred in the previous financial year, and describe what actions were (or are being) taken to rectify the non-compliance</li> </ul>		<p>Section 7 (Reporting of Evaluation and Compliance) and Section 7.4 (Annual Review). However, Section 7.4 does not address the condition in full.</p>	<p>Recommend including the following in Section 7.4. 'or other timeframe agreed by the Planning Secretary'</p>	<p>Updated</p>

<p>and avoid reoccurrence;</p> <p>d) evaluate and report on compliance with the performance measures, criteria and operating conditions of this consent;</p> <p>e) identify any trends in the monitoring data over the life of the development;</p> <p>f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and</p> <p>j) describe what measures will be implemented over the next financial year to improve the environmental performance of the development.</p>				
<p>D15. Within three months of the date of physical commencement of development under this consent, until the completion of all rehabilitation required under this consent, the Applicant must:</p> <p>a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website:</p> <p>i. the document/s listed in condition A2(c);</p> <p>ii. all current statutory approvals for the development;</p> <p>iii. all approved strategies, plans and programs required under the conditions of this consent;</p> <p>iv. minutes of CCC meetings;</p> <p>v. regular reporting on the environmental performance of the development in accordance with the</p>	<p>Partial</p>	<p>Section 7.3 (Access to Information). However, Section 7.3 does not include the requirement to make information available <i>'Within three months of the date of physical commencement of development under this consent'</i>.</p> <p>Section 7.3 refers to <i>'relevant air quality information'</i>.</p> <p>Section 7.3 is difficult to understand when the paragraph states <i>'..., and compliance with regulatory requirements including condition D15 of the SSD (Appendix 2).'</i></p>	<p>Recommend including <i>'Within three months of the date of physical commencement of development under this consent'</i></p> <p>Recommend removing <i>'relevant air quality information'</i> as this condition relates to other environmental factors apart from <i>'air quality information'</i>.</p> <p>Recommend reviewing <i>Section 7.3 for readability.</i> Instead of stating <i>'and compliance with regulatory requirements including</i></p>	<p>The development has commenced more than 3 months ago, and this condition has been met with all required information publicly available on the Alkane website. It is not considered relevant to include in this management plan. Wording updated.</p>

<p>reporting requirements in any plans or programs approved under the conditions of this consent;</p> <p>vi. a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;</p> <p>vii. a summary of the current phase and progress of the development;</p> <p>viii. contact details to enquire about the development or to make a complaint;</p> <p>ix. a complaints register, updated monthly;</p> <p>x. the Annual Reviews of the development;</p> <p>xi. audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; and any other matter required by the Planning Secretary; and</p>			<p><i>condition D15 of the SSD (Appendix 2).'</i> It is recommended that TGO list all requirements of Condition D15 or simply state '<i>TGO will make publicly available all requirements of Condition D15 (located in Appendix 2 of this Plan'</i></p>	
General Comments	Action Required	Company Response		
<p>Table of Revisions (page ii) lists this as Revision 6, but the document header calls this document Revision 7.</p>	<p>Update document for correct revision.</p>	<p>Updated</p>		
<p>Section 3.1.1 (Project Approval) incorrectly references Condition B95 as B5.</p>	<p>Update reference to condition in Section 3.1.1.</p>	<p>Updated</p>		
<p>Section 5.4.1 (Chemical Inventory Register) uses a double semicolon in the second bullet point.</p>	<p>Recommend removing one of the semicolons.</p>	<p>Updated</p>		
<p>Section 6.2.4 (Operational Considerations in the Management of Cyanide) is a standalone heading with no paragraph or information beneath it.</p>	<p>Include detailed information to accompany the heading.</p>	<p>Header removed as operational considerations for managing cyanide is discussed in the remaining subsections of 6.2</p>		
<p>Section 7.4 (Annual Review) refers to DPE. DPE is no longer a Government Agency.</p>	<p>Recommend reviewing and updating department names as required e.g. update DPE to DPPI</p>	<p>Updated</p>		
<p>Appendix 2: Reference Table requires updating. Some</p>	<p>Recommend updating Appendix 2 with correct references.</p>	<p>Updated</p>		

references to plan sections are incorrect or do not exist, such as Condition D5(f) being referenced as Section 5.7 which does not exist.		
--	--	--