TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)
ABN 53 149 040 371

Tomingley Gold Project

Rehabilitation Management Plan

State Significant Development
MP 09_0155





Prepared by R.W. CORKERY & CO. PTY. LIMITED

December 2022

RWCorkery&co

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State Significant Development MP 09_0155

]

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Ref No. 616/53

December 2022

Summary Table

Name of Mine		Tomingley Gold Project		
RMP Commencement Date		2 July 2022		
Mineral Authorities		ML 1684	**Expiry Date**	11 February 2034
		ML 1821		11 February 2034
Name of Leaseholder		Tomingley Gold Operations Pty Ltd		
Version	**Author**	**Purpose**	**Approved by**	**Date of Submission**
1.0	M. Fake	Initial RMP	D. Pritchard	-
1.1	M. Fake	Final RMP	D. Pritchard	22/12/2022

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List of Acronyms

AHD	Australian Height Datum
AMC	AMC Consultants Pty Ltd
ANZECC	Australian and New Zealand Environment Conservation Council
AWS	Automatic Weather Station
DECC	Department of Environment and Climate Change
EC	electrical conductivity
GHD	GHD Pty Limited
LFA	Landform Function Analysis
NCST	The National Committee on Soil and Terrain
OEH	Office of Environment and Heritage
PIRMP	Pollution Incident Response Management Plan
RGS	RGS Environmental Pty Limited
ROM	Run-of-Mine
RSF	Residue Storage Facilities
RWC	R.W. Corkery & Co. Pty Limited
SAR	San Antonio Roswell
SSM	Sustainable Soils Management Pty Ltd
TGEP	Tomingley Gold Extension Project
TGO	Tomingley Gold Operations Pty Ltd
WREs	waste rock emplacements

1. Introduction to Mining Project

1.1 History of Operations

1.1.1 Overview of Operations

The Tomingley Gold Mine (the "TGO Mine") is located immediately to the south of Tomingley village in central western NSW (the "TGO Mine Site") (see **Figure 1**). The TGO Mine is operated by Tomingley Gold Operations Pty Ltd (the "Company"), a wholly owned subsidiary of Alkane Resources Ltd (Alkane).

The TGO Mine operates under MP 09_0155 granted on 24 July 2012.

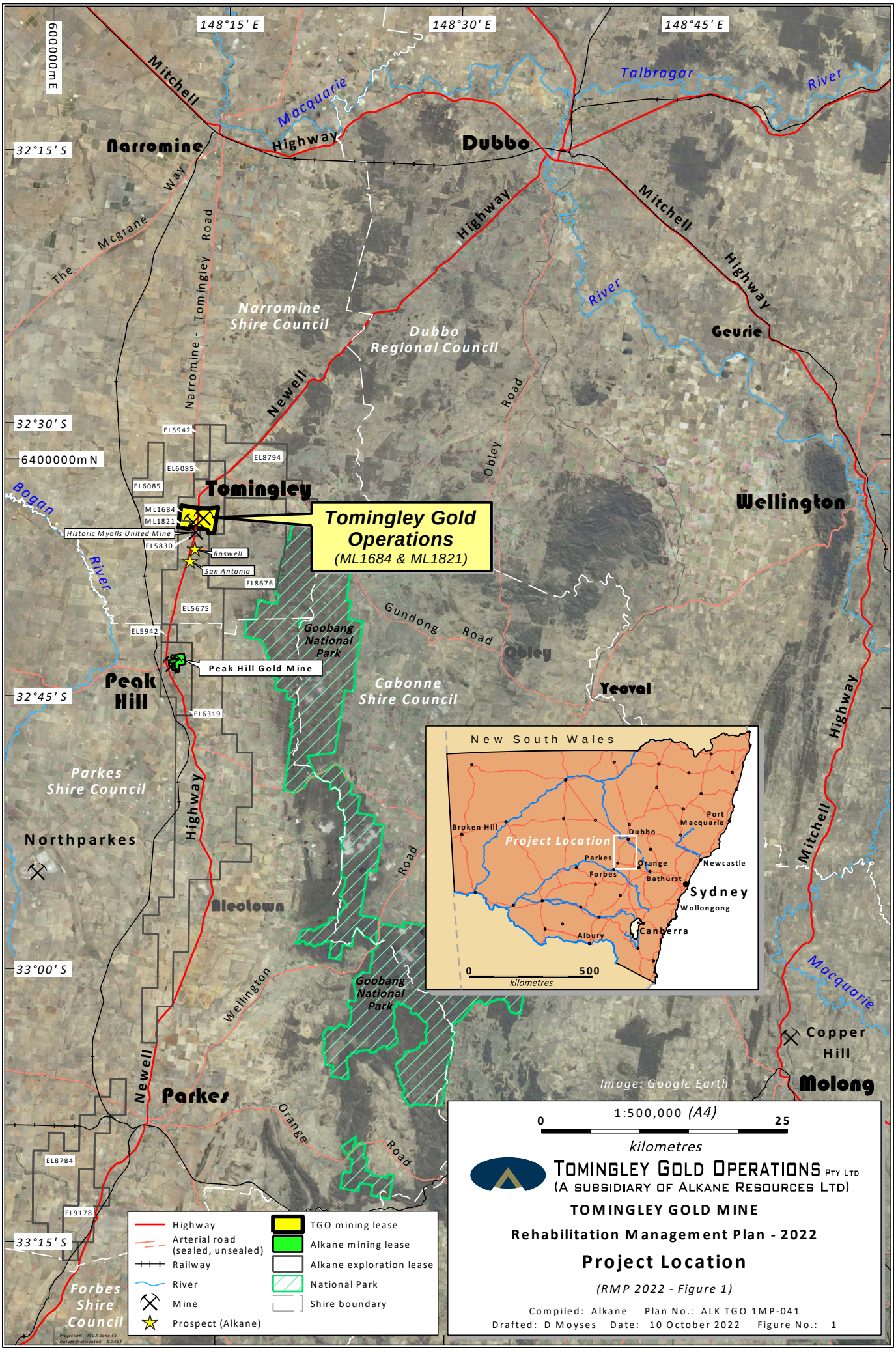
MP 09_0155 has been modified six times previously as follows.

- MOD1 (November 2013) - to adjust a range of commitments made during the original application which were no longer appropriate.
- MOD2 (April 2015) – to permit enhancement of the approved and constructed amenity bund and a cut back of the approved Caloma 1 Open Cut.
- MOD3 (July 2019) – to permit establishment of the Caloma 2 Open Cut, underground extraction from the Caloma 1 and 2 deposits and amendments to waste rock, surface water and soil management.
- MOD4 (May 2020) – to permit the construction and use of Residue Storage Facility 1 Stage 7 to Stage 9 Cell 1 and a commensurate increase in the height and aerial extent of the facility.
- MOD5 (May 2021) – to permit the construction and use of Residue Storage Facility 2 Stages 1 and 2, an extension of the TGO Mine Site boundary to incorporate Residue Storage Facility 2, use of Caloma 2 Open Cut for backfilling operations and the extension of Mine Life from 31 December 2022 to 31 December 2025.
- MOD6 (May 2022) – to permit an increase in the capacity of Residue Storage Facility 1 from approximately 8.93 million tonnes (Mt) to approximately 9.33Mt, including an associated 2m increase in the approved maximum elevation of Cell 2 of Residue Storage Facility 1 from 284.5m AHD to 286.5m AHD, consistent with the approved Stage 9 Cell 1.

Mining operations are approved until 31 December 2025.

The TGO Mine consists of, but is not limited to, the following (see **Figures 2** and **3**).

- Mining of four open cuts, with underground mining under three of the approved open cuts, namely Wyoming 1, Caloma 1 and Caloma 2.



TOMINGLEY GOLD OPERATIONS PTY LTD
(A SUBSIDIARY OF ALKANE RESOURCES LTD)

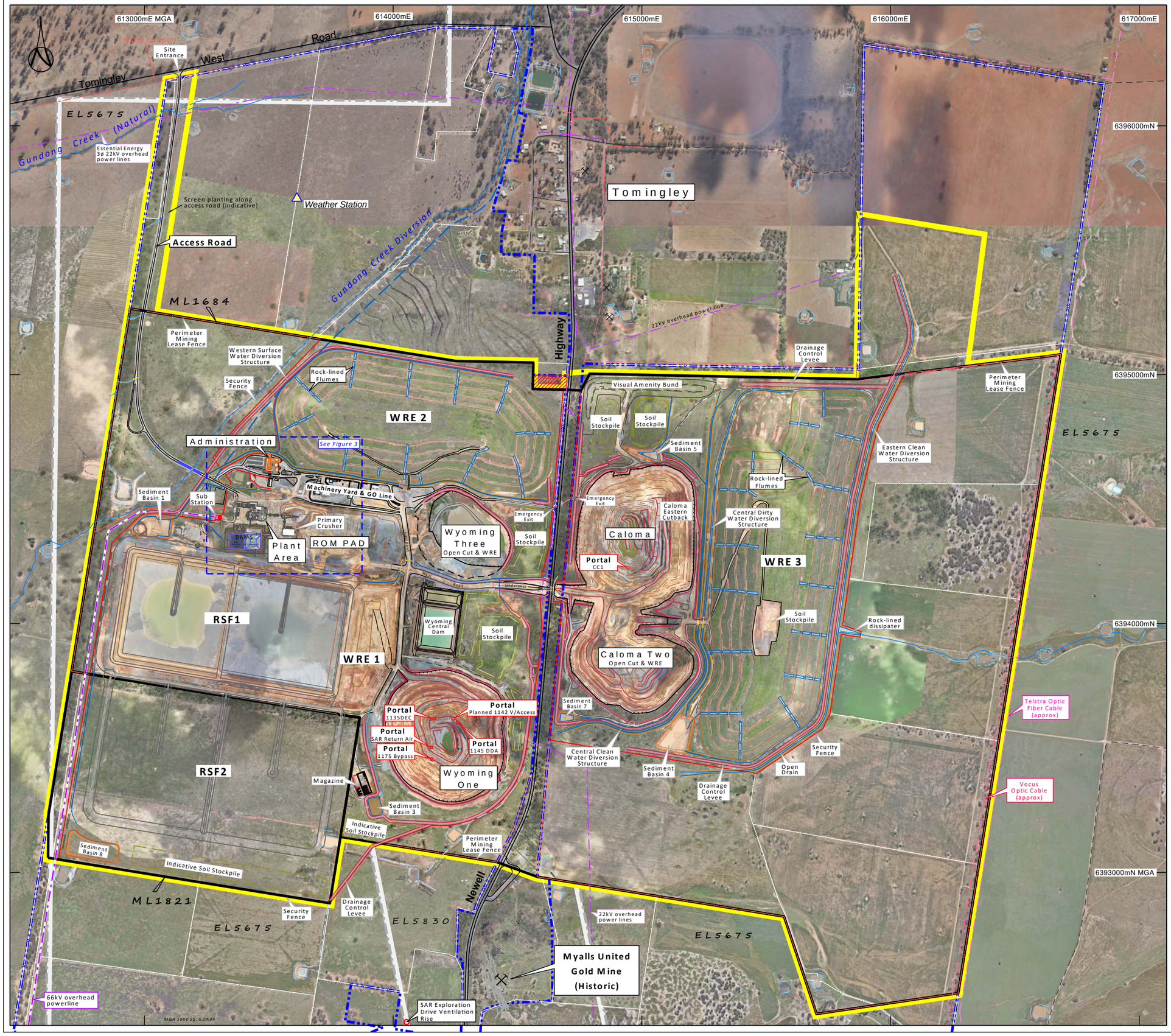
TOMINGLEY GOLD MINE

Rehabilitation Management Plan - 2022

Project Location

(RMP 2022 - Figure 1)

Compiled: Alkane Plan No.: ALK TGO 1MP-041
Drafted: D Moyses Date: 10 October 2022 Figure No.: 1



Legend

- Drainage course
- Clean water storage / farm dam
- Internal Water Diversion Structure
- Rock-lined Flumes
- Bund and / or drainage control levee
- Pit surface edge
- Historic mine / workings
- Sediment basin (internal site water)
- Buried fibre optic cable, Telstra, Vocus
- Power - overhead grid power 22kV, with pole
- Power - Transmission line 66kVA to TGO, with pole
- Buried non potable water pipeline to TGO
- Roads TGO internal; site access, light vehicle or haul road, variable widths
- Security fence
- Perimeter Mining Lease fence

Note, various site operational features as labelled; open cut pit names, WRE's, RSF's, plant area etc.

- Roads; Newell Highway
- Roads; sealed, and unsealed
- Mining lease boundary (TGO)
- Mining lease - excepts the surface and soil below thereof to a depth of 2 metres
- Exploration lease boundary (Alkane)
- Tomingley Gold Mine - Project site boundary
- Tomingley Gold Operations Pty Ltd - Land ownership boundary

Orthoimage (TGO site central) Mine drone 7 December 2021
Orthoimage (TGO site outer) AAM Lidar October 2020 10cm
Orthoimage (north) Aeroglobe July 2019 7cm

Scale 1 : 15000 (A3)

0 — 1000 *metres*

TOMINGLEY GOLD OPERATIONS PTY LTD
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TOMINGLEY GOLD MINE

Current Site Layout

(RMP 2022 - Figure 2)

Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1MP-042
Date: 19 October 2022 Figure No.: 2

Legend

- Drainage course
- Clean water storage / farm dam
- Water Diversion Structure
- Rock-lined Flumes
- Bund and / or drainage control levee
- Sediment basin (internal site water)
- Power - Transmission line 66kVA to TGO, with pole
- Buried non potable water pipeline to TGO
- Roads TGO internal; site access, light vehicle or haul road, variable widths
- Security fence
- Perimeter Mining Lease fence

Note, various site operational features as labelled in plan

Orthoimage (TGO site central) Mine drone 7 December 2021

Scale 1 : 2000 (A3)

0 — 100

metres

TOMINGLEY GOLD OPERATIONS PTY LTD
(A SUBSIDIARY OF ALKANE RESOURCES LTD)

TOMINGLEY GOLD MINE

Site Layout

Processing Plant Area

(RMP 2022 - Figure 3)

Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1MP-043
Date: 10 October 2022 Figure No.: 3

- Placement of waste rock into three out-of-pit waste rock emplacements (Waste Rock Emplacement 1, 2 and 3) and two in-pit waste rock emplacements (Wyoming 3 and Caloma 2). Waste Rock Emplacement 2 and 3 are complete and, with the exception of a small area on the upper surface of Waste Rock Emplacement 3, are under rehabilitation.
- Construction and use of a carbon-in-leach Processing Plant and associated infrastructure, including a Run-of-Mine (ROM) Pad, crushing, grinding and cyanide leaching circuits, workshops, ablutions facilities, stores, office area and car parking. The maximum approved rate of processing is 1.5Mtpa.
- Construction and use of two residue storage facilities, namely Residue Storage Facility 1 (to Stage 9 Cell 2) and Residue Storage Facility 2 (to Stage 2) for the storage of process residues.
- Construction and use of infrastructure, including:
  - dewatering ponds;
  - a water pipeline, from a licensed bore located approximately 7km to the east of Narromine;
  - various internal and external roads, including an underpass beneath the Newell Highway and upgrades to Tomingley West Road and associated intersections;
  - a transformer and electrical distribution network within the TGO Mine Site and a 20km 66kV electricity transmission line from the Peak Hill substation;
  - various clean and dirty water management structures; and
  - fenced and unfenced biodiversity offsets and vegetated amenity bunds.

1.1.2 Existing Biodiversity Offset Strategy

The Company maintains approximately 157ha of Biodiversity Offset Area within and in the vicinity of the TGO Mine Site in accordance with Conditions 33, 34, and 34A of MP 09_0155 and as shown on **Figure 6**. Further information is provided in Sections 2.4.1 and 2.4.2 in regard to those areas of the Biodiversity Offset Area within the Mining Leases of the TGO Mine Site.

For the purpose of this Plan, the Biodiversity Offset Areas are generally not considered further as they do not constitute as mining-related disturbance that is required to be rehabilitated. Rather, the Biodiversity Offset Areas will continue to be managed in accordance with separate and specific approved management plans in perpetuity.

1.1.3 Rehabilitation

The Company has undertaken progressive rehabilitation of the TGO Mine Site as areas are no longer required or available for operational purposes.

The most significant rehabilitation undertaken to date has been the progressive rehabilitation of the completed Waste Rock Emplacement 2 and 3. Further information on the design and construction of these landforms is provided in 6.2.3.3. Rehabilitation operations have included the following.

- Shaping of the Waste Rock Emplacements to achieve outer faces with slopes of <18° and bench heights of approximately 10m, with back sloped berms to direct water to regularly spaced dropdown structures.
- Construction of regularly spaced rock-lined dropdown structures to convey water from the rehabilitated surface to the ground without erosion.
- Place a minimum of 200mm of soil on the shaped landform.
- Spreading seed of the species identified in Table 19 and Section 6.2.5.3 and mulch to prevent erosion prior to establishment of the target vegetation community.
- Permit the target vegetation community to become established on the rehabilitated landform.

1.1.4 Applications Under Assessment

The Company is currently in the process of seeking approval for Modification 7 (MOD7) and the Tomingley Gold Extension Project.

Modification 7 would involve establishment of a northern access ramp for the Wyoming 1 Open Cut in response to observed localised failures of the northeastern pit wall in the vicinity of the current ramp alignment.

The Tomingley Gold Extension Project is a State Significant Development for the development of the San Antonio and Roswell (SAR) Mine, located on the SAR deposits and immediately south of the TGO Mine Site (the "SAR Mine Site").

Where relevant, contemporary assessments for the above applications have been included in this Plan. Notwithstanding the above, only those operations that are currently approved under MP 09_0155 are considered as part of this Plan. The Company would review and revise this Plan as required pending any future modifications or approvals granted.

1.2 Current Development Consents, Leases and Licences

The TGO Mine operates under the following consents, leases and licenses with respect to mining and rehabilitation on site as listed in **Table 1**.

Table 1
Consents, Leases and Licences

Number	Granted by	Grant Date	Expiry Date	Purpose
Development Consent				
PA09_0155	Minister for Planning and Infrastructure	24 Jul 2012	31 Dec 2022	• Development Consent.
PA09_0155 – MOD 1	Minister for Planning and Infrastructure	7 Nov 2013	31 Dec 2022	• Deferment of the Tomingley West Road upgrade. • Amendments to proposed fauna deterrents on Residue Storage Facility 1. • Amendments to the location of WAD cyanide monitoring point. • Amendments to the frequency of Total cyanide monitoring.
PA09_0155 – MOD 2	Minister for Planning and Infrastructure	16 Apr 2015	31 Dec 2022	• Cut back of the Caloma 1 Open Cut. • Enhancement of the existing amenity bund between the Caloma 1 Open Cut and the village of Tomingley. • Construction of a range of haul roads.
PA09_0155 – MOD 3	Minister for Planning and Infrastructure	5 Jul 2016	31 Dec 2022	• Further cutback of the Caloma 1 Open Cut. • Establishment of Caloma 2 open cut. • Establishment of underground workings below the Caloma 1 Open Cut. • Extension of Waste Rock Emplacement 3. • Backfill of the Wyoming 3 Open Cut. • Downstream lift of the Residue Storage Facility. • Modifications to the TGO Mine Site drainage.
PA09_0155 – MOD 4	Minister for Planning and Public Spaces	25 May 2020	31 Dec 2022	• An increase the capacity of Residue Storage Facility 1 from approximately 6.57Mt to approximately 8.93Mt. • An increase in the approved maximum elevation of the Residue Storage Facility 1 of 6m from 280.5m AHD to 286.5m AHD. • An increase in the approved footprint of the Residue Storage Facility 1 of from approximately 50ha to approximately 55ha.
PA09_0155 – MOD 5	Minister for Planning and Public Spaces	5 May 2021	31 Dec 2025	• Construction and use of Stage 1 and 2 of a second Residue Storage Facility, namely Residue Storage Facility 2. • An extension of Mine Life from 31 December 2022 to 21 December 2025. • Extension of the TGO Mine Site boundary to incorporate Residue Storage Facility 2. • Use of Caloma 2 for backfilling operations.
PA09_0155 – MOD 6	Minister for Planning and Public Spaces	10 Jun 2022	31 Dec 2025	• An increase in the capacity of Residue Storage Facility 1 from approximately 8.93Mt to approximately 9.33Mt. • An increase in the approved maximum elevation of Cell 2 of 2m from 284.5m AHD to 286.5m AHD.

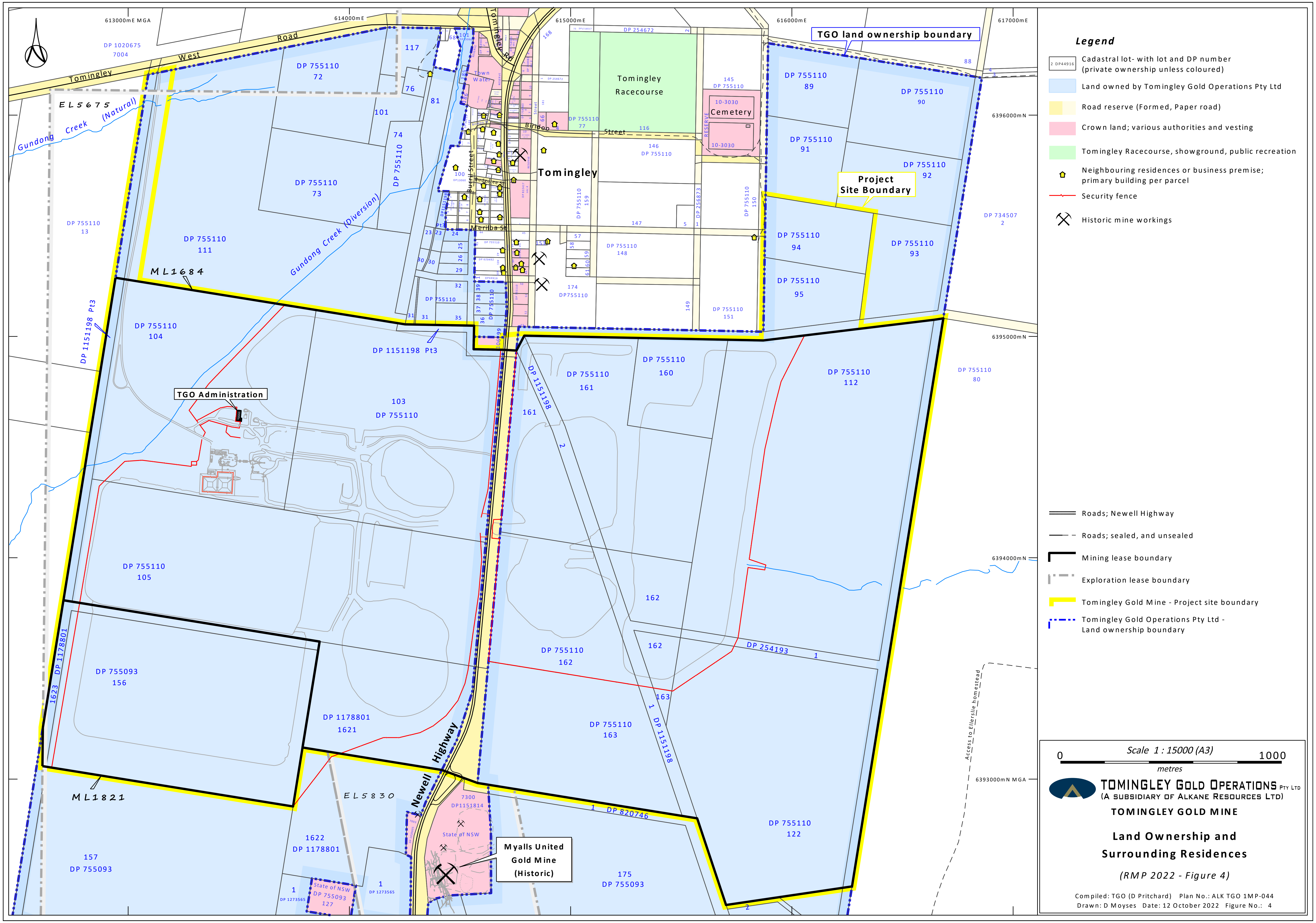
Table 1 (Cont'd)
Consents, Leases and Licences

Number	Granted by	Grant Date	Expiry Date	Purpose
Mineral Authorities				
TGO Mine Site				
ML1684	Minister for Mineral Resources	11 Feb 2013	11 Feb 2034	Mining activities at the Tomingley Gold Mine.
ML1821		19 Nov 2021	11 Feb 2034	
EL5675		17 Jan 2000	16 Jan 2023	Exploration Activities.
Adjacent to Mining Leases				
EL5830	Minister for Mineral Resources	05 Apr 2001	05 Apr 2028	Exploration Activities.
Licences – Environmental				
EPL20169	Environment Protection Authority	23 Oct 2012	Renewed annually	Regulation of noise, dust and water emissions from the Mine Site (provided as Appendix 4).
Flood Work Approval 80FW723901	Department of Primary Industries – Office of Water	21 Sep 2015	2 Jan 2028	Approval for Gundong Creek levy.
WAL20270	Department of Primary Industries – Office of Water	20 Aug 2012	NA	Licence to extract groundwater up to 1 000ML/year from the water supply bore east of Narromine.
WAL28643	Department of Primary Industries – Office of Water	13 Aug 2013	NA	Licence to extract groundwater up to 220ML/year from NSW Murray Darling Basin Fractured Rock Aquifer.
WAL29266	DPI	16 Jan 2012	N/A	Licence to extract groundwater up to 70ML/year from NSW Murray Darling Basin Fractured Rock Aquifer.
Works Authority Deed	RMS	-	-	Newell Highway underpass.
S34A Crowns Lands Licence RI517394	Minister for Crown Lands	26 Jun 2013	Ongoing	Licence to permit construction of electricity infrastructure.
On-Site Sewerage Management System Approval	Narromine Shire Council	30 Sep 2013	Ongoing	Approval to operate sewage treatment facility within the Mine Site.

Source: Tomingley Gold Operations Pty Ltd

1.3 Land Ownership and Land Use

Table 2 provides an overview of the land tenure of lots within and adjacent to the TGO Mine Site and **Figure 4** presents the land tenure of lots within and in the vicinity of the TGO Mine Site. In addition, the road reserve of the Newell Highway intersects the TGO Mine Site. An unnamed Crown Parcel is located adjacent to and immediately north of the TGO Mine Site, intersecting Lot 31 DP 755110.



TGO land ownership boundary
Project Site Boundary
TGO Administration
Myalls United Gold Mine (Historic)
Tomingley
Tomingley Racecourse
Cemetery
Tomingley West Road
Newell Highway
Tomingley Rd
Meriba St
Gundong Creek (Natural)
Gundong Creek (Diversion)
EL5675
EL5830
ML1684
ML1821
613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA
DP 755110 72
DP 755110 73
DP 755110 111
DP 755110 104
103 DP 755110
DP 755110 105
DP 755093 156
DP 1178801 1621
1622 DP 1178801
157 DP 755093
DP 1151198 Pt3
DP 755110 161
DP 755110 160
DP 755110 112
DP 755110 162
DP 755110 163
DP 755110 122
175 DP 755093
DP 755110 89
DP 755110 90
DP 755110 91
DP 755110 92
DP 755110 94
DP 755110 93
DP 755110 95
DP 755110 13
DP 1020675 7004
DP 734507 2
DP 755110 80
DP 254193
DP 820746
DP 1151198
DP 1178801 1623
7300 DP1151814
State of NSW
Access to Ellerslie homestead
Legend
Cadastral lot- with lot and DP number (private ownership unless coloured)
Land owned by Tomingley Gold Operations Pty Ltd
Road reserve (Formed, Paper road)
Crown land; various authorities and vesting
Tomingley Racecourse, showground, public recreation
Neighbouring residences or business premise; primary building per parcel
Security fence
Historic mine workings
Roads; Newell Highway
Roads; sealed, and unsealed
Mining lease boundary
Exploration lease boundary
Tomingley Gold Mine - Project site boundary
Tomingley Gold Operations Pty Ltd - Land ownership boundary
Scale 1 : 15000 (A3)
0
1000
metres
TOMINGLEY GOLD OPERATIONS PTY LTD
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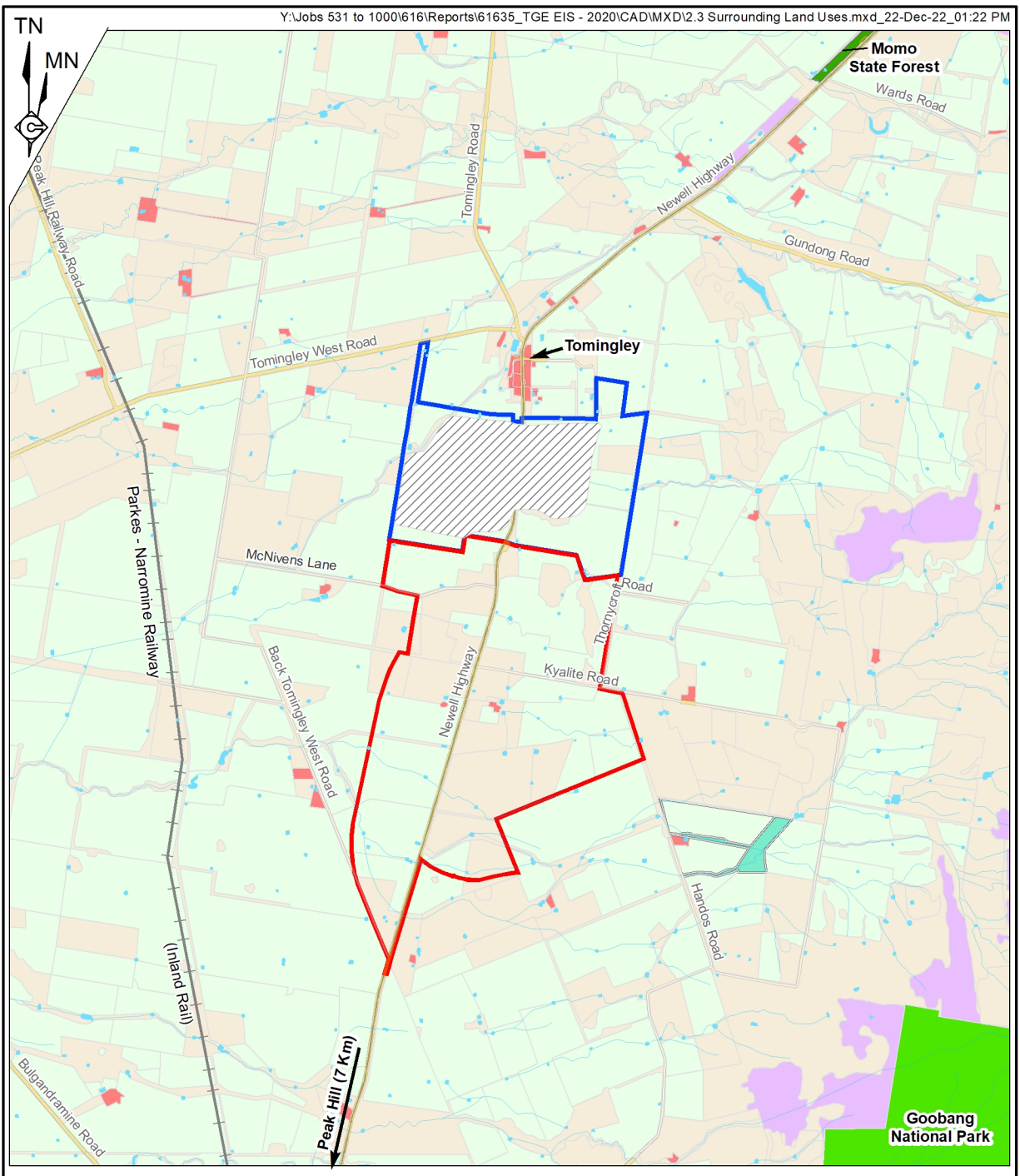
TOMINGLEY GOLD MINE
Land Ownership and Surrounding Residences
(RMP 2022 - Figure 4)
Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1MP-044
Drawn: D Moyses Date: 12 October 2022 Figure No.: 4

Table 2
Land Tenure within and Adjacent to the Mine Site

Ref	Lot	Deposited Plan	Tenure	Owner
Mine Site				
12	94	755110	Freehold	TGO / Alkane
9	95	755110	Freehold	TGO / Alkane
14	103	755110	Freehold	TGO / Alkane
18	104	755110	Freehold	TGO / Alkane
22	105	755110	Freehold	TGO / Alkane
15	111	755110	Freehold	TGO / Alkane
6	112	755110	Freehold	TGO / Alkane
34	122	755110	Freehold	TGO / Alkane
2	160	755110	Freehold	TGO / Alkane
10	161	755110	Freehold	TGO / Alkane
35	162	755110	Freehold	TGO / Alkane
33	163	755110	Freehold	TGO / Alkane
Land Adjacent to the Mine Site				
1	99	755110	Freehold	TGO / Alkane
3	92	755110	Freehold	TGO / Alkane
4	106	755110	Crown	The State of NSW
5	93	755110	Freehold	TGO / Alkane
7	36	755110	Freehold	TGO / Alkane
8	91	755110	Freehold	TGO / Alkane
11	2	1151198	Freehold	TGO / Alkane
13	1	1264577	Freehold	Private
16	13	755110	Freehold	Private
17	35	755110	Freehold	TGO / Alkane
19	14	755110	Freehold	TGO / Alkane
20	31	755110	Freehold	TGO / Alkane
21	3	1151198	Freehold	TGO / Alkane
23	157	755093	Freehold	TGO / Alkane
24	156	755093	Freehold	TGO / Alkane
25	163	755093	Freehold	Private
26	1621	1178801	Freehold	TGO / Alkane
27	1622	1178801	Freehold	TGO / Alkane
28	1623	1178801	Freehold	TGO / Alkane
29	80	755110	Freehold	Private
30	2	254193	Freehold	TGO / Alkane
31	1	254193	Freehold	TGO / Alkane
32	1	820746	Freehold	TGO / Alkane
36	1	1151198	Freehold	TGO / Alkane

The dominant surrounding land uses generally comprise of dryland cropping and grazing with associated rural homesteads, and Tomingley Village (**Figure 5**). Other land uses include the following.

- Road transportation associated with the Newell Highway and surrounding local roads.
- Rail transportation associated with the Inland Rail.
- Village residential associated with the village of Tomingley.
- Nature conservation and "other minimal use" associated with areas of native vegetation.



REFERENCE

- SAR Mine Site Boundary
- TGO Mine Site Boundary
- Inland Rail Corridor

Note: Some boundaries/lines are offset for clarity

Land Use

- Grazing
- Cropping
- Mining
- Transport and communication
- Residential and farm infrastructure
- River/Reservoir/Dam
- Production forestry
- Other minimal use
- Managed resource protection
- Nature conservation

SCALE 1:100 000 (A4)

1 0 1 2 3 4 km

Source: NSW Land Use & Management (2017)

Figure 5
SURROUNDING LAND USES

613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA
West Tomingley Road
Gundong Creek (Natural)
Gundong Creek Diversion
Tomingley
Newell Highway
EL5675
ML1684
ML1821
EL5830
TGP-OS1
TGP-IF1
TGP-ST01
TGP-ST02
TGP-ST03
TGP-OS2
TGP-OS2
TGP-ST04
TGP-ST06
TGP-ST05
TGP-HS5
TGP-ST11
TGP-ST13
TGP-ST14
TGP-IF2
TGP-HS4
TGP-HS3
TGP-ST10
TGP-HS2
TGP-HS1
TGP-ST07
TGP-ST08
TGP-ST09
Inset A
MGA zone 55, GDA94

Biodiversity Offset Strategy
Vegetation Communities

Vegetation Communities to be managed or established (Total area 157ha)

- 55ha — Community 1- Inland Grey Box, Poplar Box, White Cypress Pine tall woodland on red loams (Benson 76)
- 32.3ha — Community 2- River Red Gum riverine woodland forest (Benson 78) {Remnant 12.2ha, Extension 20.1ha}
- 41ha — Community 3- Fuzzy Box, Inland Grey Box on alluvial brown loam soils (Benson 201)
- 2ha — Community 4- Poplar Box - Belah woodland on clay alluvial plains (Benson 56)
- 27ha — Community 5- Belah / Black Oak Western Rosewood, Wilga Woodland (Benson 57)

TGP-HS3 Non-aboriginal heritage site

TGP-ST10 Aboriginal heritage site

Roads; Newell Highway

Roads; sealed, and unsealed

Mining lease boundary (TGO)

Exploration lease boundary (Alkane)

Tomingley Gold Mine - Project site boundary

Tomingley Gold Operations Pty Ltd - Land ownership boundary

Orthoimage (TGO site central) Mine drone 7 December 2021
Orthoimage (TGO site outer) AAM Lidar October 2020 10cm
Orthoimage (north) Aeroglobe July 2019 7cm

Scale 1 : 15000 (A3)

0 — 1000 *metres*

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TOMINGLEY GOLD MINE

Vegetation Communities and Heritage

(RMP 2022 - Figure 6)

Compiled: TGO Plan No.: ALK TGO 1EV-006c
Drawn: DJM Date: 12 October 2022 Figure No.: 6

2. Final Land Use

2.1 Regulatory Requirements for Rehabilitation

Regulatory requirements for rehabilitation that apply to ML1684 and ML1821 are listed in **Table 3**.

2.2 Final Land Use Options Assessment

The existing and approved final land use for the TGO Mine Site was previously approved as part of the Project Approval (MP 09_0155) for the TGO Mine. The approved final land use has previously been modified as part of successive Modifications to MP 09_0155, most recently as part of MOD6. The most recently approved final land use is presented as Appendix 6 of MP 09_0155.

2.3 Final Land Use Statement

In general, the approved final land use for the TGO Mine Site consists of a sustainable mosaic of agricultural production, native ecosystems, retained final voids, and supporting infrastructure such as roads, fences, and water management areas.

2.4 Final Land Use and Mining Domains

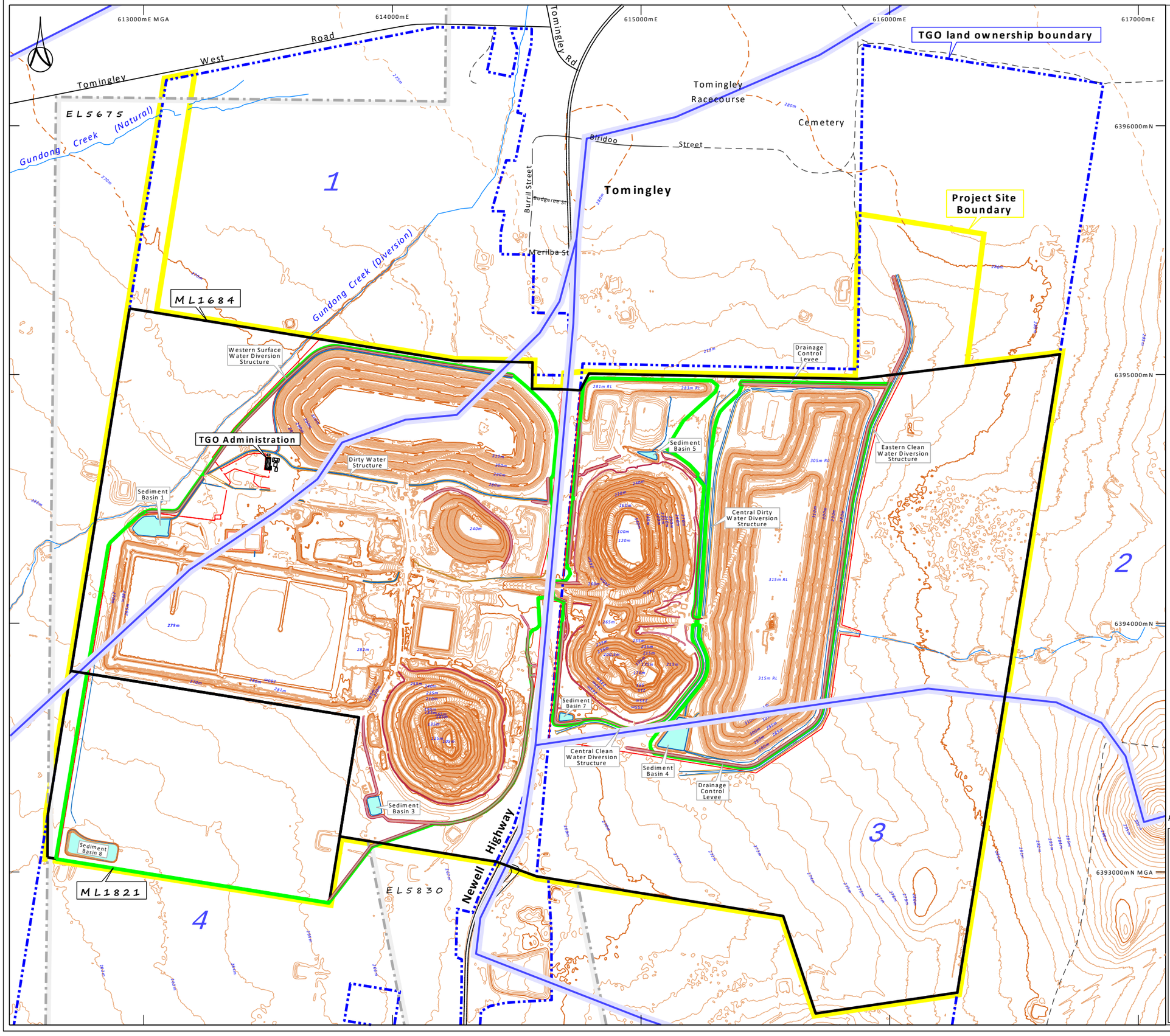
2.4.1 Final Land Use Domains

This section describes the final land use domains for all areas within the TGO Mine Site (**Plan 1**).

Domain A – Native Ecosystem Areas

This domain consists of two vegetation types, namely woodlands and grasslands. As far as practicable, Domain A would be integrated with the Rehabilitation Biodiversity Offset Area (**Figure 7**)

Domain Aa – Native Ecosystem Area - Woodland - includes those areas of the TGO Mine Site that would be rehabilitated to a grassy woodland consistent with the Inland Grey Box-Poplar Box-White Cypress Pine Community (Benson 76). This domain includes the upper surface of the Waste Rock Emplacements and the Caloma Amenity Bund.



Legend

- Drainage course
- Clean water storage / farm dam
- Internal Water Diversion Structure
- Bund and / or drainage control levee
- Sediment basin (internal site water)

Elevation (Contours AAM Lidar October 2020 10cm)

- Contour (10m index) with RL
- Contour 1m with RL
- Catchment area (Pre mining natural environment)
- Mine site water management zones (Clean water structures)
- Security fence
- Roads; Newell Highway
- Roads; sealed, and unsealed
- Mining lease boundary
- Exploration lease boundary
- Tomingley Gold Mine - Project site boundary
- Tomingley Gold Operations Pty Ltd - Land ownership boundary

Plan 1B- Talbe 5 ***Current Landform Contours*** *- MRP Submission ID: 2793*

Scale 1 : 15000 (A3)

0 — 1000 metres

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Surface Water Catchments with 1m contours

(RMP 2022 - Figure 7)

Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1MP-047
Drawn: D Moyses Date: 10 October 2022 Figure No.: 6

Table 3
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area (Mining Domain)	Timing	RMP Section
Development Consent(s)					
MP 09_0155	**Terms of Approval**				
	2	The Proponent shall carry out the project: b) generally in accordance with the EA	Mine Site	Life of Mine	This Plan
	Demolition				
	9	The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.	1, 2,3, 5, 7, 8a	2	6.2.2.2
	Protection of Public Infrastructure				
	11	Unless otherwise agreed by TfNSW, all works associated with the underpass of the Newell Highway, all pipeline and transmission line crossings of classified roads, and all works connecting to classified roads shall be undertaken in accordance with the Works Authorisation Deed agreed between the Proponent and TfNSW and effective from 12 May 2011.	1	2	6.2.2.3
	Soil and Water				
	Drainage and Flooding				
	25	The Proponent shall ensure that surface water diversion structures constructed as part of the project do not increase the frequency of flooding on the Newell Highway.	3	3	6.2.3.1
	Water Performance Measures				
	27 (generally)	Outlines the specific performance measures for the design and use of water management infrastructure, hydrocarbon storage, and monitoring requirements for Gundong Creek.	3	Life of Mine	6.2.1.5, 6.2.1.10, 6.2.2.4, 6.2.2.5.
	Biodiversity				
	Biodiversity Offset				
	33 (generally)	Outlines the biodiversity offsetting strategy in regard to specific offset areas for impacted Plant Community Types.	Biodiversity Offset Areas	Life of Mine	1.1.2, 2.4.1

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area or Mining Domain	Timing or Phase of Rehabilitation	RMP Section
Development Consent(s) (Cont'd)					
MP 09_0155 (Cont'd)	**Biodiversity (Cont'd)**				
	Biodiversity Management Plan				
	37	The Proponent shall prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:			
		a) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;	Mine Site	5	2.4.1
		b) describe the short, medium, and long term measures that would be implemented to: i) manage the remnant vegetation and habitat on the site and in the offset area/s (if and when applicable);	Mine Site	Life of Mine	6.2.1.2, 6.2.1.3, 6.2.5, 6.2.6
		d) include a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:			6.2.1.2, 6.2.1.3,
		i) enhancing the quality of existing vegetation and fauna habitat;	8b	1, 4, 5, 6	6.2.4.6, 6.2.5, 6.2.6
		ii) restoring native vegetation and fauna habitat on the biodiversity areas and rehabilitation area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (where necessary);	4, 8b	Life of Mine	6.2.5, 6.2.6
		iii) maximising the salvage of resources within the approved disturbance area - including vegetative, soil and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area, including maximising salvage of suitable coarse woody vegetation within the Residue Storage Facility 2 footprint as fauna habitat within biodiversity offset areas;	Mine Site	1	6.2.1.1, 6.2.1.2, 6.2.1.3
		iv) collecting and propagating seed;	Mine Site	5	6.2.5.4
		v) minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings;	Mine Site	1	6.2.1.3
		vi) controlling weeds and feral pests;	Mine Site	1, 5, 6	6.2.1.2, 6.2.1.3, 6.2.5.6, 6.2.6.1

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area (Domain)	Timing	RMP Section
Development Consent(s) (Cont'd)					
MP 09_0155 (Cont'd)	**Biodiversity (Cont'd)**				
	Biodiversity Management Plan (Cont'd)				
	37 (Cont'd)	vii) controlling erosion;	Mine Site	Life of Mine	6.2.1.10, 6.2.3.1, 6.2.4.2
		viii) managing grazing and agriculture on site;	1, 3, 8a, 8b	6	6.2.6.4
		ix) controlling access; and	Mine Site	Life of Mine	6.2.2.1, 6.2.2.3
		x) bushfire management;			
	Rehabilitation				
	50	Within three years of the date of this approval, the Proponent shall investigate the feasibility of filling the Wyoming Three open cut pit void as part of the rehabilitation of the site, in consultation with RR.	5	Life of Mine	6.2.3.4
	Rehabilitation Objectives				
	51	The Proponent shall rehabilitate the site in accordance with the conditions imposed on the mining lease(s) associated with the Project under the *Mining Act 1992*. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (as reproduced in Appendix 6 [of MP 09_155], and must comply with the objectives in Table 10 [of MP 09_0155].	Mine Site	Life of Mine	2.4.1
	Progressive Rehabilitation				
	52	The Proponent shall carry out rehabilitation of the site progressively, that is, as soon as reasonably practicable after disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim dust management strategies shall be employed when areas prone to dust generation cannot yet be permanently rehabilitated.	Mine Site	Life of Mine	This Plan
	Rehabilitation Management Plan				
	53	The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, in accordance with the conditions imposed on the mining lease(s) associated with the project under the *Mining Act 1992*.	Mine Site	Life of Mine	This Plan

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area (Domain)	Timing	RMP Section
Mining Leases					
All Mining Leases (including Gold Mining Lease)	4(1)	The holder of a mining lease must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease.	Mine Site	Life of Mine.	This Plan (generally)
	5	The holder of a mining lease must rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs.	Mine Site	Life of Mine.	This Plan (generally)
	6(1)	The holder of a mining lease must ensure that rehabilitation of the mining area achieves the final land use for the mining area.	Mine Site	Prior to site relinquishment.	This Plan (generally)
	6(2)	The holder of the mining lease must ensure any planning approval has been obtained that is necessary to enable the holder to comply with subclause (1).	Mine Site	Prior to site relinquishment.	This Plan (generally)
	6(3)	The holder of the mining lease must identify and record any reasonably foreseeable hazard that presents a risk to the holder's ability to comply with subclause (1).	Mine Site	Life of Mine.	3
	6(4)	In this clause—			
		a) as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement, and	Mine Site	Life of Mine.	4
		b) for a large mine – as spatially depicted in the final landform and rehabilitation plan, and	Mine Site	Life of Mine.	5
		c) if the final land use for the mining area is required by a condition of development consent for activities under the mining lease – as stated in the condition.	Mine Site	Life of Mine.	2
	7(1)	The holder of a mining lease must conduct a risk assessment (a rehabilitation risk assessment) that—	-	-	-
		a) identifies, assesses and evaluates the risks that need to be addressed to achieve the following in relation to the mining lease— i) the rehabilitation objectives, ii) the rehabilitation completion criteria, iii) For large mines – the final land use as spatially depicted in the final landform and rehabilitation plan, and	Mine Site	Life of Mine.	3
		b) Identifies the measures that need to be implemented to eliminate, minimise or mitigate the risks.	Mine Site	Life of Mine.	3

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area (Domain)	Timing	RMP Section
Mining Leases (Cont'd)					
All Mining Leases (including Gold Mining Lease) (Cont'd)	7(2)	The holder of a mining lease must implement the measures identified.	Mine Site	Prior to site relinquishment.	7, 8
	7(3)	The holder of a mining lease must conduct a rehabilitation risk assessment—	-	-	-
		1. for a large mine – before preparing a rehabilitation management plan, and	Mine Site	Before preparation of this Plan.	3
		a) whenever a hazard is identified under clause 6(3) – as soon reasonably practicable after it is identified, and	Mine Site	Life of Mine.	3
		b) whenever given a written direction to do so by the Secretary.	Mine Site	As directed.	3
	10(1)	The holder of a mining lease relating to a large mine must prepare a plan (a rehabilitation management plan) for the mining lease that includes the following—			
		a) a description of how the holder proposes to manage all aspects of the rehabilitation of the mining area,	Mine Site	Prior to site relinquishment.	This Plan (generally)
		b) a description of the steps and actions the holder proposes to take to comply with the conditions of the mining lease that relate to rehabilitation,	Mine Site	Prior to site relinquishment.	This Plan (generally)
		c) a summary of rehabilitation risk assessments conducted by the holder,	Mine Site	Life of Mine.	3
		d) the risk control measures identified in the rehabilitation risk assessments,	Mine Site	Life of Mine.	3, 6
		e) the rehabilitation outcome documents for the mining lease,	Mine Site	Life of Mine.	4, 5
		f) a statement of the performance outcomes for the matters addressed by the rehabilitation outcome documents and the ways in which those outcomes are to be measured and monitored.	Mine Site	Life of Mine.	4, 7
	10(4)	The holder of the mining lease—	-	-	-
		a) must implement the matters set out in the rehabilitation management plan, and	Mine Site	Life of Mine.	This Plan (generally)
		b) if the forward program specifies timeframes for the implementation of the matters— must implement the matters within those timeframes.	Mine Site	Life of Mine.	This Plan (generally)

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area (Domain)	Timing	RMP Section
Legislation					
Commonwealth Legislation					
Environmental Protection and Biodiversity Conservation Act 1999	s15B-15C	Discusses the requirement for approval for activities that may affect matters of national environmental significance including National Heritage places.	Mine Site	Life of Mine	-
NSW Legislation					
Protection of Environmental Operations Act 1997	s42-58	Discusses the provision of Environment Protection Licences.	Mine Site	Life of Mine.	-
	s89-113	Discusses the application of Clean-up Notices.	Mine Site	Life of Mine	-
	Chapter 5	Discusses environmental offences including water, air, noise and land pollution.	Mine Site	Life of Mine.	-
Heritage Act 1977	Part 3 (s27-30)	Discusses interim orders for items of State or local significance.	Mine Site	Life of Mine	-
	Part 3A (s31-38)	Discusses listing of items, places or buildings on the state heritage register.	Mine Site	Life of Mine	-
	Part 4	Discusses the effect of interim heritage orders and listings on the State Heritage Register.	Mine Site		-
	Part 6	Discusses other measures for the conservation of environmental heritage.	Mine Site		-
	Division 8	Discusses controlling and restricting harm to buildings, works, relics and places not subject to interim heritage orders or State Heritage Registered listings.	Mine Site		6.2.1.13
Mining Act 1992	Division 3	Under these sections the Minister can direct a company to rehabilitate their land, or, should the company not comply with this direction, rehabilitate the land at the Ministers expense and recover the cost from the company.	Mine Site	Life of Mine	-
	s245	Clearing away of mining plant 1. The holder of an authority or mineral claim over land that ceases to be the subject to the authority or claim: a) may, within the prescribed period, and b) must, if directed to do so by the Minister by notice in writing, within the period specified in the notice, cause to be removed from the land any mining plant brought onto, or erected on, that land in the course of mining operations carried out under the authority or claim 2. The Minister may give a direction under this section even though the prescribed period has not expired.	Mine Site	2	6.2.2.2

Table 3 (Cont'd)
Regulatory Requirements for Rehabilitation

Consent / Legislation	Condition No.	Requirement	Area (Domain)	Timing	RMP Section
Legislation (Cont'd)					
NSW Legislation (Cont'd)					
Contaminated Land Management Act 1997	(s11-48)	Discusses investigations and remediation of contaminated lands.	Mine Site	2	6.2.2.4
Water Management Act 2000	s60(I)	Identifies the requirement for an access licence for water used in mining activities, included water used for the rehabilitation of land affected by mining.	Mine Site	Life of Mine	6.2.5.5.
Other Commitments					
EA (RWC, 2011)	Section 2.13.1 (generally)	The overall objectives of the rehabilitation proposal may be summarised as follows: (i) As far as practicable to blend to created landforms with the surrounding land fabric;	Mine Site	3	6.2.3
		(ii) To provide a stable ground cover for erosion control;	Mine Site	Life of Mine	6.2.4.2
		(iii) To minimise impacts on scenic amenity by the retention of existing vegetation where practicable and by the implementation of progressive revegetation;	Mine Site	Life of Mine	This Plan
		(iv) To revegetate with native tree and shrub species and/or pasture species compatible with pre-existing vegetation communities; and	Mine Site	5	6.2.5.3
		(v) To provide a low maintenance, stable and safe landform commensurate with a grazing land use capability.	Mine Site	Prior to site relinquishment.	6.2.6 (generally)

Domain Ab – Native Ecosystem Area – Grassland - includes those areas of the TGO Mine Site to be rehabilitated to grassland for reasons of landform stability. This includes areas where a mid- or over-storey of vegetation may adversely impact on the stability of the final landform such as more steeply sloped areas, or where more deeply rooted vegetation would be undesirable, such as on the upper surface of the Residue Storage Facilities. This domain includes:

- the side slopes and sections of the upper surface of the Waste Rock Emplacements and the enhanced amenity bund; and
- the upper surface and embankment of Residue Storage Facility 1 and Residue Storage Facility 2.

Shrubs and occasional trees will be allowed to establish on the Waste Rock Emplacements, in particular where increased proportion of fresh rock near surface makes sustaining a grass coverage more difficult. Trees will be prevented from establishing on the Residue Storage Facility.

Domain B – Agriculture – Grazing

This domain includes those areas of the TGO Mine Site that would be rehabilitated in a manner suitable for agricultural grazing. This domain generally includes the majority of the remainder of the TGO Mine Site, excluding infrastructure, water management areas and final voids.

Domain F – Water Management Area

This domain includes those water management structures that would remain in place following mine closure, including:

- Sediment Basin 1 located at the northwest corner of Residue Storage Facility 1;
- Sediment Basin 3 located southwest of Wyoming One Open Cut; Waste Rock Emplacement 3;
- Sediment Basin 4 located southeast of Caloma Two Open Cut;
- Sediment Basin 5 located north of Caloma One Open Cut;
- Sediment Basin 7 located southwest of Caloma Two Open Cut;
- Sediment Basin 8 located at the southwest corner of Residue Storage Facility 2; and
- clean water diversions east and west of Waste Rock Emplacement 3 and to the south of Caloma Two and Wyoming One Open Cut.

Domain G – Water Storage Area

This domain includes those pre-mining water structures, utilised as part of TGO Mine Site's water management network that would remain in place following mine closure.

Domain I – Infrastructure Area

This domain includes those items of infrastructure that would remain following mine closure for a lawful final land use, namely a land use permitted without consent. In the absence of further approvals, this would indicatively include roads required for ongoing agricultural land

management, including the Mine Site access road. Other infrastructure areas and/or items that may be retained as part of surrounding final land use domains, e.g. sheds and building to support agricultural operations, minor roads, fencing and security bunds. The buried Tomingley – Narromine Water Pipeline would be transferred to Narromine Shire Council for supply of water to the residents of Tomingley.

Domain J – Final Void (Open Cut Void)

This domain would include the final voids of the Wyoming One and Caloma One and Two Open Cuts. Depending on the volume of available waste rock, Wyoming Three is proposed to be completely backfilled. However, should insufficient waste be available a final void may remain.

2.4.2 Mining Domains

This section describes the mining domains for all operational/ disturbance areas within the ML 1684 and ML 1821 of the TGO Mine Site as shown on **Figure 8**. It is noted that minor areas of infrastructure, surface water diversions, and Biodiversity Offset Areas are located outside of the MLs. Notwithstanding the above, these areas/land forms are approved to be retained as part of the final land use (with the potential for the Site Access Road to be reduced in width, depending final land use requirements) and as such, are not included in this Plan.

Domain 1 – Infrastructure Areas

This domain includes:

- the Administration Area;
- the ROM Pad;
- roads and associated infrastructure, including the Site Access Road; and
- other operational disturbance areas, including laydown, stockpiling and workshops.

Domain 2 – Tailings Storage Facility

This domain is limited to the footprint Residue Storage Facility 1 and Residue Storage Facility 2, including the embankments and related water management infrastructures (i.e. perimeter drains).

Domain 3 – Water Management Areas

This domain is limited to water management structures, including diversion structures and sediment basins, used to permit management of dirty or sediment-laden water or ensuring that clean water, namely water from undisturbed sections of the TGO Mine Site and surrounds, does not flow onto disturbed areas. The Wyoming Central Dams, which contain Mine and Process water storage, are also included. This domain does not include the water management structures of the Processing Plant (included as Domain 7) or Mine water storage within open cut voids (included as Domain 5).

613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA

Tomingley West Road
Tomingley Rd
Tomingley Racecourse
Cemetery
Biridoo Street
Burril Street
Budgeree St
Merilba St
Tomingley
Gundong Creek (Natural)
Gundong Creek (Diversion)
EL5675
ML1684
ML1821
EL5830
Newell Highway

TGO land ownership boundary
Project Site Boundary
Access Road
Drainage Control Levee
Western Surface Water Diversion Structure
Visual Amenity Bund
Eastern Surface Water Diversion Structure
Central Surface Water Diversion Structure
Rock-lined Flumes
Rock-lined dissipater
Sediment Basin 1
Sediment Basin 3
Sediment Basin 4
Sediment Basin 5
Sediment Basin 7
Administration
WRE 1
WRE 2
WRE 3
RSF1
RSF2
Wyoming Three
Partial Backfill
Final void (part WRE)
Wyoming One
Final void
Caloma
Final void
Caloma Two
Partial Backfill
Final void (part WRE)

Mining Domain		Area
1	Infrastructure area	65ha
2	Tailings Storage Facility	119ha
3	Water Management Area	23ha
4	Overburden emplacement area	120ha
5	Active Mining Area (Open Cut Void)	67ha
7	Beneficiation Facility	6ha
8a	Other - Ancillary Infrastructure	29ha
8b	Other - Stabilised Disturbed Pastoral Land	70ha

Drainage course

Safety features (public, stock and fauna)

Fence - Man proof; to be removed or utilised as appropriate
Fence - Stock; to be removed or utilised as appropriate
Bund

Roads; Newell Highway
Roads; sealed, and unsealed
Mining lease boundary (TGO)
Exploration lease boundary (Alkane Resources Ltd)
Tomingley Gold Mine - Project site boundary
Tomingley Gold Operations Pty Ltd - Land ownership boundary

Scale 1 : 15000 (A3)
0 1000
metres

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Mining Domains

(RMP 2022 - Figure 8)

Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1MP-050
Drawn: D Moyses Date: 21 December 2022 Figure No.: Figure 8

Domain 4 – Overburden Emplacement Areas

This domain is limited to the operational footprints of Waste Rock Emplacement 1, 2, and 3 and the Caloma Amenity Bund. This domain does not include the in-pit waste rock emplacements within Wyoming 3 and Caloma 2 Open Cuts.

Domain 5 – Active Mining Area (Open Cut Void)

This domain is limited to the operational footprints of the open cut voids associated with the Wyoming 1, Wyoming 3, Caloma 1 and Caloma 2 Open Cuts. Areas of completed backfilling of Wyoming 3 are included as part of Domain 1 – Infrastructure.

Domain 7 – Beneficiation Facility

This domain includes the general area of the Processing Plant and associated infrastructure, namely hazardous material storage and water management infrastructure.

Domain 8 – Other

This domain comprises of the following three subdomains as defined by dominant operational usage.

Domain 8a – Ancillary Infrastructure includes those areas of the TGO Mine Site used for the stockpiling of growth medium.

Domain 8b – Stabilised Disturbed Pastoral Land includes fringe areas of the core operational areas of the TGO Mine Site that have been subject to varying rates of disturbance (including undisturbed) that are either not suitable or not required for operational usage.

3. Rehabilitation Risk Assessment

The following presents an overview of the most recent rehabilitation risk assessment undertaken in accordance with Clause 7 of Schedule 8A of the *Mining Regulation 2016*.

The risk assessment was undertaken generally in accordance with *Australian Standards HB 203:2006*, *AS/NZS 4360:2004* and *AS/NZS ISO 31000:2018 Risk Management – Principles & Guidelines*.

Risks to achieving the rehabilitation objectives and rehabilitation completion criteria outlined in Section 4, as well as the final landform outlined in Section 5, were identified and assessed jointly by the Company and R.W. Corkery & Co. Pty Limited during the preparation of this Plan. Site-specific threats to rehabilitation were assessed based on both the results of previous rehabilitation efforts, as well as observations of site-specific conditions and threats to rehabilitation observed during site inspections. This risk assessment was completed with consideration of existing controls as well as those risk controls outlined in this Plan.

For each identified risk to rehabilitation, potential adverse outcomes were identified and allocated a risk rating based on the potential consequences and likelihood of occurrence. **Tables 4** and **5** presents the Tomingley Gold Operations Matrix for the consequence, likelihood and risk rating used during this analysis. Where risks were determined to be unacceptable, namely those risks classified as "Moderate" or above, a Trigger Action Response Plan has been developed and is presented in Section 10.

Table 6 presents the results of the risk analysis assuming the implementation of standard mitigation measures and those outlined within this Plan.

Table 4
Qualitative Likelihood Rating

Descriptor	Description	Frequency	Probability
Almost Certain	The event will occur on an annual basis	More than once per year	> 95%
Likely	The event has occurred several times or more in your career	At least once per 1 year	60% - 95%
Possible	The event might occur once in your career	At least once in 3 years	30% - 60%
Unlikely	The event does occur somewhere from time to time	At least once in 10 years	5% - 30%
Rare	Heard of something like the event occurring elsewhere	Less than once in 30 years	<5%
Source: Tomingley Gold Operations Pty Ltd			

Table 5
Qualitative Risk Rating

Likelihood		Consequence				
		1 Insignificant	2 Minor	3 Moderate	4 Major	5 Severe
5	Almost Certain	Medium	High	High	Very High	Very High
4	Likely	Medium	Medium	High	High	Very High
3	Possible	Low	Medium	High	High	High
2	Unlikely	Low	Low	Medium	Medium	High
1	Rare	Low	Low	Medium	Medium	High

Source: Tomingley Gold Operations Pty Ltd

Table 6
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
General						
Insufficient skills / experience of rehab personnel	Increased cost and timeframe of rehabilitation. Final landform unsuitable for final land use. Unable to achieve completion criteria.	Elimination: • Employ / Engage only appropriately qualified / experienced personnel. Administration: • Perform due diligence checks prior to recruitment. • Responsibilities as defined in the *Rehabilitation Management Plan.*	Validation of credentials	Unlikely	Severe	High
Active Mining						
Handling and containment of geochemical and geotechnically unsuitable process residue and reject materials.	Increased rehabilitation costs. Remediation/ clean up costs due to loss of containment. Final landform is a source of pollution.	Isolation: • Designated Residue Storage Facilities. Engineering: • Engineered design and construction of Residue Storage Facilities and Waste Rock Emplacements. • Implementation of operational and rehab program for Waste Rock Emplacements and Residue Storage Facilities to ensure long-term geochemical and geotechnical stability e.g. dewatering and filling technique. Administration: • NAF/PAF handling procedure. • Waste rock geochemical assessments. • Process residue geochemical assessments.	Waste Rock Emplacement / Residue Storage Facility design and operation.	Unlikely	Major	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Active Mining (Cont'd)						
Adverse surface and groundwater quality and quantity (underground and surface operations).	Reduced rehabilitation success. Final landform is a source of pollution. Loss or degradation of surface water and/or groundwater resulting in impacts to surrounding users.	Engineering: • Erosion and sediment control structures. • Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids. • Compaction/lining of water storage facilities and Residue Storage Facility Administration: • Surface water and groundwater monitoring program. • Regular inspection of erosion and sediment control structures. • Contaminated Site Assessment Procedure.	Surface water and groundwater monitoring program.	Possible	Minor	Medium
Decommissioning						
Contamination resulting from associated activities (e.g. storage and use of hydrocarbons / chemicals, drilling fluids, spillage of dirty or produced saline water, brine, sewage).	Cost and time to remediate contaminated areas	Engineering: • Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids. • Isolation of 'dirty' and 'clean' water catchments. Administration: • Contaminated Site Assessment Procedure. • Pollution Incident Response Management Plan. • Environmental monitoring programs.	• Storage of all hydrocarbons and chemicals in accordance with AS1940:2017 – The storage and handling of flammable and combustible liquids. • Contaminated Site Assessment Procedure.	Possible	Minor	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Decommissioning (Cont'd)						
Exposure or access to underground workings.	Danger to public safety if unauthorised access is gained	Elimination: • Decommission/ rehabilitate access tracks that are not part of final land use Isolation: • Security fencing Engineering: • Seal mine openings and boreholes. Administration: • Signage on boundary	• Seals designed, supervised, and verified by qualified expert. • Prepare as-constructed drawings to verify that mine seals have been constructed in accordance with design	Rare	Major	Medium
Landform Establishment						
Unstable landform due to erosion and/or mass movement issues associated with inappropriate design and/or quality assurance during landform construction.	Increased cost and time to rehabilitate landform. Final landform is a source of pollution. Final landform is unsuitable for final land use.	Substitution: • Characterisation analysis of materials to determine suitability and material selection. Engineering: • Engineered design and construction of mining landforms. • Dimensions consistent with Project Approval (MP 09_0155) • Field handling practices i.e. dump process and compaction/consolidation treatment. • Erosion and sediment control infrastructure Administration: • Geotechnical assessments.	• Utilisation of erosion modelling (including Landform Evolution Modelling – LEM) for high-risk emplacements and large complex emplacements.	Unlikely	Major	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Landform Establishment (Cont'd)						
Exposure or release of geochemical and/or geotechnically adverse material associated with containment design and construction, including capping/cover system, drainage and liner (if required).	Increased cost and time to rehabilitate landform. Delayed vegetation establishment. Failure to meet rehabilitation criteria.	Engineering: • Ensure capping strategy is fit for final land use i.e. materials and thickness suited to vegetation. • Engineered design and construction of landforms and water management infrastructure. Administration: • Develop and implement a capping design • Surface water management infrastructure	• Conform to the construction design criteria.	Unlikely	Moderate	Medium
Lack of availability of suitable materials for encapsulation or capping of adverse materials.	Final landform is source of pollution. Final landform is unsuitable for final land use.	Isolation: • Set aside adequate quantities of suitable capping material. Administration: • Have a defined capping design including material type, source, and quantity.	• Rehabilitation Resources Register.	Unlikely	Major	Medium
Final landform unsuitable for final land use (e.g. large rocks present affecting cultivation, settlement and surface subsidence leading to extended ponding).	Final landform unsuitable for final land use. Increased cost and time to rehabilitate landform.	Engineering: • Underground mine design and geology unlikely to result in incidences of mine subsidence. Administration: • Resource Register sets aside quantity of desired materials to achieve final land use objectives. • Regular rehabilitation monitoring.	• Construct landform to design specifications	Unlikely	Moderate	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Growth Medium Development						
Physical and structural properties of substrate.	Final landform is a source of pollution. Delayed vegetation establishment. Final landform unsuitable for final land use.	Engineering: • Use of soil ameliorants. • Minimum soil spreading depths. • Ripping/cultivation of subsoils and topsoil. Substitution: • Designated stockpiling of suitable soils for use in rehabilitation. Administration: • Conduct substrate characterisation analysis to determine limitations. • Rehabilitation Resource Register.	• Representative substrate soil sampling. • Rehabilitation Resource Register.	Unlikely	Moderate	Medium
Subsoil and topsoil deficit for rehabilitation activities.	Increased time and cost to rehabilitate landform. Delayed vegetation establishment. Final landform unsuitable for final land use.	Engineering: • Soil amelioration. Isolation: • Location of stockpiles outside of operational/high traffic areas. • Stabilisation of stockpile surfaces. Administration: • Existing soil assessments. • Analyse representative topsoil and subsoil samples. • Survey of existing stockpile volumes. • Rehabilitation Resource Register.	• Rehabilitation Resource Register. • Stockpile management procedures.	Unlikely	Moderate	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Ecosystem and Land Use Establishment						
Weed infestation associated with both introduction and control (or lack thereof).	Increased time and cost to rehabilitate landform. Delayed vegetation establishment. Impacts to surrounding landholders.	Administration: • Bi-annual weed inspections and follow up control programs if required.	• Implementation of program and follow up inspections.	Likely	Minor	Medium
Availability of areas for revegetation in optimal seasonal conditions.	Increased time and cost to rehabilitate landform. Delay in vegetation establishment. Disruption to rehabilitation scheduling.	Administration: • Progressive rehabilitation in accordance with Life of Mine and seasonal conditions. • Rehabilitation planning/scheduling.	• Progressive rehabilitation.	Likely	Minor	Medium
Lack of suitable habitat structures for colonisation or use.	Reduction in quality/quantity of available habitat. Reduced rehabilitation success.	Engineering: • Construction/instillation of artificial nest boxes. • Salvage of habitat features during clearing activities. Administration: • Rehabilitation Resource Register. • Allocation/ instillation of appropriate habitat structures.	• Habitat augmentation via artificial nest boxed.	Unlikely	Moderate	Medium
Ecosystem and Land Use Development						
Weather and climatic influences (e.g. drought; intense rainfall events; bushfire).	Delayed ecosystem development. Loss and/or degradation of vegetation.	Substitution: • Use of locally sourced species adapted to local/regional conditions. Engineering: • Firebreaks. Administration: • Controlled grazing or slashing to manage fuel loads in accordance with existing *Property Management Plan*.	• Use of locally/regionally adapted species.	Unlikely	Major	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Ecosystem and Land Use Development (Cont'd)						
Long term water quality and quantity issues (e.g. acid-drainage, high salinity).	Final landform is a source of pollution.	Engineering: • Water management and storage infrastructure to contain poor quality water. Administration: • Water monitoring program.	• Water management infrastructure.	Possible	Minor	Medium
Damage to rehabilitation (e.g. fauna, domestic stock, vandalism, vehicular interactions, bushfire, insects and plant disease).	Increased time and cost to rehabilitate landform. Delayed vegetation development.	Isolation: • Installation of stockproof fences in sensitive rehabilitation areas. Engineering: • Maintenance of access tracks to allow for bushfire control. • Maintenance of security infrastructure. Administration: • Limit vehicle/ personnel access to authorised access only. • Rehabilitation monitoring program.	• Monitoring program.	Unlikely	Moderate	Medium

Table 6 (Cont'd)
Summary of Rehabilitation Risk Assessment

Risk	Effects of Hazard / Risk	Controls	Critical Controls	Likelihood	Consequence	Residual Risk Rating
Ecosystem and Land Use Development (Cont'd)						
Insufficient establishment of target species and limited species diversity.	Final landform unsuitable for final land use. Reduced quality/quantity of available habitat.	Substitution: • Use of locally sourced species adapted to local/regional conditions. • Use of suitable or more-effective propagation/planting methods for target species where required/practicable (i.e. tubestock, hydroseeding, etc.). Engineering: • Maximise number of target species within first round of revegetation activities. • Quality control during growth medium development phase. Administration: • Vegetation monitoring program	• Quality/suitability of propagation material. • Monitoring program.	Unlikely	Moderate	Medium
Erosion and failure of landform, drainage and water management/storage structures.	Final landform is a source of pollution. Final landform unsuitable for final land use.	Engineering: • Capping design and water structures built to design. Administration: • Monitoring inspections.	• Design of water management structures.	Unlikely	Moderate	Medium

4. Rehabilitation Objectives and Rehabilitation Completion Criteria

4.1 Rehabilitation Objectives and Rehabilitation Completion Criteria

Table 7 presents the proposed rehabilitation objectives and rehabilitation completion criteria for individual final land use domains at the TGO Mine Site. Final land use domains are shown on **Plan 1** and current Mining Domains are shown on **Figure 8**.

4.2 Rehabilitation Objectives and Rehabilitation Completion Criteria – Stakeholder Consultation

The following presents a summary of all stakeholder consultation undertaken over the progressive planning, assessment and development of the TGO Mine Site.

4.2.1 Community Consultation

Consultation undertaken with the local community, indigenous representatives and relevant government agencies in relation to the proposed development, operation and rehabilitation of the TGO Mine Site, as well as post-mine land use was included in:

- the *Environmental Assessment* for the Tomingley Gold Project (RWC, 2011);
- the *Environmental Assessment* for MOD 2 (RWC, 2014);
- the *Environmental Assessment* for MOD 3 (RWC, 2015);
- the *Modification Report* for MOD4 (RWC, 2020a);
- the *Modification Report* for MOD5 (RWC, 2020b); and
- the *Modification Report* for MOD6 (RWC, 2022b).

In addition, the Company has formed a Community Consultative Committee which meets quarterly. Representatives of the Company also meet with, or correspond by phone or email, with local and other concerned stakeholders on an ad hoc basis, i.e. opportunistically or as issues are identified. Further, a community information / complaints line is maintained by the Company with personnel available to respond 24 hours a day, seven days a week. As complaints or requests for information are received, the Company responds as quickly and comprehensively as possible.

Table 7
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Native Ecosystem Area									
Phase 1 – Decommissioning									
Native Ecosystem Area – Woodland, Native Ecosystem Area – Grassland	Overburden Emplacement Area	Aa4, Ab4	Stable and permanent landform established	Landform stability	Landform geotechnically stable	Geotechnical report indicating no evidence of instability		Engineers report	Ongoing and following decommissioning
Native Ecosystem Area – Grassland	Infrastructure Area, Beneficiation Facility	Ab1, Ab7	All infrastructure and services not suitable for a lawful final land use will be removed	Retained services and Infrastructure	Services not required for final land use disconnected	Relevant services disconnected		Photographs	Following decommissioning
					Infrastructure not required for final land use removed	Relevant infrastructure removed		Photographs	Following decommissioning
			All roads and hardstand areas to be retained for a lawful final land use reduced in width to that suitable for final land use.	Retained services and Infrastructure	Roads not required for final land use are removed	Roads removed unless permitted for agricultural or other approved activity		Photographs	Following decommissioning
					Road reduced in width to that suitable for final legal land use	Required width identified and roads reduced to comply		Photographs	Following decommissioning
					Hardstand areas reduced or removed	Only permitted hardstand areas retained		Photographs	Following decommissioning
			Domain safe and free from contamination	Pollution potential	Landform non-polluting	Monitoring indicates that leachate complies with trigger values nominated in the approved *Water Management Plan*		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
	Tailings Storage Facility	Ab2	Domain safe and free from contamination	Pollution potential	Contaminated land remediated	No contaminated lands		Contaminated land assessment prepared by qualified person	Following decommissioning
					Hazardous materials removed	Certificates confirm all hazardous materials removed and disposed of legally		Contamination report prepared by qualified person	Following decommissioning
			Infrastructure removed and domain made safe	Retained services and Infrastructure	Pipework and associated infrastructure	All pipework and associated infrastructure removed		Photographs	Following decommissioning
				Landform stability	Facility structurally sound	Technical assessment that Residue Storage Facility is structurally stable		Independent engineers report to Dam Safety NSW	Ongoing and following decommissioning
						Technical report accepted by Dam Safety NSW and notification of successful decommissioning received		Correspondence with Dam Safety NSW	
	Other – Ancillary Infrastructure	Ab8a	Stable and permanent landform established	Landform stability	Stockpiled material removed	Stockpiled material removed		Photographs	Following decommissioning
Phase 2 – Landform Establishment									
Native Ecosystem Area – Woodland, Native Ecosystem Area – Grassland	Overburden Emplacement Area	Aa4, Ab4	Stable and permanent landform established	Landform slope	Landform suitable for growth media establishment	-	All slopes <18º	As constructed survey plans	Following completion
			Landform non-polluting	Pollution potential	Surface water quality	Monitoring of water discharged from the Mine Site complies with EPL limits		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
				Active erosion	Non-erosive transfer of runoff from upper and side surfaces	Contour banks constructed Drop-down drainage structures constructed as per Landcom (2004) no erosion or sedimentation evident		As constructed survey plans Photographs	Following completion and 6-monthly
					Number of gullies or rills >0.3m in width or depth in a 50m transect	0	0	Annual rehabilitation monitoring	Annual

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Native Ecosystem Area (Cont'd)									
Phase 2 – Landform Establishment (Cont'd)									
Native Ecosystem Area – Grassland	Infrastructure Area, Beneficiation Facility, Other – Ancillary Infrastructure	Ab1, Ab7, Ab8a	Landform conforms to approved design and is suitable to support the nominated final land use	Landform slope	Landform similar to pre-mining landform	Landform is free draining and consistent with the pre-mining landform		Plan(s) prepared by surveyor Photographs	Following completion
				Active erosion	Surface water controls installed and operating effectively	Monitoring of water discharged from the Mine Site complies with EPL limits No identifiable erosion or sedimentation		Water quality testing as per the approved *Water Management Plan* Photographs	Monthly during and immediately following operations
	Tailings Storage Facility	Ab2	Free draining, stable and permanent landform established	Landform stability	Residue settlement	Residue settling/dewatering is complete/reduced to an acceptable level		Surveys of residue surface	Six monthly following decommissioning
				Landform slope	Landform suitable for growth media establishment	-	<18º	As constructed survey plans	
				Drainage	Free draining landform	Mapping confirms that the landform is free draining No pooling of water observed		As constructed survey plans Inspections and photographs	Following completion
				Active erosion	Non-erosive transfer of runoff from upper and side surfaces	Contour banks constructed Drop-down drainage structures constructed as per Landcom (2004)		As constructed survey plans Photographs	Following completion and 6-monthly
			Landform non-polluting	Pollution potential	Leachate (if present) is of acceptable quality	Monitoring indicates that leachate (if present) complies with trigger values nominated in the approved *Water Management Plan*		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
					Surface water quality	Monitoring of water discharged from the Mine Site complies with EPL limits		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
				Active erosion	Number of gullies or rills >0.3m in width or depth in a 50m transect	-	0	Annual rehabilitation monitoring –	Annual
Phase 3 – Growth Medium Development									
Native Ecosystem Area – Woodland, Native Ecosystem Area – Grassland	Infrastructure Area, Tailings Storage Facility, Overburden Emplacement Area, Beneficiation Facility, Other – Ancillary Infrastructure	Aa4, Ab1, Ab2, Ab4, Ab7, Ab8a	Soil properties are suitable for the establishment and maintenance of selected vegetation species	Soil occurrence	Soil thickness on shaped landform	200mm		Test pits (min 10 per hectare)	Following spreading of soil
				Chemical and physical properties	pH (5.6 – 7.3)[#]	5.9*	6.0*	Annual rehabilitation monitoring	Annual
					Organic Matter (>4.5%)[#]	1.7%*	2.2%		
					Available Phosphorous (50mg/kg)[#]	29.5mg/kg*	33.7mg/kg*		
				Active erosion	Number of gullies or rills >0.3m in width or depth in a 50m transect	0	0		Annual

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Native Ecosystem Area (Cont'd)									
Phase 4 – Ecosystem and Land Use Establishment									
Native Ecosystem Area – Grassland	Infrastructure Area, Tailings Storage Facility, Overburden Emplacement Area, Beneficiation Facility, Other	Ab1, Ab2, Ab4, Ab7, Ab8a.	Landform is stable and performing as suitable for the nominated final vegetation community(ies) and land use	Landscape Function and organisation (Landform Function Analysis [LFA])	LFA Stability (Provides an indication of the sites stability and is comparable to or trending towards that of the local remnant vegetation)	68*	75*	Annual rehabilitation monitoring	
					LFA Landscape organisation (Provides a measure of the ability of the site to retain resources and is comparable to that of the local remnant vegetation)	100*	-		
			Vegetation contains a diversity of species comparable to that of the local remnant vegetation	Vegetation diversity	Exotic species richness (No. species) (to demonstrate exotic plant diversity is less than or comparable to local remnant vegetation)	-	18*		Annual
				Ecosystem composition	Herbs (No. species)	14*	16*		Annual
					Grasses (No. species)	15*	17*		
					Weed species abundance	Weed species diversity / abundance less than or consistent with reference sites		Weed inspection report (and subsequent control program, if required)	
Native Ecosystem Area – Woodland	Overburden Emplacement Area	Aa4	Vegetation contains a diversity of species comparable to that of the local remnant vegetation	Vegetation diversity	Diversity of shrubs and juvenile trees (% endemic spp.) (to demonstrate % local endemic shrubs and juvenile trees [stem diameter < 5cm] comparable to local remnant vegetation.)	80*		Annual rehabilitation monitoring	
					Exotic species richness (No. species) (to demonstrate exotic plant diversity is less than or comparable to local remnant vegetation)		14*		
			Vegetation contains a density of species comparable to the local remnant vegetation	Vegetation Density	Density of native shrubs and juvenile trees (No. species)	24*			
			Vegetation is comprised by a range of growth forms comparable to the local remnant\ vegetation	Ecosystem composition	Trees (No. species)	4*			
					Shrubs (No. species)	1*			
					Herbs (No. species).	20*			
					Grasses (No. species)	14*			

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Native Ecosystem Area (Cont'd)									
Phase 5 - Ecosystem and Land Use Development									
Native Ecosystem Area – Grassland	Infrastructure Area	Ab1	Remaining infrastructure suitable for a lawful final land use	Retained services and Infrastructure	Condition and suitability of retained Infrastructure	Infrastructure safe and suitable for a lawful final land use		Photographs	Prior to relinquishment
	Tailings Storage Facility, Overburden Emplacement Area, Beneficiation Facility, Other – Ancillary Infrastructure	Ab2, Ab4, Ab7, Ab8a	Landform is ecologically functional for the nominated final vegetation community(ies) and land use	Landscape Function and organisation (Landform Function Analysis [LFA])	LFA Infiltration (%) (an indication infiltration capacity to demonstrate comparability to or trending towards that of local remnant vegetation)	46*	54*	Annual rehabilitation monitoring	Annual
					LFA Nutrient recycling (an indication of ability to recycle nutrient to demonstrate comparability to or trending towards that of local remnant vegetation)	46*	52*		
				Protective groundcover	Perennial plant cover (of live perennial vegetation (%)	3.5*	6*		Annual
					Total groundcover (%)	100*	100*		
				Groundcover diversity	Exotic understorey abundance (No. species / m^2)	2.2*	4.8*		Annual
				Weed species	Management of weed species	Weed species diversity / abundance less than or consistent with reference sites		Weed inspection report (and subsequent control program, if required)	Six monthly
				Pest species	Occurrence of pest (feral) species	Pest species diversity / abundance less than or consistent with reference sites		Pest inspection report (and subsequent control program, if required)	Annual
Native Ecosystem Area – Woodland	Overburden Emplacement Area	Aa4	Landform is ecologically functional for the nominated final vegetation community(ies) and land use	Landscape Function Analysis	LFA Infiltration (%) (an indication infiltration capacity to demonstrate comparability to or trending towards that of local remnant vegetation)	49*	61*	Annual rehabilitation monitoring	Annual
					LFA Nutrient recycling (an indication of ability to recycle nutrient to demonstrate comparability to or trending towards that of local remnant vegetation)	50*	59*		
				Protective groundcover	Perennial plant cover (of live perennial vegetation (%)	18*	34*		Annual
					Total groundcover (%)	100*	100*		
				Native Groundcover diversity	Native understorey abundance (No. species / m^2)	5.4*	10.2*		Annual
				Native groundcover abundance	% groundcover provided by live native vegetation <0.5m tall	96*			Annual
			Vegetation is maturing and/or naturally regenerating and trending towards that of local remnant vegetation	Ecosystem growth and natural recruitment	Shrubs and juvenile trees (0-0.5m in height) (No.)	3*	26*		Annual
					Shrubs and juvenile trees (1.5-2m in height) (No.)	2*	90*		

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Native Ecosystem Area (Cont'd)									
Phase 5 - Ecosystem and Land Use Development (Cont'd)									
Native Ecosystem Area – Woodland (Cont'd)	Overburden Emplacement Area (Cont'd)	Aa4	Vegetation is developing in structure and complexity comparable to that of the local remnant vegetation	Ecosystem structure	Foliage cover (0.5-2.0m)	1*	11*		Annual
					Foliage cover (2m-4m)	0*	6*		
					Foliage cover (>6m)	32*	44*		
				Tree Diversity	% native trees	100*			
				Tree density	No. native trees	9*	30*		
			Vegetation is in a condition comparable to that of the local remnant vegetation.	Ecosystem health	Health trees (% population)	33*	67*		Annual
					Flowering / fruiting trees (% population)	30*	56*		
Agriculture									
Phase 1 – Decommissioning									
Agriculture - Grazing	Infrastructure Area, Other – Stabilised Disturbed Pastoral Land	B1, B8b	All infrastructure and services not suitable for a lawful final land use will be removed	Retained services and Infrastructure	Services not required for final land use disconnected	Relevant services disconnected		Photographs	Following decommissioning
					Infrastructure not required for final land use removed	Relevant infrastructure removed		Photographs	Following decommissioning
			All roads and hardstand areas to be retained for a lawful final land use reduced in width to that suitable for final land use.	Retained services and Infrastructure	Roads not required for final land use are removed	Roads removed unless permitted for agricultural or other approved activity		Photographs	Following decommissioning
					Road reduced in width to that suitable for final legal land use	Required width identified and roads reduced to comply		Photographs	Following decommissioning
					Hardstand areas reduced or removed	Only permitted hardstand areas retained		Photographs	Following decommissioning
			Domain safe and free from contamination	Pollution potential	Landform non-polluting	Monitoring indicates that leachate complies with trigger values nominated in the approved *Water Management Plan*		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
	Water Management Area	B3	Domain stable and non-polluting	Retained services and Infrastructure	Redundant water management structures removed	Redundant water management structures identified and removed		Plan showing redundant structures Photographs	Following decommissioning
				Pollution potential	Water management structures non-polluting	Monitoring indicates that surface water complies with trigger values nominated in the TGO *Water Management Plan*		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
	Other – Ancillary Infrastructure	B8a	Stable and permanent landform established	Landform stability	Stockpiled material removed	Stockpiled material removed		Photographs	Following decommissioning
Phase 2 – Landform Establishment									
Agriculture - Grazing	Infrastructure Area, Other – Stabilised Disturbed Pastoral Land	B1, B8b	Landform conforms to approved design and is suitable to support the nominated final land use	Landform slope	Landform similar to pre-mining landform	Landform is free draining and consistent with the pre-mining landform		Plan(s) prepared by surveyor Photographs	Following completion
				Active erosion	Surface water controls installed and operating effectively	Monitoring of water discharged from the Mine Site complies with EPL limits No identifiable erosion or sedimentation		Water quality testing as per the approved *Water Management Plan* Photographs	Monthly during and immediately following operations

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Agriculture (Cont'd)									
Phase 2 – Landform Establishment (Cont'd)									
Agriculture – Grazing (Cont'd)	Active Mining Area (Open Cut Void)	B5	Stable and permanent landform established	Site security	Access to void restricted	Safety bund, fence and lockable gate installed and adequate to prevent inadvertent access		Photographs	Following decommissioning
					Access to underground workings restricted	20m of decline backfilled and portal covered with waste rock		Photographs and material movement reports	Following decommissioning
				Landform stability	Voids geotechnically stable	Geotechnical report indicating no unacceptable risk of instability		Independent engineers report	Ongoing and following decommissioning
					Surface subsidence	Geotechnical report indicating no unacceptable risk of surface subsidence		Independent engineers report	Ongoing and following decommissioning
	Other – Ancillary Infrastructure	B8a	Stable and permanent landform established	Landform slope	Landform suitable for growth media establishment	-	All slopes <18º	As constructed survey plans	Following completion
Phase 3 – Growth Medium Development									
Agriculture - Grazing	Infrastructure Area, Active Mining Area (Open Cute Void), Other – Ancillary Infrastructure, Other – Stabilised Disturbed Pastoral Land	B1, B5, B8a, B8b	Soil properties are suitable for the establishment and maintenance of selected vegetation species	Soil occurrence	Soil thickness on shaped landform	200mm		Test pits (min 10 per hectare)	Following spreading of soil
				Chemical and physical properties	pH (5.6 – 7.3)[#]	5.9*	6.0*	Annual rehabilitation monitoring	Annual
					Organic Matter (>4.5%)[#]	1.7%*	2.2%		
					Available Phosphorous (50mg/kg)[#]	29.5mg/kg*	33.7mg/kg*		
				Active erosion	Number of gullies or rills >0.3m in width or depth in a 50m transect	0	0		Annual
Phase 4 – Ecosystem and Land Use Establishment									
Agriculture - Grazing	Infrastructure Area, Active Mining Area (Open Cut Void), Other – Ancillary Infrastructure, Other – Stabilised Disturbed Pastoral Land	B1, B5, B8a, B8b	Landform is stable and performing as suitable for the nominated final vegetation community(ies) and land use	Landscape Function and organisation (Landform Function Analysis [LFA])	LFA Stability (Provides an indication of the sites stability and is comparable to or trending towards that of the local remnant vegetation)	68*	75*	Annual rehabilitation monitoring	Annual
					LFA Landscape organisation (Provides a measure of the ability of the site to retain resources and is comparable to that of the local remnant vegetation)	100*	-		
			Vegetation contains a diversity of species comparable to that of the local remnant vegetation	Vegetation diversity	Exotic species richness (No. species) (to demonstrate exotic plant diversity is less than or comparable to local remnant vegetation)	-	18*		Annual
				Ecosystem composition	Herbs (No. species)	14*	16*		Annual
					Grasses (No. species)	15*	17*		
					Weed species abundance	Weed species diversity / abundance less than or consistent with reference sites		Weed inspection report (and subsequent control program, if required)	

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Agriculture (Cont'd)									
Phase 5 - Ecosystem and Land Use Development									
Agriculture - Grazing	Infrastructure Area	B1	Remaining infrastructure suitable for a lawful final land use	Retained services and Infrastructure	Condition and suitability of retained Infrastructure	Infrastructure safe and suitable for a lawful final land use		Photographs	Prior to relinquishment
	Infrastructure Area, Active Mining Area (Open Cut Void), Other – Ancillary Infrastructure, Other – Stabilised Disturbed Pastoral Land	B1, B5, B8a, B8b	Landform is ecologically functional for the nominated final vegetation community(ies) and land use	Landscape Function and organisation (Landform Function Analysis [LFA])	LFA Infiltration (%) (an indication infiltration capacity to demonstrate comparability to or trending towards that of local remnant vegetation)	46*	54*	Annual rehabilitation monitoring	Annual
					LFA Nutrient recycling (an indication of ability to recycle nutrient to demonstrate comparability to or trending towards that of local remnant vegetation)	46*	52*		
				Protective groundcover	Perennial plant cover (of live perennial vegetation (%)	3.5*	6*		Annual
					Total groundcover (%)	100*	100*		
				Groundcover diversity	Exotic understorey abundance (No. species / m^2)	2.2*	4.8*		Annual
				Weed species	Management of weed species	Weed species diversity / abundance less than or consistent with reference sites		Weed inspection report (and subsequent control program, if required)	Six monthly
				Pest species	Occurrence of pest (feral) species	Pest species diversity / abundance less than or consistent with reference sites		Pest inspection report (and subsequent control program, if required)	Annual
			Land capability and productivity similar to existing land capability	Agricultural productivity	Grazing (Dry Sheep Equivalent / ha)	>2.0		Production report prepared by suitable independent person	Prior to relinquishment
Water Management Area / Water Storage Area									
Phase 1 – Decommissioning									
Water Management Area, Water Storage Area	Water Management Area	F3, G3	Domain stable and non-polluting	Retained services and Infrastructure	Redundant water management structures removed	Redundant water management structures identified and removed		Plan showing redundant structures Photographs	Following decommissioning
				Pollution potential	Water management structures non-polluting	Monitoring indicates that surface water complies with trigger values nominated in the TGO *Water Management Plan*		Water quality testing as per the approved *Water Management Plan*	Monthly during and immediately following operations
Phase 2 – Landform Establishment									
Water Management Area, Water Storage Area	Water Management Area	F3, G3	N/A	N/A	N/A	N/A		N/A	N/A
Phase 3 – Growth Medium Development									
Water Management Area, Water Storage Area	Water Management Area	F3, G3	N/A	N/A	N/A	N/A		N/A	N/A

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Water Management Area / Water Storage Area (Cont'd)									
Phase 4 – Ecosystem and Land Use Establishment									
Water Management Area, Water Storage Area	Water Management Area	F3, G3	Stable and non-polluting landform	Retained services and Infrastructure	Structure design	Design in accordance with Landcom (2004) and DECC (2008)		Survey of storage capacity Visual inspection	Initially weekly and after every rainfall event ≥5mm
				Pollution Potential	Water discharged from site within relevant criteria.	Monitoring of water discharged from the Mine Site complies with EPL limits		Water quality testing as per the approved Water Management Plan	Monthly during and immediately following operations
				Active erosion	Identifiable erosion	No identifiable erosion or sedimentation		Inspections and photographs	Monthly
Phase 5 – Ecosystem and Land Use Development									
Water Management Area, Water Storage Area	Water Management Area	F3, G3	N/A	N/A	N/A	N/A		N/A	N/A
Infrastructure									
Phase 1 – Decommissioning									
Infrastructure Area	Infrastructure Area	I1	All infrastructure and services not suitable for a lawful final land use will be removed	Retained services and Infrastructure	Services not required for final land use disconnected	Relevant services disconnected		Photographs	Following decommissioning
					Infrastructure not required for final land use removed	Relevant infrastructure removed		Photographs	Following decommissioning
			All roads and hardstand areas to be retained for a lawful final land use reduced in width to that suitable for final land use.	Retained services and Infrastructure	Roads not required for final land use are removed	Roads removed unless permitted for agricultural or other approved activity		Photographs	Following decommissioning
					Road reduced in width to that suitable for final legal land use	Required width identified and roads reduced to comply		Photographs	Following decommissioning
					Hardstand areas reduced or removed	Only permitted hardstand areas retained		Photographs	Following decommissioning
			Domain safe and free from contamination	Pollution potential	Contaminated land remediated	No contaminated lands		Contaminated land assessment prepared by qualified person	Following decommissioning
					Hazardous materials removed	Certificates confirm all hazardous materials removed and disposed of legally		Contamination report prepared by qualified person	Following decommissioning
Phase 2 – Landform Establishment									
Infrastructure Area	Infrastructure Area	I1	Landform conforms to approved design and is suitable to support the nominated final land use	Landform slope	Landform similar to pre-mining landform	Landform is free draining and consistent with the pre-mining landform		Plan(s) prepared by surveyor Photographs	Following completion
				Active erosion	Surface water controls installed and operating effectively	Monitoring of water discharged from the Mine Site complies with EPL limits No identifiable erosion or sedimentation		Water quality testing as per the approved *Water Management Plan* Photographs	Monthly during and immediately following operations
Phase 3 – Growth Medium Development									
Infrastructure Area	Infrastructure Area	I1	N/A	N/A	N/A	N/A		N/A	N/A
Phase 4 – Ecosystem and Land Use Establishment									
Infrastructure Area	Infrastructure Area	I1	N/A	N/A	N/A	N/A		N/A	N/A
Phase 5 – Ecosystem and Land Use Development									
Infrastructure Area	Infrastructure Area	I1	Remaining infrastructure suitable for a lawful final land use	Retained services and Infrastructure	Condition and suitability of retained Infrastructure	Infrastructure safe and suitable for a lawful final land use		Photographs	Prior to relinquishment

Table 7 (Cont'd)
Proposed Rehabilitation Objectives and Rehabilitation Completion Criteria

Final Land Use Domain	Mining Domain	Spatial Reference	Objective	Performance Indicator	Performance Measure	Completion Criteria (with range as relevant)		Rehabilitation Monitoring Methodology	Monitoring Frequency^
						Lower	Upper		
Final Void									
Phase 1 – Decommissioning									
Final Void	Active Mining Area (Open Cut Pit)	J5	N/A	N/A	N/A	N/A		N/A	N/A
Phase 2 – Landform Establishment									
Final Void	Active Mining Area (Open Cut Pit)	J5	Stable and permanent landform established	Site security	Access to void restricted	Safety bund, fence and lockable gate installed and adequate to prevent inadvertent access		Photographs	Following decommissioning
					Access to underground workings restricted	20m of decline backfilled and portal covered with waste rock		Photographs and material movement reports	Following decommissioning
				Landform stability	Voids geotechnically stable	Geotechnical report indicating no unacceptable risk of instability		Independent engineers report	Ongoing and following decommissioning
					Surface subsidence	Geotechnical report indicating no unacceptable risk of surface subsidence		Independent engineers report	Ongoing and following decommissioning
Phase 3 – Growth Medium Development									
Final Void	Active Mining Area	J5	N/A	N/A	N/A	N/A		N/A	N/A
Phase 4 – Ecosystem and Land Use Establishment									
Final Void	Active Mining Area (Open Cut Pit)	J5	N/A	N/A	N/A	N/A		N/A	N/A
Phase 5 – Ecosystem and Land Use Development									
Final Void	Active Mining Area (Open Cut Pit)	J5	N/A	N/A	N/A	N/A		N/A	N/A

Note ^: Monitoring frequency to be reviewed and adjusted in consultation with relevant government agencies following analysis and reporting of initial monitoring results.

Note #: The desirable agricultural ranges for growing introduced pastures and crops. Local soil analyses are undertaken every year, simultaneously to rehabilitation sites, with the actual range to be amended annually. Targets for OM and P are therefore likely to be lower compared to agricultural guidelines but more realistically reflect the local soil chemistry.

Note *: The values referenced reflect the range for each parameter identified at reference sites during the 2017 monitoring period. Performance will be measured each year by comparison to the range for each parameter collected at the reference sites of that year. Trends in both the reference and control sites will be reviewed and discussed as part of the annual rehabilitation and biodiversity monitoring report.

Finally, the Company has undertaken an extensive consultation program with surrounding landholders and community members in relation to the proposed Tomingley Gold Extension Project (TGEP).

4.2.2 Government Agency Consultation

The following government agencies and public authorities (and their predecessors) have previously been extensively consulted in relation to the overall operation of the TGO Mine Site.

- Department of Planning, Industry & Environment - Water
- Natural Resources Access Regulator
- Environment Protection Authority
- Biodiversity, Conservation and Sciences Division
- Narromine Shire Council
- Transport for NSW
- Resources Regulator
- Heritage NSW
- Mining, Exploration and Geosciences
- Dams Safety NSW

5. Final Landform and Rehabilitation Plan

5.1 Final Landform and Rehabilitation Plan

Plan 1 presents the final landform features for the TGO Mine Site and **Plan 2** presents the final landform contours for the TGO Mine Site.

613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA

Tomingley West Road
Tomingley Rd
Tomingley Racecourse
Cemetery
Biridoo Street
Burril Street
Budgeree St
Merilba St
Tomingley
Gundong Creek (Natural)
Gundong Creek (Diversion)
Newell Highway

EL5675
ML1684
ML1821
EL5830

Project Site Boundary
TGO land ownership boundary
TGO Administration

Ab4
Aa4
Ab
B8b
B8a
B1
B7
B3
F3
G3
I1
J5
Final void
Final void (part WRE)

Legend

	Areas	Final Land Use Domain	Mining Domain
Aa4	33ha	Native Ecosystem - Woodlands	Overburden Emplacement Area
Ab4	90ha	Native Ecosystem - Grasslands	Overburden Emplacement Area
Ab2	119ha	Native Ecosystem - Grasslands	Tailings Storage Facility
B1	68ha	Agricultural - Grazing	Infrastructure Area
B3	5ha	Agricultural - Grazing	Water Management Area
B7	6ha	Agricultural - Grazing	Beneficiation Facility
B8a	29ha	Agricultural - Grazing	Other - Ancillary Infrastructure
B8b	70ha	Agricultural - Grazing	Other - Rehabilitation Area - Stabilised Disturbed Pastoral Land
F3	19ha	Water Management Areas	Water Management Area
G3	1ha	Water Storage	Water Management Area
I1	7ha	Infrastructure	Infrastructure area
J5	67ha	Final Void (Open cut void)	Active Mining Area (Open Cut Void)

Safety features (public, stock and fauna)

- Fence - Man proof; to be removed or utilised as appropriate
- Bund
- Roads; Newell Highway
- Roads; sealed, and unsealed
- Mining lease boundary (TGO)
- Exploration lease boundary (Alkane Resources Ltd)
- Tomingley Gold Mine - Project site boundary
- Tomingley Gold Operations Pty Ltd - Land ownership boundary

Plan 1 - Talbe 3 ***Final Landuse*** *- MRP Submission ID: 3266*
Plan 1 - Talbe 4 ***Final Landform Features*** *- MRP Submission ID: 3297*

Scale 1 : 15000 (A3)
0 — 1000
metres

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TOMINGLEY GOLD MINE

Landform and Rehabilitation - Plan 1

Final Landform Use & Features

(RMP 2022)

Compiled: TGO (D Pritchard, M Fake) Plan No.: ALK TGO 1MP-051
Drawn: D Moyses Date: 31 July 2022 Figure No.: PLAN 1

613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA

Tomingley West Road
Tomingley Rd
Gundong Creek (Natural)
Gundong Creek (Diversion)
Tomingley Racecourse
Cemetery
Biridoo Street
Burril Street
Budgeree St
Merilba St
Tomingley

EL5675
ML1684
ML1821
EL5830

Access Road
TGO land ownership boundary
Project Site Boundary

281m RL Visual Amenity Bund 283m RL

WRE 1
WRE 2
WRE 3
RSF1
RSF2

Wyoming Three
Partial Backfill

Wyoming One

Caloma

Caloma Two
Partial Backfill

Newell Highway

Legend

Relief

- 300 Contour (10m index) with RL
- Contour 1m with RL

Note: All contours are indicative of final landform, not absolute

- Fence - Man proof; to be removed or utilised as appropriate
- Roads; Newell Highway
- Roads; sealed, and unsealed
- Tomingley Gold Operations Pty Ltd - Land ownership boundary
- Mining lease boundary (TGO)
- Exploration lease boundary (Alkane Resources Ltd)
- Tomingley Gold Mine - Project site boundary
  Project approval 09_0155
  (MOD 1 – 24 July 2012)
  (MOD 2 – 13 May 2015)
  (MOD 3 – 5 July 2016)
  (MOD 4 - 25 May 2020)
  (MOD 5 – April 2021)

Plan 1- Talbe 7 ***Project Approved Boundary*** *- MRP Submission ID: 3306*
Plan 1- Talbe 6 ***Final Landform Contours*** *- MRP Submission ID: 2791*

Scale 1 : 15000 (A3)
0 1000
metres

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Landform and Rehabilitation - Plan 2

Final Landform Contours

(RMP 2022)

Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1MP-046
Drawn: D Moyses Date: 29 June 2022 Figure No.: PLAN 2

6. Rehabilitation implementation

6.1 Life of Mine Rehabilitation Schedule

Figure 8 depicts the current extent of disturbance at the Tomingley Gold Project Site (i.e. the Mining Domains). **Plans 3** to **4** present the indicative rehabilitation schedule for the TGO Mine Site by depicting the status of disturbance / rehabilitated during each 4 to 5-yearly increment between the commencement of this Plan, Mine closure, and achievement of relinquishment. **Plan 3** presents the TGO Mine Site at the end of FY25 (June 2025) at which point the TGO Mine Site will still be operational. Mine closure activities are expected to be completed within a 5-year period of that date (June 2030) (**Plan 4**) with these areas of the site remaining within the Ecosystem Establishment Phase for a further 3 to 4 years prior to reaching the Ecosystem Development and Relinquishment phases. **Plan 5** presents the TGO Mine Site at the date of expiry of ML 1684 and ML 1821 (February 2034).

6.2 Phases of Rehabilitation and General Methodologies

6.2.1 Active Mining Phase

6.2.1.1 Soils and Materials

6.2.1.1.1 *Soils*

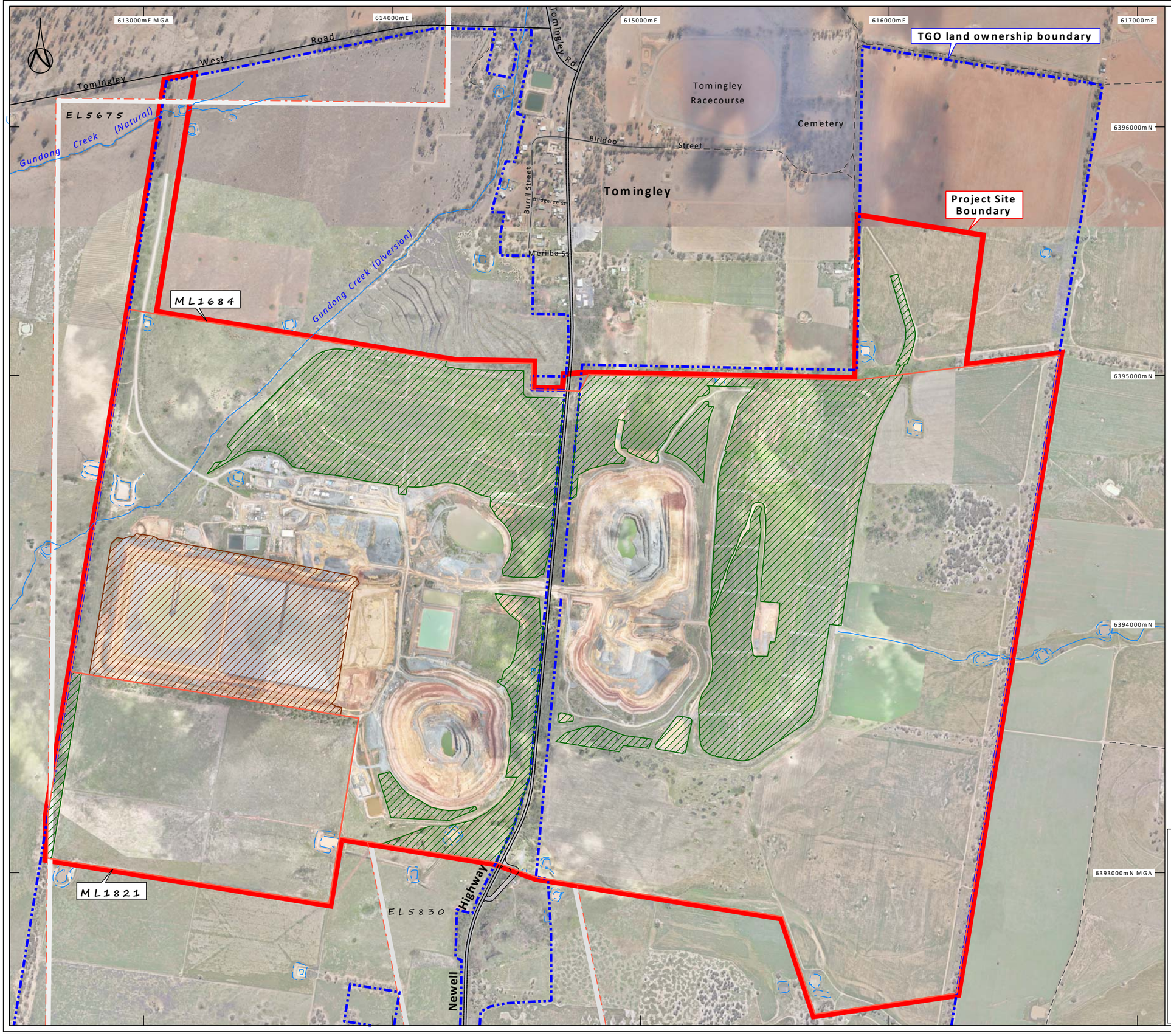
Existing Environment

The following presents a summary of the information presented in the environmental assessments undertaken at the time that are relevant to rehabilitation.

TGO Mine *Environmental Assessment*

Soil related impacts to rehabilitation potential were identified as assessed as part of the original *Environmental Assessment* for the TGO Mine (RWC, 2011). The original soils assessment, referred hereafter as SSM (2011), is presented as Part 8 of Volume 2 of RWC (2011). Soils within and in the vicinity of what is now ML 1684 were analysed through a combination of desktop assessments, electromagnetic surveys, test pitting, and laboratory sampling. In summary, six soil units identified by SSM (2011) occur within ML 1684, as follows.

- Red Dermasol – This soil unit is characterised by a red, silty clay loam topsoil over a light clay subsoil.
- Grey Dermasol – This soil unit is characterised by a variety of sandy and silty material in layers up to 30cm.
- Brown Dermasol – This soil unit is similar to the Red Dermasol, however, an electrical geophysical survey indicated that this material had a very low conductivity.



Legend

- Forecast Disturbance (0ha)
- Forecast Land Prepared for Rehabilitation (57ha)
- Ecosystem and Land Use Establishment (183ha)
- Watercourse
- Site or near site dam (clean water storage)
- Roads; Newell Highway
- Roads; sealed, and unsealed
- Mining lease boundary (TGO)
- Exploration lease boundary (Alkane Resources Ltd)
- Tomingley Gold Mine - Project site boundary
- Tomingley Gold Operations Pty Ltd - Land ownership boundary

Orthoimage (TGO site central) Mine drone 7 December 2021
Orthoimage (TGO site outer) AAM Lidar October 2020 10cm
Orthoimage (north) Aeroglobe July 2019 7cm

Scale 1 : 15000 (A3)
0 — 1000
metres

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TOMINGLEY GOLD MINE

Rehabilitation Progress (2022-2025)

(RMP 2022 - PLAN 3)

Compiled: TGO (D Pritchard, M Fake) Plan No.: ALK TGO 1MP-053
Drawn: D Moyses Date: 15 December 2022 Figure No.: PLAN 3

613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA
West Tomingley Road
Tomingley Rd
Tomingley Racecourse
Cemetery
Biridoo Street
Burril Street
Budgeree St
Merilba St
Tomingley
Gundong Creek (Natural)
Gundong Creek (Diversion)
EL5675
ML1684
ML1821
EL5830
Newell Highway
TGO land ownership boundary
Project Site Boundary

Legend

- Forecast Disturbance (0ha)
- Forecast Land Prepared for Rehabilitation (135ha)
- Ecosystem and Land Use Establishment (240ha)
- Watercourse
- Site or near site dam (clean water storage)
- Roads; Newell Highway
- Roads; sealed, and unsealed
- Mining lease boundary (TGO)
- Exploration lease boundary (Alkane Resources Ltd)
- Tomingley Gold Mine - Project site boundary
- Tomingley Gold Operations Pty Ltd - Land ownership boundary

Orthoimagery:
North: *Aeroglobe July 2019 7cm*
TGO site central: *Mine drone 7 December 2021*
TGO site outer: *AAM Lidar October 2020 10cm*

Scale 1 : 15000 (A3)
0 1000
metres

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TOMINGLEY GOLD MINE

Rehabilitation Progress (2026-2030)

(RMP 2022 - PLAN 4)

Compiled: TGO (D Pritchard, M Fake) Plan No.: ALK TGO 1MP-054
Drawn: D Moyses Date: 16 December 2022 Figure No.: PLAN 4

613000mE MGA
614000mE
615000mE
616000mE
617000mE
6396000mN
6395000mN
6394000mN
6393000mN MGA
West Tomingley Road
Tomingley Rd
Tomingley Racecourse
Cemetery
Biridoo Street
Burril Street
Budgeree St
Merilba St
Tomingley
Gundong Creek (Natural)
Gundong Creek (Diversion)
EL5675
ML1684
ML1821
EL5830
EL5675
EL5675
Newell Highway
TGO land ownership boundary
Project Site Boundary

Legend

- Forecast Disturbance (0ha)
- Forecast Land Prepared for Rehabilitation (0ha)
- Ecosystem and Land Use Establishment (527ha)
- Watercourse
- Site or near site dam (clean water storage)
- Roads; Newell Highway
- Roads; sealed, and unsealed
- Mining lease boundary (TGO)
- Exploration lease boundary (Alkane Resources Ltd)
- Tomingley Gold Mine - Project site boundary
- Tomingley Gold Operations Pty Ltd - Land ownership boundary

Orthoimagery:
North: *Aeroglobe July 2019 7cm*
TGO site central: *Mine drone 7 December 2021*
TGO site outer: *AAM Lidar October 2020 10cm*

Scale 1 : 15000 (A3)
0 1000
metres

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TOMINGLEY GOLD MINE

Rehabilitation Progress (2031-2034)

(RMP 2022 - PLAN 5)

Compiled: TGO (D Pritchard, M Fake) Plan No.: ALK TGO 1MP-054
Drawn: D Moyses Date: 16 December 2022 Figure No.: PLAN 5

- Sodic Dermasol – This soil unit is characterised by a silty clay loam topsoil over an alkaline, light grey subsoil.
- Sodic Gilgaied Dermasol – This soil unit is characterised by a strongly alkaline, uniform soil profile that has been extensively gilgaied.
- Rudosol – This soil unit is characterised by thin loamy soil with minimal profile development.

The majority of ML 1684 is underlain by Red Dermosol. Mottling and manganese coatings on peds between 50cm and 100cm below surface indicates that the soil has experienced long term waterlogging.

Soil testing indicated that the soil has the following physical properties.

- Moderately acidic topsoil over alkaline subsoil.
- The soil is moderately fertile, with very low to moderate nitrogen and phosphorus levels, low sulphate sulphur and moderate levels of the micronutrients of manganese, iron and boron.
- The cation exchange capacity (capacity of the soil to store nutrients) increases from very low in the surface 50cm to adequate levels in the 50cm to 100cm layer.
- Salinity is desirably low for most samples.
- The dispersion index is higher than desirable.

Minor areas of Grey and Brown Dermosols were identified in the vicinity of the location of the TGO Infrastructure Area. Sodic Dermosol and Sodic Gilgaied Dermosol were identified generally in the south eastern side of the ML 1684 , located generally:

- south east of Wyoming 1 Open Cut;
- south and east of Caloma 1 Open Cut; and
- surrounding the southern half of Waste Rock Emplacement 3.

Sodic Dermosol and Sodic Gilgaied Dermosols were identified as being unsuitable for stripping and use during rehabilitation (SSM, 2011). No Grey Dermosols within ML 1684 have been disturbed as part of mining operations. Due to the dominance of Red Dermosol compared to Brown Dermosol, only Red Dermosol topsoil and subsoil was stripped and salvaged for use in progressive rehabilitation.

At the time of the *Environmental Assessment* (RWC, 2011), approximately 426,00m^3 of topsoil and 639,000m^3 of subsoil were indicated as being available for stripping and salvaging based on the proposed disturbance footprint (SSM, 2011).

The majority of ML 1684 was identified by SSM (2011) as having an agricultural land capability of Class 2 (land suitable for regular cultivation with minor strategic works) for all soil units, with the exception of Grey Dermosol. The land capability of the Grey Dermosol soil unit is Class 2 to 3 (land suitable for regular cultivation with minor to intensive soil conservation measures).

The *Environmental Assessment* stated that assuming that best practice rehabilitation measures are implemented, that the final land capability of the side slopes of the waste rock emplacements and Residue Storage Facility would, because of the anticipated slope of the final landform, be Class 4 (land suitable for grazing but not for cultivation) or Class 5 (land unsuitable for agriculture). The land capability of the upper surfaces of the rehabilitated waste rock emplacements and Residue Storage Facility, together with the remaining rehabilitated sections of the TGO Mine Site, would be similar to the land capability of the existing landform, namely Class 2 (land suitable for regular cultivation with minor strategic works) or Class 3 (land suitable for regular cultivation with minor to intensive soil conservation measures).

MOD5 Modification Report

The construction of Residue Storage Facility 2 required extension of the TGO Mine Site and the establishment of ML 1821. An additional soils assessment, referred hereafter as SSM (2020), is presented as Appendix 6 of the *Modification Report* for MOD5 (RWC, 2020b). Soils within (then proposed) ML 1821 were assessed via desktop assessments, field studies, and laboratory testing.

In summary, a single Sodosol soil mapping unit was identified as occurring within ML 1821 by SSM (2020). The Sodosol soil mapping unit was dominated by imperfectly to moderately well drained Red Sodosols with a single occurrence of a Red Chromosol. The Sodosols were described by SSM (2020) as having:

- highly dilatant topsoils;
- impeded drainage;
- low wet bearing strength; and
- increased sodicity in upper subsoils.

The Land and Soil Capability classes of ML 1821 were identified by SSM (2020) as having an average value of Class 6 (low capability land). Waterlogging of soils was also identified as a significant constraint. Class 6 soils are defined by OEH as:

> *"Low capability land: Land has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation".*

If best-practice management controls are implemented and maintained for the stripping, handling and use of the soils within ML 1821, SSM (2021) determined that with appropriate management of soil resources, the final landform may have a greater land capability classification (average Class 4) than the current landform (average Class 6).

Though suitable for use in rehabilitation, the principal risk to rehabilitation relating to the soils within ML 1821 were identified by SSM (2020) as being associated with the temporary disturbance of land during construction and operation of Residue Storage Facility 2. The potential types of impacts on soil properties included the following.

- Soil compaction by heavy vehicles and machinery during the soil stripping, stockpiling and respreading.
- Loss of soil resource when areas of soil are removed by construction of Residue Storage Facility 2.

- Soil erosion when topsoil is disturbed and when surface drainage is modified by reshaping the land.
- Soil contamination from hydrocarbon spills and leaching of chemicals used in the processing of gold.

Restoration of land will require the formation of a functional soil profile and a landform with slope to drain excess water. The soil profile should supply water, nutrients, aeration and anchorage for plants, as well as some through drainage of water.

MOD7 Modification Report

To quantify potential risks and opportunities associated with the salvage and use/re-stockpiling of soils, Sustainable Soils Management Pty Ltd (SSM) prepared a document entitled *Assessment of Condition of Soil in Soil Stockpile 2 at Tomingley Gold Project*, hereafter referred to as SSM (2022) and presented as Appendix 6 of the Modification Report. That document:

- describes the suitability of the material for use in rehabilitation and/or relocation to an alternate stockpile location;
- provides recommendations for the ongoing management of soil stockpiles within the TGO Mine Site; and
- provide recommendations for use of the material for site rehabilitation, including appropriate management during soil handing, use of ameliorants, application of microbial inoculants, and nutrient requirements.

Three soil test pits, namely MT201, MT202, and MT203 were excavated in the existing Soil Stockpile 2 and soil properties were assessed for the following.

- Soil structure - described in accordance with NCST (2009) and a SOILPACK rating in accordance with McKenzie (1998) was given for each layer.
- Soil chemical properties - identified from a total of ten samples taken from varying depths in each test pit (4 for MT201, 3 each for MT202 and MT203), including pH, organic carbon, available nutrients (N, P, S, C, Zn, Fe, Mn), exchangeable cations (Ca+, Mg+, K+, Na+), electrical conductivity, stability measures of Loveday and Pyle dispersion index and slaking from selected depths were measured by Incitec Laboratories.
- Soil biological properties - including total and active bacteria, total and active fungi, three classes of protozoa, Vesicular Arbuscular Mycorrhiza, Nematodes and Total Nitrogen were measured by the Soil Food Web Laboratory.

SSM (2022) states the following in regard to the condition of stockpiled material within Soil Stockpile 2.

- Soil structure in the three pits examined in Soil Stockpile 2 is considered adequate in the upper 100cm, and poor for deeper layers. Stockpiled soils show signs of compaction at depth.

- Chemical tests are consistent with the undisturbed soil having leached, acidic topsoil over clayey, alkaline, moderately dispersive subsoil. The stockpiled subsoil is still alkaline, sodic and dispersive. This subsoil would benefit from the application of gypsum.
- Chemical properties in the subsoil indicate that the dominant requirement is to amend nutrient deficiency, but that nutrient levels are not extremely low.
- Biological activity is present at low levels.
- The soil will require additives to facilitate biological activity after the stockpiles soil is respread.
- Stockpiled soil can physically tolerate stockpiles of larger height, but the proportion of inactive soil increases with stockpile height.
- To identify recommendations for ongoing soil management and use in rehabilitation within the TGO Mine Site, SSM (2022) classified the stockpiled soils based on average values for selected chemical properties. Soils were further classified into recommended management classes based on observed values. For each management class, values were then compared to standard values for crop production, and the indicative type and volumes of soil additives were identified based on the use of the soils for agricultural production and native ecosystems. **Table 8** presents the recommended management practices for the soils within Soil Stockpile 2.

Table 8
Soil Nutrient Deficiency and Recommended Ameliorants

Soil Source	Biology	Lime	Gypsum	Deficient Nutrients	Additives Required for Target Use (rate)	
					Agriculture	Native Ecosystem
Upper 30cm (all soils)	Organic matter required to encourage fungal activity.	Not Required	Not required.	P, S, and Zn	Hay mulch[1], composed manure	Hay mulch[1]
Topsoil 30cm to 250cm		Required	Required to lower Exchangeable Sodium Percentage	P an Zn	Hay mulch[1], composed manure, lime (10t/ha), gypsum (5t/ha)	Hay mulch[1], composed manure, gypsum (5t/ha)
Subsoil		Not Required			Hay mulch[1], composed manure, gypsum (5t/ha)	Hay mulch[1], gypsum (5t/ha)
Note 1: Minimum rate of 5t/ha, with trials to determine final application rate.						
Source: After Table 4 of SSM (2022)						

Stockpiled Material

The location of current soil stockpiles and stockpiling areas are shown on **Figure 2**. The current volume of stockpiled growth medium is currently unknown; however, is estimated to be approximately 470k m^3. **Table 9** presents the current estimated volumes of soil for each of the key stockpiles within the TGO Mine Site. The Company does not currently anticipate a significant deficit in growth medium for the rehabilitation of the TGO Mine Site.

Table 9
Estimated Soil Stockpile Volume

Stockpile	Material	Approximate Volume (m^3)
TS01	Topsoil and subsoil	140,000
TS01	Topsoil and subsoil	150,000
TS01	Topsoil and subsoil	140,000
TS01	Topsoil and subsoil	40,000
TS01	Topsoil and subsoil	2,300
	Total	**472,300**

Controls to be Implemented

The following soil stripping procedures have been developed based on the result of previous soils assessments, industry best-practice and site-specific experience in soil handling. The following procedures will continue to be implemented in those areas to be stripped of soil and/or used for soil stockpiles.

- Prior to soil stripping spread gypsum at a rate of 5t/ha on the surface of areas to be stripped.
- Strip between 400mm and 600mm of soil for use during rehabilitation operations.
- Strip and stockpile the soil in a way that neither pulverises the soil (reduced to dust) nor compacts the soil.
- Spread gypsum at a rate of 5t/ha on the surface of stockpiles to aid in water infiltration and plant growth in the stockpile
- Plant grassland species (not native grassland species) identified in Table 19 within one month of finalising the stockpiles where practicable.
- Prevent vehicular access on soil stockpiles unless required for stockpile management purposes.
- Maintain an inventory of stockpiled soil based on survey pickup and adjust as additional soil is stripped or removed.
- Implement a six-monthly weed management program, if required.
- Test soil prior to removal for the full depth of the stockpile to permit planning of spreading and amelioration during the growth media development phase.

6.2.1.1.2 *Capping Material*

Existing Environment

The upper surfaces of the Residue Storage Facilities will be required to be capped with a suitable material of an acceptable maximum permeability to meet the rehabilitation objectives and completion criteria. Prior to capping, reshaping of the upper surface may involve the use of a waste rock general fill to assist in landform profiling. The total volume of general fill material will depend on the degree of final settling of the tailings and the design of the final landform profile.

The progressive design, construction, and operation of the Residue Storage Facilities is undertaken in accordance with independent assessments and reports. The *TGO RSF2 Stage 1 Detailed Design Report* prepared by GHD Pty Ltd (GHD, 2022) identified an indicative minimum capping of approximately 0.5m of clay would provide effective capping for Residue Storage Facility 2.

In addition to the impermeable clay layer, capping material will also consist of a sequence of waste rock and growth medium as part of the final landform. GHD (2022) state a 1m layer of waste rock would be sufficient to form a non-erodible growth medium to be overlayed with topsoil as a rock mulch. The Company considers sufficient material is stockpiled and/or available within the TGO Mine Site to meet this requirement (**Table 10**).

Table 10
Capping Material Balance

Use	Material	Depth	Approximate Volume Required	Approximate Volume Stockpiled
General Fill	Waste Rock	Variable	Variable	>1Mm^3
Capping	Clay	0.5m	42,500m^3	340,000m^3
Growth Medium	Waste Rock	1m	85,000m^3	>1Mm^3
	Subsoil	0.5m	42,500m^3	300,000 m3
	Topsoil	0.15m	12,750m^3	170,000 m3
Note: Based on total area of upper surface for Residue Storage Facility 1 and Residue Storage Facility 2 of approximately 85ha.				

Controls to be Implemented

The Company will continue to undertake the development of the Residue Storage Facilities in accordance with independent design and construction reports. In addition, a detailed closure plan will be prepared prior to the closure of the Residue Storage Facility. That plan would present detailed closure designs, including shaping and capping requirements and an assessment of the stability of and seepage from the closed Facility in the short, medium and long-term.

6.2.1.2 Flora

Existing Environment

TGO Mine *Environmental Assessment*

Baseline flora assessments were undertaken for the original *Environmental Assessment* (RWC, 2011), hereafter referred to as OzArk (2011).

OzArk (2011) estimated that approximately 82.5% of the area within and in the vicinity of ML 1684 had been cleared pre-mining; the remaining areas retaining parcels of a contiguous linear canopy of native vegetation, generally in association with paper road easements and land unsuitable for tilling. The dominant canopy species identified were inland grey box, fuzzy box, belah, western rosewood, white cypress pine and bimble box, with groundcover of generally poor diversity and structural complexity and very low levels of natural recruitment. The remainder of the study area comprised of planted natives and agricultural land dominated by exotic pasture.

OzArk (2011) states that 124 species of flora were recorded during the assessment of which 66 (53.2%) were native and 58 (46.8%) were exotic. Native species generally dominated the ground cover of native woodland and forested areas (albeit very sparsely) where thickets of African box thorn are absent. Highly modified areas were characterised by higher diversity of introduced species, both intentional (agricultural and planted) and exotic weeds.

Identified weeds declared as noxious included galvanised burr (*Bassia birchii*) and African box thorn (*Lycium ferocissimum*) both Class 4 noxious weeds.

No plants listed as threatened were recorded.

Biodiversity Offset Areas

In accordance with MP 09_0155 the Company maintains a Biodiversity Offset Strategy incorporating over 157ha of protected remnant and regrowth vegetation within and in the vicinity of the TGO Mine Site (referred to as Biodiversity Offset Area). It should be noted that these areas are not included in this Plan as operational mining areas as they do not reflect mining-related disturbance to be rehabilitated.

Ongoing Management

Management of biological resources, including vegetation maintenance and management, is undertaken in accordance with the existing and approved *Biodiversity Management Plan* (including a *Property Vegetation Plan*). The *Biodiversity Management Plan* includes procedures for handling threatened species, seed collection, weed control, pest control, habitat features, and habitat management for the TGO Mine Site, including the Biodiversity Offset Area.

Controls to be Implemented

The management of flora and flora-related resources for rehabilitation within the TGO Mine Site will continue to be undertaken in accordance with approved management plans.

6.2.1.3 Fauna

Existing Environment

An assessment of the potential direct and indirect impacts of the TGO Mine on fauna and available habitat was undertaken by OzArk (2011) as part of the original *Environmental Assessment* (RWC, 2011).

OzArk (2011) identified a total of 134 vertebrate fauna species (123 native and 11 introduced) within and in the vicinity of ML 1684 comprising the following.

- 17 reptile species.
- 6 frog species.
- 86 bird species (83 native and three introduced), including two species listed as threatened under the (repealed) *Threatened Species Conservation Act 1995* (grey-crowned babbler and superb parrot), one listed under the *Environment Protection Biodiversity Conservation Act 1999* (rainbow bee-eater) and three species recorded are listed as having 'preliminary determinations as threatened' under the (repealed) *Threatened Species Conservation Act 1995* (little eagle, spotted harrier and white-browed wood swallow).

- 25 mammal species (17 native and 8 introduced species) including two species listed as threatened under the (repealed) *Threatened Species Conservation Act 1995* (Little Pied Bat and Eastern Bentwing Bat) and one species of conservation concern (fat-tailed dunnart).

Habitat

Five main habitat types were identified within the Project Site that are likely to be altered (impacted or enhanced) by the Project. These are as follows.

- Temperate Grassy Woodlands
- Gilgai paddocks
- Isolated paddock trees
- Cleared grasslands and agricultural paddocks
- Aquatic habitats, i.e. tanks, earth dams, drainage lines and creeks

Ongoing Management

Based on the results of OzArk (2011), the design, development and operation of the TGO Mine Site was undertaken in consideration of minimizing potential impacts to fauna and habitat as far as practicable. In general, management measures consisted of pre-clearing surveys, seasonal timing of clearing activities, salvage and stockpiling of woody material, and establishment/enhancement of areas of native vegetation outside of the operational disturbance areas.

The existing and approved *Biodiversity Management Plan* details the monitoring and management of fauna and habitat features within the TGO Mine Site, including for the Biodiversity Offset Area.

Controls to be Implemented

Other than the presence of pest species, no specific fauna outcomes are identified as part of the rehabilitation objectives and rehabilitation completion criteria. Notwithstanding the Company would continue to manage fauna, habitat, and material to be used for the rehabilitation and/or enhancement of available habitat values in accordance with approved management plans.

6.2.1.4 Rock/overburden emplacement

Existing Environment

In general, waste rock generated over the life of the TGO Mine has been:

- used for the construction of temporary and permanent infrastructure such as the ROM Pad, RSFs, amenity bunds, and roadways;
- placed within one of three out-of-pit Waste Rock Emplacements;
- placed as backfill within one of two in-pit Waste Rock Emplacements; and
- used for backfilling of completed stopes as part of underground operations.

Design Criteria and Status

Table 11 presents the indicative design criteria for each out-of-pit Waste Rock Emplacement and the Caloma Amenity Bund and indicative status at the time of this Plan.

Table 11
Indicative Out-of-Pit Waste Rock Emplacement Design Criteria

Design Criteria	Waste Rock Emplacement						Caloma Amenity Bund	
	1		2		3			
	Design	Current	Design	Current	Design	Current	Design	Current
Area (ha)[1]	13	13	47.2	47.2	66.1	66.1	3.2	3.2
Maximum height (m)	35	35	40	40	40	40	10m	10m
Lift heights (m)	10	10	10	10	10	10	10m	10m
Number of lifts	3.5	3.5	4	4	4	4	1	1
Berm widths (m)	5	5	5	5	5	5	-	-
Batter Slope (V:H)	1:3	1:3	1:3	1:3	1:3	1:3	1:3	1:3
Volume (million m^3)[1]	1.9	1.04[2]	11.2	15.8	14.0	12.9	0.5	0.5

Note 1: The reduction in area and volume of waste rock is a result of a reduction in mining from Wyoming 1 and a correction to the swell factor applied (reduced from 28% to 21%)

Note 2: The volume of Waste Rock Emplacement 1 varies depending on operational requirements.

Source: Tomingley Gold Operations Pty Ltd

It should be noted that Waste Rock Emplacement 1 is utilised as an operational temporary stockpiling area for material suitable for use for construction of various infrastructure elements within the TGO Mine Site.

Progressive rehabilitation of the outer slopes of Waste Rock Emplacements 2 and 3 has been largely completed. Except for a relatively minor area (approximately <2ha) on the upper surface of Waste Rock Emplacement 3, the rehabilitation of the Waste Rock Emplacements (including the Caloma Amenity Bund) is considered to be within the Ecosystem and Landform Development phase of rehabilitation.

Table 12 presents the indicative volumes of the two in-pit waste rock emplacements. The Company anticipates that Wyoming 3 is likely to be backfilled completely to surface. The Company currently utilises the remaining void as Dirty water storage and anticipates that approximately 0.7Mm3 of material from the ROM Pad, as well as additional material from other sections of the TGO Mine Site would be required to be placed within Wyoming 3 Open Cut during final rehabilitation. Subsequently no further placement of significant volumes of waste rock is anticipated to occur until cessation of mining operations.

Placement of waste rock and overburden within the Caloma 2 Open Cut is ongoing. At the time of approval (MOD5), the Company anticipated placing between 2.5Mm^3 and 3Mm^3 of material into the Open Cut over the life of the TGO Mine, or approximately half of the available void. As of Q3 2022 approximately 1.9Mm^3 has been placed within the Open Cut. The remaining capacity of Caloma 2 is approximately 3.7Mm^3.

Table 12
Indicative In-Pit Waste Rock Emplacement Volumes

Waste Rock Emplacement	Maximum Capacity (Mm^3)	Current Volume of Material within Emplacement (Mm^3)	Remaining Capacity (Mm^3)
Wyoming 3	3.7	2.5	1.2
Caloma 2	5.6	1.9	3.7
Source: Tomingley Gold Operations Pty Limited			

Controls to be Implemented

No additional Waste Rock Emplacements or increases in the existing disturbance footprints associated with the existing emplacement areas are planned or anticipated to be required for the TGO Mine Site.

During mine closure and the landform establishment phase of rehabilitation, temporary waste rock infrastructure elements will be salvaged and disposed of within the Wyoming 3 or Caloma 2 Open Cuts. Waste Rock Emplacement 1 largely consists of material designated for use during closure of the Residue Storage Facility and will largely be consumed during that process. Excess material will be placed within the backfilled open cuts.

Table 13 presents the indicative volumes of growth medium required for the remaining areas to be rehabilitated for all waste rock emplacements. Approximately 300,000m^3 of subsoil and 170,000m^3 of topsoil is currently stockpiled within the TGO Mine Site (see Section 6.2.1.1). Based on the above, no deficit of material is anticipated to occur.

Table 13
Indicative Waste Rock Emplacement Growth Medium Material Requirements

Waste Rock Emplacement	Approximate Remaining Area for Placement of Growth Medium (ha)	Volume of Subsoil Required[1] (m^3)	Volume of Topsoil Required[2] (m^3)
Waste Rock Emplacement 1	9[3]	45,000	13,500
Waste Rock Emplacement 2	0	0	0
Waste Rock Emplacement 3	2	10,000	4,000
Total	**11**	**55,000**	**17,500**
Note 1: Minimum 500mm subsoil.			
Note 2: Minimum 200mm topsoil.			
Note 3: Assuming complete salvage of all material.			

6.2.1.5 Waste management

Existing Environment

Waste Management

In most cases, non-production waste generated throughout the life of the TGO Mine will be collected on TGO Mine Site and removed for disposal or recycling by a suitably qualified contractor. **Table 14** presents an estimate of the non-production waste and briefly describes how each class of waste is stored and subsequently removed from TGO Mine Site.

Table 14
Non-Production Waste Management

Waste Type	Storage / Management	Removal / Disposal
General waste (including food scraps)	Covered bins or skips located within lunch rooms, offices, outside workshops and elsewhere as required. Where these bins are located in open areas they are fitted with animal proof lids.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility for disposal.
General Recyclables	Covered bins or skips located within lunch rooms, offices, outside workshops and elsewhere as required. Where these bins are located in open areas they are fitted with animal proof lids.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility for recycling.
Waste Oils and Greases	Placed within bunded tank(s) within the workshop area. Where required, smaller, temporary storage containers may be positioned close to work areas, with the contents of those containers transferred to a larger storage tank prior to collection.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility for recycling.
Batteries	Placed within a covered and marked used battery storage area until removed from TGO Mine Site.	Collected on a regular basis by a licensed contractor and transported to an appropriately licensed facility for recycling.
Tyres	Placed within a marked used tyre storage area until removed from site or used for another purpose.	Tyres are re-used on TGO Mine Site for construction of retaining walls, erosion protection, traffic control, etc. These tyres (at the end of use for that purpose) and others not used are disposed of to a licensed waste management facility or a third party approved to recycle tyres.
Scrap Metal	Stored in a specified area within the workshop area or elsewhere as required.	Collected on a regular basis by a scrap metal recycler.
Waste Water	Treated in the on-site Sewage Treatment Plant.	Treated waste water is used to assist growth in the biodiversity offset area (as licensed).

Contaminated Soils

In general, potential sources of land contamination are located within the TGO Mine Site's 'Dirty' water catchment which is designed to contain pollutants to within the TGO Mine Site's disturbance areas.

Contamination events are managed in accordance with the existing and approved *Pollution Incident Response Management Plan* (PIRMP). The PIRMP outlines the required actions in response to potential and/or actual pollution events, including the establishment of clean-up and recovery plans.

Where identified, contaminated material is salvaged and removed from the TGO Mine Site by suitably licenced persons for off-site treatment or disposal.

Controls to be Implemented

The Company would continue to implement the existing waste management practices during the rehabilitation of the TGO Mine Site.

6.2.1.6 Geology and geochemistry

Geology

Existing Environment

Within the TGO Mine Site, the basement geology is dominated by the late Ordovician (Mingelo) Volcanics. The sequence comprises andesitic volcanic units dominated by coarse volcanic to volcaniclastic breccias, andesitic lavas, volcaniclastic sandstones and siltstones intruded by sub-volcanic feldspar porphyries.

The basement geology is almost entirely covered by alluvial sequences of clays, sand and gravel (including an approximately 6m to 15m thick layer of clay to sandy clay interpreted as sheet wash from nearby Devonian granites, underlain, in places, by up to 30m of mottled alluvial clays with minor pebble beds of estimated Tertiary age). This cover ranges up to 50m thick in the central part of the Wyoming mineralisation. Overlying the clays, sands and gravels is a near surface layer of loamy soil.

The gold deposits of the TGO Mine Site are hosted within volcaniclastic sediments, lavas and shallow intrusive porphyritic rocks. The volcanic units are trachy-andesite to basaltic trachy-andesite in composition with very rare detrital quartz in the volcaniclastic rocks which are dominated by well bedded sandstones and siltstones with minor breccias, lithic conglomerates and black mudstones. The dominant sandstones and siltstones have a primary composition of plagioclase and augite but are now largely altered to sericite, carbonate, chlorite, albeit with rare primary quartz.

TGO Mine *Environmental Assessment*

The geochemical characteristics of the waste rock, including residue from ore, were assessed as part of the *Environmental Assessment* for the TGO Mine (RWC, 2011). In particular, the waste rock was assessed for its net acid generation potential as when rock material containing naturally occurring sulphide materials is exposed to oxygen, the sulphide materials can oxidise to form a low pH or acidic leachate. That test work determined the following.

- Oxidised material within the TGO Mine Site is non-acid forming.
- Primary or non-oxidised material within the open cuts and underground mine contains minor concentrations of sulphide material. However, sufficient amounts of acid neutralising materials are present to ensure that the non-oxidised material would not be acid forming.
- Ore material within the TGO Mine Site contains small amounts of naturally occurring arsenopyrite, a mineral composed of iron, arsenic and sulphur. During weathering of the mineralised material, arsenopyrite oxidises to a range of secondary arsenic-bearing minerals. Following processing operations, arsenopyrite and the secondary materials report to the Residue Storage Facility. Analysis for arsenic mobilisation confirmed that the residue samples from the oxide ores contain "pools" of arsenic forms, e.g. Fe/Ca-arsenates of complex and variable composition, however, these should consolidate within the Residue Storage Facility to a tightly compacted state and therefore very low hydraulic conductivity. Some other ore samples, from the Caloma Open Cuts, were characterised by low arsenic solubility during circum-neutral weathering.

As a result, risks associated with geochemistry are not considered to be significant.

Caloma Eastern Cutback

Waste rock material below the base of oxidation within the Caloma Eastern Cutback may potentially be used for the construction of infrastructure, including for the proposed TGEP. In order to determine the suitability of the material, characterisation of waste rock material below 180m AHD was undertaken by RGS Environmental Pty Limited (RGS). The resulting report, presented as part of Appendix 10 of Volume 1 of RWC (2011) and is referred hereafter as RGS (2021).

Samples of each identified lithographic unit were subjected to static geochemical acid base account characterisation to determine the following.

- pH[1]
- Electrical conductivity (EC)[1]
- Total Sulphur by Leco Analyser. Those samples with total sulphur ≥0.15% were subjected to the Chromium Reducible Sulphur test to determine the sulphide sulphur content of the samples
- Acid Neutralising Capacity.[2]
- Metals/metalloids in whole rock.
- Major cations in whole rock.

Based on the results of the waste rock characterisation analyses RGS (2021) concluded the following.

- The diorite and feldspar-phyric porphyry waste rock materials are classified as NAF, with a low risk of acid generation and a high factor of safety with respect to acid mine drainage.
- The only lithologies sampled that contain material classified as PAF are mudstone and mudstone/volcaniclastic siltstone.
- Total metal concentrations in waste rock are generally not significantly enriched compared to median crustal abundance, with the exception minor sporadic enrichment of arsenic and copper in diorite and feldspar-phyric porphyry waste rock.
- Initial water contact with the waste rock materials is likely to be slightly to moderately alkaline, fresh (non-saline) with metals/metalloids in material represented by the NAF waste rock samples likely to be sparingly soluble with concentrations expected to remain within applied freshwater aquatic ecosystem and livestock drinking water quality guideline criteria. Some metal/metalloids may be marginally more soluble in initial contact water from waste rock compared to applied freshwater aquatic ecosystem guideline values. However, all trace metal/metalloid concentrations are well within the livestock drinking water

[1] Based on a 1:5 (weight to volume) mixture of sample to deionised water.
[2] The acid neutralising capacity is the capacity of a sample to neutralise acid, measures as kilograms of H_2SO_4 able to be neutralised per tonne of sample.

guideline values. In the short-term, soluble metal/metalloid concentrations are unlikely to impact upon the quality of surface and groundwater resources.

- In the longer-term, metal/metalloid solubility from any PAF materials has the potential to increase, if these materials are not covered and are left exposed to oxidising conditions.

In light of the above, RGS (2021) recommended the following. The Company has accepted these recommendations.

- Avoid placing any PAF waste rock materials or materials with elevated total sulphur content on or near the surface of the final Waste Rock Emplacements.
- Monitor surface water runoff, including pH and electrical conductivity, downstream of any waste rock emplacement containing PAF materials and/or ore stockpile areas should be regularly monitored for pH and EC.

Residue Characterisation

DE Cooper & Associates Pty Ltd (Cooper, 2011) prepared an initial assessment of material characterisation of residue to be produced at the TGO Mine Site. That assessment was reviewed and confirmed by GHD (2016). Cooper (2011) and GHD (2016) determined the following.

- All residue samples tested were non-acid forming.
- Decant water collected from the settled tailings had concentrations of dissolved arsenic and copper that exceeded the ANZECC (2000) stock watering guidelines.

The Company notes that since commissioning of Residue Storage Facility 1 in 2013, that there have been no significant issues related to material characterisation of the residue produced at the TGO Mine Site, including no evidence of generation of a low pH leachate or generation of a leachate with metal concentrations that requires anything other than industry standard management measures.

Soils

Soil geochemistry, including the occurrence of naturally dispersive and sodic soils within the TGO Mine Site is presented in Section 6.2.1.1.1. In summary, excluding for Residue Storage Facility 2, sodic soils have not been salvaged for use in rehabilitation operations within the TGO Mine Site. Notwithstanding the use of the Sodosol soil unit for the progressive rehabilitation of Residue Storage Facility 2 was not identified as a significant risk in the presence of recommended management measures.

6.2.1.7 Material prone to spontaneous combustion

No material prone to spontaneous combustions is located within the TGO Mine Site.

6.2.1.8 Material prone to generating acid mine drainage

Existing Environment

Information on geochemical analyses of material within the TGO Mine Site is provided in Section 6.2.1.6. In summary, risks associated with acid mine drainage are not considered to be significant, including for rehabilitation and final land use.

Controls to be Implemented

Prior to the Caloma Eastern Cutback, no specific acid mine drainage management measures were identified or required other than the presence of regular general environmental monitoring.

Should any PAF lithologies such as mudstone and mudstone/volcaniclastic siltstone be found during routine geological testing, this material will be identified as requiring segregation and will diverted away from the regular waste rock stream to be managed accordingly. Where practicable, only NAF material will be used for construction of infrastructure. Identified PAF material will be placed within the in-pit Waste Rock Emplacements and will not be placed on external faces of waste rock emplacements or near the surface. In addition, this material will not be used as a construction material, and the monitoring of surface runoff will continue as part of the regular site wide monitoring program.

6.2.1.9 Ore beneficiation waste management (reject and tailings disposal)

Residue Management

Residue is pumped from the last leach tank to a thickener and, once excess water has been removed for re-use, the residue is pumped to the Residue Storage Facility via a cyanide destruction plant.

Residue material is discharged into one of the available cells, with the active discharge cell rotated on a pre-determined basis. The material is discharged from spigots (discharge points) on a peripheral pipeline. The spigots are regularly spaced around the perimeter of each cell and the residue slurry is discharged from six to eight spigots at any one time. The active spigots are regularly changed to allow an even build-up of residue solids over the whole area of each cell. The residue is largely unsaturated except for a very small area around the decant tower in the active cell. Each cell has the opportunity to dry when the discharge of residue is changed to the adjacent cell. This placement procedure allows for an appropriate residue density to be established ensuring the ongoing stability of the Residue Storage Facility.

Reclaim water is collected at centrally located decant towers within the Residue Storage Facilities and pumped directly to the Process Water Dam near the Processing Plant (see **Figures 2** and **3**).

Residue Characterisation and Monitoring

Information on residue characterisation is presented in Section 6.2.1.6.

Decant water from the Residue Storage Facilities is sampled daily for Weak Acid Dissociable (WAD) Cyanide in accordance with EPL 20169. A summary of results is reported in each *Annual Review* as presented on the Company's website. In summary, there have been no exceedances of the maximum concentration limits of 30mg/L, and no exceedances of the 90th percentile limit of 20mg/L since 2015.

In addition, a network of Piezometers in the vicinity of the Residue Storage Facilities monitors for potential impacts (e.g. seepage) from the facilities. No seepage has been identified to date.

Design of the Approved Residue Storage Facilities

Table 15 presents the layout and design criteria for the approved residue storage facilities. In summary, development consent for the approved residue storage facilities were granted as follows.

- Residue Storage Facility 1 (Stages 1 to 6) Original Project Approval (2012)
- Residue Storage Facility 1 (Stages 7 to 9 (of Cell 1)) MOD4 (2020)
- Residue Storage Facility 2 (Stages 1 and 2) MOD5 (2021)
- Residue Storage Facility 1 (Stage 9 of Cell 2) MOD6 (2022)

Table 15
Approved Residue Storage Facilities Design Criteria

Design Component	Residue Storage Facility 1	Residue Storage Facility 2
Maximum approved stage	Stage 9	Stage 2
Maximum crest elevation	286.5m AHD	272.0m AHD
Maximum residue elevation	286.0m AHD	271.3m AHD
Slope of outer face	1:3 (V:H)	1:3 (V:H)
Design capacity (approximate)	9.33Mt	7.40Mt
Residue discharge	Perimeter discharge	Perimeter discharge
Decant system	Central decant	Central decant
Minimum decant pond capacity	1:10 000-year AEP flood event	1:10 000-year AEP flood event
External decant storage	Caloma Central Dam	Caloma Central Dam
Basal liner • Material • Permeability	 Clay Maximum 1 x 10^{-9} over 1m	 Clay Maximum 1 x 10^{-9} over 1m
Spillway	Not required, designed for no spill	Designed for no spill Emergency spillway for 1:1 000 AEP rainfall event
ANCOLD Category • Dam Failure Consequence • Environmental Spill Consequence	 Significant Significant	 Significant Low

Design, construction and ongoing management of the Residue Storage Facilities is undertaken in accordance with detailed engineering assessments prepared for each significant stage of construction. In general, these include analysis and modelling of:

- construction;
- operation;
- stability;
- water balance;
- seepage; and
- decommissioning and rehabilitation.

Controls to be Implemented

The Company will prepare a detailed *Closure Plan* for the decommissioning of the completed Residue Storage Facilities during the Active Mining phase of rehabilitation. The scope of the *Closure Plan* may indicatively include, but not be limited to, the following.

- Final landform design criteria for the final surface, spillways and water management infrastructure.
- A materials balance for the required volume of each material required to effectively cap the residue material, including the geotechnical and geochemical properties of each material required.
- Long-term erosion and stability modelling.
- Final land use constraints assessment.

6.2.1.10 Erosion and sediment control

Existing Environment

Erosion Risk

As part of the approved *Water Management Plan*, the monthly erosion risk for the TGO Mine Site was modelled based on various environmental conditions, characteristics and landform design elements. In summary, **Table 16** presents the monthly site erosion risk for the TGO Mine Site. The most significant risks for erosion during operations are considered to be dams, hardstand areas, and stockpiles. Further information is presented in Section 4.6.3 of the *Water Management Plan*.

Table 16
Monthly Erosion Risk Rating

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Erosion Risk Rating	Moderate	Moderate	Moderate	Low	Low	Low	Low	Low	Low - Moderate	Low - Moderate	Low - Moderate	Moderate

Source: Modified after Table 4.5 of *Tomingley Gold Mine Water Management Plan* (TGO, 2022)

Water Management Infrastructure

Water management infrastructure of the TGO Mine Site is shown on **Figure 2** and **Figure 7**. In general, the Company manages surface water within the TGO Mine Site in accordance with the approved *Water Management Plan.* Surface water is classified as follows.

- Clean water – water unaffected by mining operations. Clean water is permitted to flow around and through the TGO Mine Site via dedicated clean water diversions and is discharged to natural drainage.
- Dirty water – water with the potential to contain suspended sediment from disturbed sections of the TGO Mine Site. Dirty water is captured and stored in sediment basins prior to treatment and discharge or transfer to other storages within the TGO Mine Site.
- Raw water – water pumped to site for use for mining-related activities. This water is not permitted to be discharged from the TGO Mine Site.
- Mine water – water removed from the underground mine workings or stored within the open cuts. This water is not permitted to be discharged from the TGO Mine Site.
- Process water – water potentially contaminated with chemicals, including decant water with the Process Water Dam, Wyoming Central Dam and the Residue Storage Facility. This water is not permitted to be discharged from the TGO Mine Site.

Erosion and sediment control for the TGO Mine Site principally relates to the division of surface water management into 'Clean' and 'Dirty' catchments, consisting of the catchments for the undisturbed and disturbed areas of the TGO Mine Site, respectively.

Excluding limited periods of construction or maintenance of Clean water catchment infrastructure, all disturbance activities, including areas undergoing rehabilitation, are within the Dirty water catchment.

In addition to the general surface water management, the design of Waste Rock Emplacements 2 and 3 includes a significant network of engineered and lined drop-structures to transfer surface water from the contour banks to the main water management infrastructure.

Ongoing Controls

Erosion and sediment control within the TGO Mine Site is managed in accordance with the existing and approved *Water Management Plan*. The *Water Management Plan* incorporates particular design, construction and maintenance guidelines for erosion and sediment control structures in accordance with the requirements of Landcom (2004) and DECC (2008). In addition, the *Water Management Plan* addresses site specific erosion risk, controls and constraints for the TGO Mine Site.

Erosion Controls

Stabilisation of temporary disturbance areas (i.e. stockpiles, non-permanent infrastructure, etc.) is undertaken to reduce as far as practicable erosion and sedimentation within the TGO Mine Site. In general, the following erosion controls are implemented on site.

- Installation of temporary ground cover, including rolled erosion control products and mulch.
- Application of gypsum to improve soil structure.
- Placement of rock and energy dissipaters.
- Use of soil binders and dust suppressants.

Sediment Controls

The following sediment controls are used within the TGO Mine Site, which are implemented depending on site- or operational-specific requirements.

- Sediment basins/sumps (type D/wet) where soil loss is above the threshold defined in the *Water Management Plan*
- Sediment filter fencing
- Dirty water channels
- Flow breaks on areas with slope lengths greater than 40m
- Filter berms/logs/socks
- Straw bale filters
- Stabilised site access points

In addition to the above, the Company operates an on-site meteorological monitoring station as part of their existing and approved air quality monitoring network. Real-time meteorological monitoring allows for more-effective daily and short-term operational planning in consideration of adverse meteorological conditions.

Controls to be Implemented

The Company would continue to manage erosion and sedimentation within the TGO Mine Site in accordance with approved management plans. In addition, the use of site-specific, local and regional meteorological monitoring will be utilised to identify conditions of increased potential for erosion and sedimentation.

Based on the previous experiences from the progressive rehabilitation of the TGO Mine Site, erosion and sedimentation is not considered to be a significant risk to rehabilitation.

6.2.1.11 Ongoing management of biological resources for use in rehabilitation

Existing Environment

Soil stockpiling management procedures are described in section 6.2.1.1.1.

Salvage and stockpiling of woody debris for use in rehabilitation and management of weeds within the TGO Mine Site is outlined in Section 6.2.1.3.

As described in Section 6.2.1.2, the majority of the TGO Mine Site was subject to previous clearance of native vegetation through historical agricultural operations. As such, opportunities to salvage native species in the in-situ seedbank were relatively limited.

Controls to be Implemented

Management of Existing Resources

Regular and ongoing weed inspection and control activities will be used to reduce as far as possible impacts to rehabilitation resources through weed occurrence.

Where practicable, native seed from areas to be disturbed will be collected prior to clearing of significant native vegetation. Ground cover vegetation will be removed with the topsoil to maximise the retention of the seed bank and nutrients within the soil, as well as to minimise opportunities for erosion and dust lift-off between removal of the larger vegetation and soil stripping.

Large woody debris will be salvaged where practicable and stockpiled for use in rehabilitation as habitat augmentation. Smaller vegetation will be mulched and similarly used for rehabilitation activities.

In general, the Company will consider rehabilitation opportunities prior to any surface disturbance operations to maximise progressive rehabilitation rather than stockpiling of growth medium. Minimising soil handling and stockpiling operations reduces potential impacts to biological resources such as seedbanks, organic matter, and other soil biota.

Where no opportunities for immediate use in rehabilitation operations are available, stockpiles are constructed and managed to reduce as much as practicable potential impacts to biological resources. This may include:

- minimising, as far as practicable, the operation of machinery on soil stockpiles to minimise compaction;
- ensuring that soil stockpiles have a maximum depth of 5m (3m of subsoil and 2m of topsoil).
- Leaving the surface of the soil stockpile with an even but roughened surface to assist in erosion control and seed germination and emergence.
- Establishing an appropriate vegetative cover on any soil stockpile that is retained for more than three months.

Propagation and Germination

The Company would continue to utilise where required specialist contractors for the collection, germination, and/or propagation of plants to be used in rehabilitation operations. Where practicable, collection of propagation material from within and in the vicinity of the TGO Mine Site will be undertaken. Additional/alternative sources of propagation material may be used based on rehabilitation requirements.

Based on the performance of previous rehabilitation operations in regard to germination of vegetation, the Company will continue to implement a standard minimum depth of 200mm for topsoils.

6.2.1.12 Mine subsidence

Due to the design of underground mining operations and the underlying geology of the underground mining areas, no incidences of mine subsidence have been identified or are predicted to occur for the TGO Mine Site.

By approved design, minor levels of planned and managed subsidence are likely to occur with the backfilled Wyoming 3 Open Cut as the over-filled material consolidates and settles into a sloped and naturally water shedding landform. Regular visual monitoring will be utilised to identify and confirm the final consolidation, at which point the landform will be profiled with an outwards gradient of 1% to 3% to ensure no ponding of water occurs (see Section 6.2.3.3).

6.2.1.13 Management of potential cultural and heritage issues

Existing Environment

Two separate heritage assessments have been undertaken for the TGO Mine Site. As part of the original *Environmental Assessment*, OzArk Environment and Heritage Pty Limited (OzArk) assessed the area within and in the vicinity of the TGO Mine Site (OzArk, 2009). Nineteen Aboriginal sites were identified within or in the vicinity of what is now ML 1684 , including:

- 15 modified trees (11 scarred trees, 3 possible scarred trees and 1 carved tree);
- two site complexes comprising a cluster of artefacts; and
- two isolated finds.

It should be noted that OzArk (2009) included an assessment of the then proposed Tomingley to Narromine water pipeline from which a number of additional sites were identified. Notwithstanding the management of those sites is outside of the scope of this Plan, hence are not discussed further.

An assessment of what is now ML 1821 was also undertaken by OzArk as part of the assessment for MOD5 (OzArk, 2020). No sites were identified as occurring within ML 1821.

Based on the results of the heritage assessments, the following management measures were implemented.

- Removal of two scarred trees, TGP-ST7 and TGP-ST10, that would be directly impacted by the TGO Mine Site with the scarred portion of the tree relocated to a suitable location to enable long-term interpretation of Aboriginal heritage values associated with these sites.
- Isolation and protection (e.g. fencing, covering with geofabric, etc.) of two artefact scatters (TGP-OS1 and TGP-OS2) and two scarred trees (TGP-ST8 and TGP-ST9) that had the potential to be impacted by the TGO Mine Site.
- Identification and/or protection of remaining sites to minimise occurrence of inadvertent impact.

In general, protective measures are generally only applied during periods of increased risk (i.e. construction).

Ongoing Controls

Cultural heritage impacts within the TGO Mine Site are managed in accordance with the existing and approved *Cultural Heritage Management Plan*.

Controls to be Implemented

No further direct impacts to known heritage sites within the TGO Mine Site are required or predicted to occur.

Management of heritage values within the TGO Mine Site during rehabilitation operations will continue to be undertaken in accordance with approved management plans.

The Company will continue to undertake consultation with Registered Stakeholders in regards to Aboriginal heritage issues. As part of planning for closure of the TGO Mine, this will include consultation in regard to the legacy of Aboriginal heritage sites and values located within the TGO Mine Site.

6.2.1.14 Exploration activities

In general, surface exploration activities within the TGO Mine Site are largely complete with the majority of ongoing exploration occurring within existing surface and/or underground mining areas. Notwithstanding in the event of exploration activities requiring rehabilitation, all surface disturbances would be progressively rehabilitated in general accordance with the activities outlined in this Plan, and/or with relevant exploration rehabilitation guidelines.

6.2.2 Decommissioning

Decommissioning includes the cessation of infrastructure usage, its demolition and removal from the Mine Site or preparation for a supplementary post-mining land use. The order in which the decommissioning of the infrastructure occurs would be determined and agreed upon prior to mine closure.

6.2.2.1 Site security

The principal public safety control for the TGO Mine Site is the security fencing that surrounds the core operational mining areas, as shown on **Figure 2**. Entry to the secured areas of the TGO Mine Site is restricted a single entry and is controlled on a 24/7 basis. CCT security monitoring is also undertaken in high-risk areas. Additional locked entry points are also located to allow for emergency access. During decommissioning, access will continue to be controlled during all active rehabilitation operations.

Stock-proof fencing has been established around Biodiversity Offset Areas and around areas of the TGO Mine Site that are managed for agricultural production.

Non-operational areas of the TGO Mine Site that are managed for agricultural production are protected via stock-proof fencing where required.

Additional security and safety measures to be installed during the decommissioning and/or landform establishment phase will be appropriate bunding and fencing for the final voids to be retained.

6.2.2.2 Infrastructure to be removed or demolished

Table 17 presents a list of site features to be decommissioned to achieve the final land use.

Table 17
TGO Mine Site Assets to be Removed or Demolished

Mining Domain[1]	Code	Assets	Decommissioning and Demolition Requirements
Infrastructure Area	1	Mine Site Access Road (partial), internal access roads, safety bunding, hardstand/laydown areas.	All roads and hardstand areas to be retained for a lawful final land use reduced in width or size to that suitable for final land use. Bunding removed as required. All remaining access tracks will be removed and rehabilitated.
		TGO Administration Area, Workshop/Machinery Yard, Go Line, Magazine.	All infrastructure to be decommissioned and removed from site.
		ROM Pad.	Decommissioned and subject to contamination assessment. Material disposed of within final voids.
		Security Fencing	To be removed prior to site relinquishment.
		Dirty water drains and sediment basins.	All surface water infrastructure not required or suitable for final land use to be removed.
Tailings Storage Facility	2	Residue pipelines and associated infrastructure.	Disconnected and removed from site.
Water Management Area	3	Wyoming Central Dams	The Wyoming Central Dams will be decommissioned and demolished.
Overburden Emplacement Area	4	TGO Mine Site GPS Station.	Decommissioned and removed from site.

Table 17 (Cont'd)
TGO Mine Site Assets to be Removed or Demolished

Mining Domain[1]	Code	Assets	Decommissioning and Demolition Requirements
Active Mining Area (Open Cut Void)	5	Portals, ventilation shafts. Underground mining infrastructure.	All underground infrastructure and services to be disconnected and removed where practicable. All portals and shafts to be sealed.
Underground Mining Area	6	N/A	N/A
Beneficiation Facility	7	Processing Plant including conveyors, crushing and screeding circuit, various hazardous material and reagent storage.	Decommissioned and removed from site. Hazardous material storage removal in accordance with contamination assessments.
		Sedimentation Basin, Process Water Pond, Raw Water Pond.	Decommissioned and demolished. Disposal of material subject to contamination assessment.
Note 1: See **Figures 2, 3** and **8**			

As a minimum, the following controls will be implemented during demolition works at the TGO Mine Site.

- Sites will be continually damped down with water to suppress dust during demolition, with potentially contaminated water captured as appropriate.
- Works will be undertaken so as to minimise the generation of particulate matter.
- Works will not be undertaken during periods of high wind.
- Loads of waste material removed from demolition sites will be covered prior to transportation.

All material and waste products generated from any demolition, decommissioning and/or removal operations will be collected and either removed immediately from the TGO Mine Site or stored in appropriate (i.e. disturbed) areas for removal by a licenced waste contractor as soon as practicable.

In addition to the infrastructure identified in **Table 17**, the ownership of TGO Mine-related infrastructure that is non domain-specific (i.e. the buried water pipeline) will be transferred to the relevant stakeholders as required in accordance with the conditions of consent for the TGO Mine (see Section 2.1).

6.2.2.3 Buildings, Structures and Fixed Plant to be Retained

Plans 1 and **2** present the approved final landform for the TGO Mine Site. In summary, the combined final landform would include the following.

- Two bunded and fenced final voids, namely the Wyoming One and Caloma One Open Cuts.
- One fully backfilled open cut, namely the Wyoming Three Open Cut, and one partially backfilled and fenced open cut, namely the Caloma Two Open Cut.

- Three shaped and rehabilitated waste rock emplacements, namely Waste Rock Emplacements 2 and 3. Material contained within Waste Rock Emplacement 1 would be largely consumed during rehabilitation of the residue storage facilities. Material contained within the Wyoming 3 Open Cut would be shaped to form a low rise with slopes of approximately 1%.
- A capped, free-draining integrated Residue Storage Facility.

All infrastructure not required for the final land use would be removed or reduced in area or width and would be shaped and revegetated as required. Infrastructure to be retained would, indicatively include the following.

- Unsealed roads, reduced in width to that required for post-mining land management (indicatively 5m to 10m wide), with under road drainage retained.
- Security infrastructure, including safety fencing and bunding in the vicinity of the final voids.
- Hardstand areas, reduced in size to that required for post-mining land use.
- Limited sheds and buildings required for post-mining land use.
- Powerlines and substations where these may facilitate the proposed or future land use.
- Water supply pipeline from the "Woodlands" bores to facilitate the ongoing supply of water to Tomingley village and for the post-mining land uses.
- Water management infrastructure, including clean water bunds and water storages, including selected sediment basins and dams.

In accordance with Condition 11 of PA 09_0155, the retention and/or removal of the Newell Highway Underpass at the end of the Life of the Mine will depend on final consultation with Transport for NSW and/or other Government agencies.

6.2.2.4 Management of carbonaceous/contaminated material

Existing Environment

Due to the nature of mining operations undertaken within the TGO Mine Site, the potential exists for contamination arising from metalliferous material, reagents, hydrocarbons and other known hazardous or potentially hazardous material. The key areas of potential contamination include the following.

- Ore stockpiling areas including the ROM Pad, low-grade stockpiles, and areas where crushed ore is stockpiled as part of the processing circuit.
- Residue Storage Facilities and associated water management infrastructure.
- The Processing Plant and associated water management infrastructure.
- Machinery Area and Workshops.

Ongoing Controls

Contaminated material handling procedures are outlined in the following existing and approved management plans.

- *Hazardous Materials Management Plan.*
- *Pollution Incident Response Management Plan.*

Controls to be Implemented

Potential or actual contamination events will continue to be managed in accordance with approved management plans.

Contamination assessments will be undertaken by suitably qualified persons to identify the potential occurrence and extent of any contamination within the TGO Mine Site. The results of the contamination assessments will be used to identify potential remediation strategies and/or disposal of contaminated material either on-site or off-site at suitable licensed facilities. Follow-up verification assessments will be utilised to monitor progress or compliance with recommended strategies/methods as required.

In general, risks associated with contaminated material are considered to be understood. In part due to the low-risk geochemical nature of material within the TGO Mine Site, as well as the relatively modern mining and processing operations that have and continue to occur. In light of the above, the Company does not anticipate that the processes to identify and manage contaminated materials would significantly affect timing of rehabilitation operations.

6.2.2.5 Hazardous materials management

Existing Environment

The storage and use of hazardous materials within the TGO Mine Site have been progressively assessed as part of the development of the TGO Mine, as follows.

- *SEPP 33 Risk Screening and Preliminary Hazard Analysis* undertaken by RWC as part of the original *Environmental Assessment* and presented as Appendix 3 of that document (RWC, 2011).
- *Tomingley Mine Site Final Hazard Analysis* undertaken by Sherpa Consulting Pty Limited (Sherpa, 2013) in accordance with Condition 47 of MP 09_0155.
- Tomingley Mine Site Risk Assessment Proposed Liquid Oxygen Storage undertaken by Sherpa Consulting Pty Limited (Sherpa, 2014).

Hazardous materials within the TGO Mine Site are stored within licensed storage facilities located generally in the vicinity of the:

- Processing Plant;
- Workshop/Machinery Area; and
- Magazine.

Ongoing Controls

Storage and use of all hazardous materials within the TGO Mine Site is in accordance with requirements of relevant licensing and Australian Standards.

Management of hazardous materials within the TGO Mine Site is undertaken in accordance with the existing and approved *Hazardous Materials Management Plan*. The general scope of the *Hazardous Materials Management Plan* includes but is not limited to the following.

- General management measures.
- Operational management measures, including documentation, training and emergency response.
- Identification of site-specific hazardous material storage, handling and usage.
- Responsibilities relating to storage and use.
- Relevant legislation, standards, and guidelines.

Potential pollution events relating to hazardous materials are managed in accordance with the existing and approved *Pollution Incident Response Management Plan*.

Controls to be Implemented

Residual hazardous material remaining following cessation of mining and processing operations will be disposed of/taken off-site by suitably licensed persons at licensed disposal facilities.

Decommissioning of all hazardous material storage areas within the TGO Mine Site will be undertaken in accordance with all relevant guidelines and standards as required.

Areas where hazardous materials were regularly used will be included in any contamination assessments (see Section 6.2.2.5) to identify residual risks to rehabilitation and final land use.

6.2.2.6 Underground infrastructure

Existing Environment

The Wyoming 1 Underground mine was approved as part of the original application for development consent in 2011. The Caloma 1 and Caloma 2 Underground mines were approved in MOD3 of MP 09_0155. For the purposes of this document, these operations are collectively referred to as the TGO Underground Mine. In addition, the SAR Exploration Drive commences within the Wyoming 1 Underground mine. It should be noted that the only surface infrastructure associated with the SAR Exploration Drive, the SAR Exploration Drive Ventilation Rise, is located outside of the TGO Mine Site boundary.

Access and ventilation is provided via a number of portals in the Wyoming 1 Open Cut. A portal has also been established within the southern wall of the Caloma 1 Open Cut, primarily for ventilation and emergency egress (**Figure 2**). Groundwater accumulation within the TGO Underground Mine is pumped to the Wyoming 3 Open Cut.

Underground development currently utilises a jumbo, or underground drill rig, to drill a pattern of holes which are loaded with explosives and the in-situ material fragmented. Underground blasting operations are undertaken 24-hours per day, 7 days per week. Fragmented material is loaded into underground haul trucks using an underground loader.

Ore is extracted using long-hole open stoping and is transported to the ROM Pad and processed using the TGO Processing Plant. Waste rock is either used to backfill completed stopes or is transported to the surface and placed within or in the vicinity of the Wyoming 1 Open Cut.

Long hole open stoping often requires completed stopes to be backfilled to ensure stability of the completed stopes and to maximise recovery of the identified resource. Stope backfilling within the TGO Underground Mine is undertaken using waste rock, with or without the addition of a binding agent such as cement.

Groundwater assessments and modelling has been undertaken for the TGO Mine as part of the original *Environmental Assessment* and for the proposed TGEP. The TGEP groundwater assessment was undertaken by Jacobs Australia and is presented as Part 6 of the *Specialist Consultant Studies Compendium* of RWC (2022a). In summary, the approved final void of the Wyoming 1 Open Cut is predicted to behave as a groundwater sink. The final equilibrium water level is predicted to be approximately 200m AHD, or approximately 70m below the surrounding ground surface. In light of the above, discharges from underground workings are considered to be extremely unlikely and are not considered to be a risk for rehabilitation.

Ongoing Controls

Due to the design and methodology of the TGO Underground Mine, infrastructure is generally relocated to active mining areas as required prior to the backfilling of completed stopes.

Controls to be Implemented

Prior to the closure of the TGO Underground Mine and/or cessation of processing operations, the Company will develop a *Mine Closure Plan* to address the potential risks and opportunities for the decommissioning, salvage and/or removal of all underground mining related infrastructure and services. The *Mine Closure Plan* will identify all relevant approvals, permits, guidelines, and any other documents relating to the closure of the TGO Underground Mine, including for the following activities.

- Temporary and/or permanent safety infrastructure to be installed (e.g. fencing and signage).
- Disconnection of services such as power and water.
- Sealing of all portals and shafts (including for the SAR Exploration Drive Ventilation Rise).
- Design, monitoring and management requirements for all infrastructure to be retained (e.g. seals, ramps, etc.).

Independent assessments by suitably qualified persons will be utilised to confirm all built infrastructure has been designed and built to all relevant standards.

As part of the overall mine closure process, the existing groundwater model will be reviewed to confirm or identify long-term water licencing requirements or other potential groundwater impacts.

Decommissioning of underground infrastructure and the closure of the TGO Underground Mine is not anticipated to significantly impact on the timing of rehabilitation operations. Following cessation of underground mining, the only activities that would remain would be those associated with processing the residual stockpiled ore material and the subsequent closure and rehabilitation of the residue storage facilities.

6.2.3 Landform Establishment

6.2.3.1 Water Management Infrastructure

Existing Environment

The location of all water management infrastructure to be retained in shown on **Plan 1**. In summary, this includes:

- Sediment Basin 1 located at the northwest corner of Residue Storage Facility 1;
- Sediment Basin 3 located southwest of Wyoming One Open Cut;
- Sediment Basin 4 located at the southwest corner of Waste Rock Emplacement 3;
- Sediment Basin 5 located north of Caloma One Open Cut;
- Sediment Basin 7 located west of Caloma Two Open Cut;
- Sediment Basin 8 located at the southwest corner of Residue Storage Facility 2;
- existing drop structures and spillways associated with Waste Rock Emplacement 2 and 3;
- to-be-constructed spillway(s) for the completed Residue Storage Facilities; and
- clean water diversions east and west of Waste Rock Emplacement 3, to the south of Caloma Two and Wyoming One Open Cut, and southeast of Residue Storage Facility 2.

All water management infrastructure constructed or modified as part of the TGO Mine Site surface water management system was constructed in accordance with relevant guidelines. Regular monitoring, including visual assessments and ongoing water quality monitoring, is utilised to monitor performance and condition of all water management infrastructure within the TGO Mine Site.

Water storage areas associated with the clean water diversions are generally considered to be unmodified pre-mining infrastructure. Minor modification may have occurred to integrate existing infrastructure with clean water diversions. Monitoring of clean water infrastructure generally consists of visual monitoring as part of regular site inspections.

Controls to be Implemented

Sediments within water management infrastructure to be retained will be subject to contamination assessments to identify risks to rehabilitation and final land use.

All water management infrastructure to be retained, excluding unmodified pre-mining dams, will be subject to engineering assessments to assess performance and compliance with relevant design criteria.

The TGO Mine site water balance will be reviewed and updated prior to mine closure to identify post-mining water management and licencing requirements.

6.2.3.2 Final Landform Construction: General Requirements

Following the general decommissioning of infrastructure, the rehabilitation of the TGO Mine Site will likely include, but not be limited to, the following landform-construction activities.

- Partial or complete salvage of Waste Rock Emplacement 1 for the capping of the Residue Storage Facilities.
- Salvage of the material comprising the ROM-Pad and placement as backfill within the Wyoming 3 Open Cut.
- Salvage of stockpiled growth medium and remediation of underlying lands.
- Removal of roadways, hardstand areas, and other ancillary infrastructure that are unlikely to be required to support final land uses.

In addition to the above, the removal of water management infrastructure (e.g. Wyoming Central Storage Dams, dirty water drains, etc.) and/or construction of water management infrastructure (e.g. water diversion bunds in the vicinity of Final Voids), may be undertaken as part of the construction of the final landform. The Company considers that any key changes to water management infrastructure will be determined prior to Mine closure.

The following subsections outline the key issues relating to general landform construction for the activities identified above.

Geotechnical

In general, and with the exception of the Final Voids, the principal geotechnical consideration will be the effect of the salvage of Waste Rock Emplacement 1 on the stability of the eastern embankment of Residue Storage Facility 1.

The incorporation of the two landforms and the use of material from Waste Rock Emplacement 1 for the capping of Residue Storage Facility 1 have been assessed and designed as such since the time of the original EA. The progressive design and construction of Residue Storage Facility 1 has been in accordance with numerous independent assessments and reports.

The Company is currently in the process of preparing a detailed *Closure Design Report* for the approved Residue Storage Facilities; the scope of that Report may include the constraints and opportunities regarding the salvage of Waste Rock Emplacement 1.

Further information on geotechnical and erodibility assessments for final voids are presented in Section 6.2.3.4.

Geochemical

Assessments undertaken as part of the original EA identified that waste rock mined from the Wyoming and Caloma Open Cuts would be unlikely to result in acid generation. More recent assessments, undertaken for the proposed Tomingley Gold Extension Project, which focussed on the Caloma Eastern Cutback identified that certain and limited lithologies located within material to be mined within Caloma 1 would have the potential for acid generation. Notwithstanding the above, material identified as having the potential for acid generation from the Caloma Eastern Cutback has not been, nor would be, removed from the Caloma Open Cuts for use in construction of surface infrastructure.

The Company contends that sulphides are closely associated with gold mineralisation and that low sulfidation mineralisation within waste rock has been encountered to date. Based on the above, no operational management measures for acid mine drainage have been required during the operation of the TGO Mine and therefore, are not expected to be required to be considered as part of rehabilitation purposes.

Notwithstanding the above, the salvage and disposal of the material comprising the ROM Pad as backfill within Wyoming 3 Open Cut, due to the stockpiling of ore (and associated sulphides), may require further assessment of risks from potential acid mine drainage. In addition, if the Wyoming Central Storage Dams (as part of the Dirty water network) are required to be decommissioned and removed, contaminated material may be present within the dam sediment. To address the potential for geochemical risks to rehabilitation, the Company may include an assessment of the ROM Pad and Wyoming Central Storage Dam sediments as part of a contamination assessment.

Natural Landform

The remaining key changes to the current landform are the completion of the Residue Storage Facilities and the general restoration of operational mining areas similar to that of pre-mining landforms. The approved design and conceptual final landform of the Residue Storage Facilities is largely constrained by engineering requirements for stability and watershed, and therefore has limited potential for the creation of a ‘more-natural’ landform. Notwithstanding the completed Facility, including the establishment of topsoiled slopes capable of supporting vegetation development will reduce impacts to visual amenity.

Where the development of the TGO Mine Site has involved significant alterations to the existing landform (e.g. the ROM Pad), during the Landform Establishment phase of rehabilitation the Company will, where practicable, aim to establish landforms that are conducive to the final land use and comparative to that of the pre-mining landscape. Consideration of post-mining land use and land drainage will be incorporated as part of landform establishment.

Surface Water and Erosion Management

Three key components of the TGO Mine Site will require specific risk management in regard to managing surface water and erosion during and following rehabilitation of the TGO Mine Site:

- Waste Rock Emplacement 2 and 3;
- the Residue Storage Facilities; and
- the Final Voids.

The established final landforms of Waste Rock Emplacements 2 and 3 incorporate a significant network of water management infrastructure. This network of rock and geotextile lined flumes promote the drainage of the landforms and work to protect the outer surface from erosion. No changes to the existing water management infrastructure of Waste Rock Emplacement 2 and 3 are required or will be undertaken by the Company.

The management of surface water for the operational Residue Storage Facilities (excluding the internally draining upper surfaces) consists of a progressively developed network of perimeter table drains and Sediment Basins as part of the Dirty water drainage network (see **Figures 2** and **7**). As discussed in Section 6.2.2.3, certain components may be retained as part of the final landform of the Facility.

Once decommissioned, the upper surfaces of the combined Residue Storage Facilities 1 and 2 will be re-shaped to promote drainage towards engineered drop structures at key locations, similar to that of the Waste Rock Emplacements, with the design and location of the drop structures to be determined as part of the closure design reports for the Residue Storage Facilities.

As part of the overall management of the Final Voids, surface water diversion bunds will be retained and/or established to minimise as far as practicable the total catchment of the Final Voids, in part to reduce surface water flow and subsequent erosion of void walls.

6.2.3.3 Final Landform Construction: Reject Emplacement Areas and Tailings Dams

Waste Rock Emplacements

As identified in Section 6.2.3.2, the final landform of Waste Rock Emplacement 1 will depend on the extent of material salvaged for the capping of the Residue Storage Facilities. Once the extent and volume of the remaining material has been established, the Company will undertake shaping of the material to maintain design criteria and to establish a landform capable of supporting the approved mixed native and pastoral vegetation cover.

The Company intends on completely backfilling the Wyoming 3 void with the following providing a summary of the anticipated rehabilitation methods.

- As far as practicable, the upper layers of waste rock placed within the void will be weathered material, with large rocks and boulders absent, with good water holding potential. Any surface, or near surface rocks will be removed and the subsequent surface depressions filled in.
- The void will be backfilled to an elevation slightly higher than the surrounding land. This is to allow for some subsidence, as well as to ensure that the final landform can be profiled to shed water.
- Once backfill of the void is complete, a period of consolidation would be allowed to follow with additional fill placed within areas of subsidence. This period would continue until no further subsidence is noted.
- Once consolidation is confirmed, the landform would be profiled with an outwards gradient of 1% to 3% to ensure no ponding of water occurs.

- A layer of previously stockpiled subsoil (at least 500mm) topsoil (at least 200mm) would be spread over the landform in accordance with the standard practices of the Mine (and described in this RMP).
- Direct seeding with a mix of grass, shrub and tree species commensurate with local vegetation communities would follow, with ongoing monitoring and maintenance undertaken in accordance with the RMP.

The partially backfilled Caloma 2 Open Cut is approved to be retained as a final void. No specific, capping, dewatering and/or geotechnical strategies are anticipated to be required.

Residue Storage Facilities

The general final landform construction requirements for the Residue Storage Facilities, as well as the ongoing development of the *Closure Design Report* are identified in Section 6.2.3.2. Outside of the progressive stabilisation of the outer surfaces of the Residue Storage Facilities, due to operational requirements no opportunity for major landform establishment works will be available until the cessation of processing operations. Notwithstanding the above, the scope of the *Closure Design Report* will include risks and opportunities relating to capping design and dewatering strategies. Once finalised, this Plan will be updated to reflect the outcomes of the *Closure Design Report*.

6.2.3.4 Final Landform Construction: Final Voids, Highwalls and Low Walls

Existing Environment

No specific design features for approved Final Voids are included as part of MP 09_0155. The design of the approved Open Cuts considered all potential impacts to final land use as part of the assessment process. Following completion of mining operations within Caloma 1, no further surface mining operations within the TGO Mine Site are approved or proposed to occur during the remaining life of the TGO Mine. In light of the above, no further consideration of these factors will be undertaken.

Conditions relating to management strategies for the approved Final Voids generally involve:

- minimising the size and depth of the Final Voids, including the backfilling of the Wyoming 3 and Caloma 2 Open Cuts;
- minimising drainage catchments; and
- designs that impact a ‘negligible’ stability risk.

Technical Assessments

Geotechnical Assessment

The Wyoming 1 Open Cut is approved to be retained within the final landform as a final void, with a general commitment for geotechnical assessments leading up to Mine closure. As a result, as part of the assessment for TGEP the Company engaged AMC Consultants Pty Ltd to prepare a geotechnical assessment of the long-term stability of the open cut. That report, referenced hereafter as AMC (2021), is presented as Appendix 6 of RWC (2022a).

AMC (2021) identify that the most likely long-term failure mechanism within the Wyoming 1 Open Cut is the ongoing deterioration of the alluvium and saprolite, as well as rock mass style failures. AMC (2021) identified that risk of rock mass failures would increase if transient or high groundwater pressures occur in the slope and that rainfall and surface water flows also promote ongoing instability.

AMC (2021) undertook an assessment of the stability of three key sections through the Wyoming 1 Open Cut walls (see Figure 3.5.2 of RWC (2022a) using SLIDE, a limit equilibrium analysis software package developed by Rocscience. The results of the analysis are summarised as follows.

- Southeastern Wall Section – this section of wall has a current Factor of Safety[3] of 1.0. The Applicant is closely monitoring and managing this section of the Open Cut.
- Eastern Wall Section – this section of wall has a current Factor of Safety of 1.3. with a low potential for rock mass failure during the life of the Project.
- Western Wall Section – this section of wall has a current Factor of Safety of 1.3. with a low potential for rock mass failure during the life of the Project.

As part of MOD7, the Company commissioned a review of the proposed design of the northern access ramp for the Wyoming 1 Open Cut to be undertaken by Lianne McKenzie, Principal Engineering Geologist with SMEC, a global engineering consultancy specialising in geotechnical engineering and geological services amongst other specialities. Ms McKenzie has provided specialist geotechnical advice to the Applicant under while employed by a number of different consultancies since the early stages of development of the TGO Mine (including AMC (2021).

Ms McKenzie determined the following in relation to the stability of the existing northern wall of the Wyoming 1 Open Cut.

- The existing small and localised Ramp Failure was the result of a range of factors, including the following.
  - Initial collapse at the interface between a localised deep alluvial paleochannel and an extremely weathered chlorite schist (saprolite).
  - Steep foliation within the schist and its susceptibility to rapid deterioration when exposed to water.
  - An over steep wall angle in the bench in that location.
  - Gradual movement of material over time, principally as a result of surface water erosion and infiltration. This was rapidly increased following a substantial rainfall event in January 2022.

[3] Factor of Safety (FoS) is a measure used to represent how much greater the resisting capacity of a structure or component is relative to an assumed load. A FoS greater than 1.0 implies the available shear strength to resist failure is greater than the driving force to initiate failure. FoS is used to quantify safety, but it is not directly correlated to the risk (i.e. the likelihood and consequence) of failure (Source: After https://www.klohn.com/blog/geotechnical-factor-of-safety-and-risk/ - accessed 26/10/21).
The document *Guidelines for Open Pit Slope Design* (Read and Stacey, 2009) recommend a FoS of between 1.3 and 1.5 for final voids with a high consequence in the event of a failure.

- Prism monitoring of the northern wall of the Wyoming 1 Open Cut indicates that long-term trends and total movements are typical of open cut operations and do not indicate significant overall wall movement or acceleration.

As MOD7 is currently under assessment, no further comment on the proposed design is provided as part of this Plan.

Erodibility Assessment

The Company engaged Landloch Pty Ltd to prepare an assessment of the long-term erosional stability of the Wyoming 1 Open Cut. That report, referenced hereafter as Landloch (2021), is presented as Appendix 7 of RWC (2022a).

Landloch (2021) utilised the SIBERIA, a 3-dimensional topographic model that predicts the long-term development of channels and hillslopes in a catchment, based on runoff, erosion, and deposition. The SIBERIA model was used to determine the likely effect of erosion on the upper benches of the Wyoming 1 Open Cut over 10, 100 and 1 000 year time frames. Landloch (2021) derived erodibility parameters for three materials within the open cut walls, namely alluvium and two saprolite materials, based on an ultra-high resolution LiDAR survey of the Wyoming 1 Open Cut from August 2021.

The results of that analysis are presented in Section 4 of Landloch (2021) and are summarised as follows.

- Saprolite was the most erodible material.
- Open cut expansion due to erosion is expected to have an average rate of approximately 2m/100 years or 20m over 1 000 years.
- The open cut crest is not expected to erode back far enough to impact on critical infrastructure, including the realigned Newell Highway (proposed as part of TGEP) or the RSF 1 or 2.

In addition to the above, the Company is in the process of establishing detailed closure criteria for the Final Voids to be retained in consultation with the NSW Resources Regulator, Mining Exploration and Geoscience and the Department of Planning and Environment. Once established, this Plan will be updated to reflect the outcomes of that process.

Controls to be Implemented

In general, the design of the final landform of the final voids to be retained, including the size and extent of all associated infrastructure (e.g. exclusion bunds and security fencing) will depend on the results of ongoing and future geotechnical assessments. Notwithstanding the above, the following presents an overview of the rehabilitation activities associated with the approved final voids.

- Prior to the completion of operations within the open cuts (including backfilling), an assessment of geotechnical stability will be undertaken to ensure the long-term stability of the open cuts is conducive to a ‘negligible’ instability risk. The scope of any geotechnical assessment will depend on the perceived level of risk and the time since and results of the most recent assessment.

- Following completion of mining operations within each open cut, all non-critical infrastructure will be removed.
- The adequacy of the safety bund around the perimeter of the open cut wills will be reassessed following completion of mining operations and the bund repaired/upgraded as required.
- A 1.8m high security fence with lockable gate will be established around each open cut and signs identifying the presence of a deep excavation will be installed approximately every 50m.
- The haul road access to each open cut will be blocked to prevent inadvertent or deliberate vehicle access to the open cut. The method employed will permit reopening of the open cut haul road, if required, and may include placement of a bund across the upper section of the haul road.
- No planned revegetation of the benches/walls is anticipated, however these surfaces would be permitted to naturally revegetate as seen for the Peak Hill Gold Mine located approximately 15km to the south-southwest of the TGO Mine Site.

6.2.3.5 Construction of creek/river diversion works

No creek or river diversion works are proposed or would be required as part of the rehabilitation of the TGO Mine Site.

6.2.4 Growth Medium Development

6.2.4.1 Geochemistry and Amelioration

Existing Environment

Geochemistry of the soils of the TGO Mine Site are discussed in Section 6.2.1.1 and 6.2.1.6. In summary, of the soils salvaged for use in rehabilitation, except for general occurrence of naturally dispersive soils, no specific risks have been identified relating to geochemistry.

An assessment of the stockpiled soils of Soil Stockpile 2 was undertaken by Sustainable Soil Management (SSM, 2022) (see Section 6.2.1.1.1). In summary, the results of SSM (2022) indicate that the geochemical properties of stockpiled material within Stockpile 2 is generally consistent with that of undisturbed soils of the TGO Mine Site, and that current stockpiling management practices are not likely to result in significant impacts on the stockpiled material. Notwithstanding the above, SSM (2022) identifies the naturally dispersive and low-nutrient level soils will likely benefit from amelioration prior to and during rehabilitation.

Controls to be Implemented

In consideration of the results and recommendation of SSM (2022), the Company may undertake application of soil ameliorants (e.g. gypsum, fertilisers, organic matter, etc.) prior to and/or during use in rehabilitation operations.

6.2.4.2 Erosion and Sediment Controls

Existing Environment

Existing and ongoing erosion and sediment controls implemented within the TGO Mine Site are identified in Section 6.2.1.10.

The TGO Mine Site experienced a period of prolonged drought during the construction and rehabilitation of Waste Rock Emplacements 2 and 3 which led to significant and unavoidable delays in vegetation establishment. The Company successfully used applications of organic mulch (e.g. straw) for temporary surface stabilisation. Additional benefits from the use of the organic mulch included increased soil organic matter and increased soil moisture levels.

Controls to be Implemented

The Company considers that no additional erosion and sediment controls are likely to be required during remaining rehabilitation operations unless further extreme meteorological conditions are experienced. Based on previously successful management actions, the use of organic mulches may be used to minimise potential erosion and sedimentation. In addition, the Company may use additional surface-stabilising options, such as biodegradable synthetic polymer binding agents.

During salvage of stockpiled resources, disturbance of stockpile groundcover will occur. Depending on operational requirements, the Company will re-establish stabilising groundcovers as soon as reasonably practicable to minimise erosion and loss of remaining stockpiled material.

The Company will undertake regular visual monitoring of rehabilitation areas to identify potential or unexpected delays to vegetation establishment that may require specific and/or additional erosion and sediment controls to be implemented.

6.2.4.3 Surface Treatment

Existing Environment

Significant mechanical treatment as part of surface preparation activities is likely to be required during the rehabilitation of the TGO Mine Site. In general, mechanical treatment such as deep-ripping is likely to be required in the following Mining Domains.

- Infrastructure Areas:
  - where the operation of vehicles, mobile plant, and other heavy machinery has resulted in surface compaction; and
  - within the boundary and in the general vicinity of buildings and other site infrastructure.
- Processing Plant.
- Ancillary Infrastructure areas where material has been stockpiled.
- Water Management Areas, namely the Wyoming Central Storage Dams, if required to be decommissioned and removed.
- Active Mining Areas to be backfilled to surface and capped with growth medium.

Controls to be Implemented

Where compaction is known or predicted to have occurred, the Company will undertake necessary mechanical treatment actions (e.g. deep ripping) where required. In addition, area-specific investigations may be undertaken do determine the extent of surface compaction and subsequently confirm the extent and type of any mechanical treatment options that may be required.

6.2.4.4 Topsoil and Subsoil Management

Existing Environment

Current soil stockpiling and handling procedures are identified in Section 6.2.1.1.1.

Controls to be Implemented

Stockpiled topsoil will be reclaimed from the soil stockpiles and spread using a front-end loader or small bulldozer, with care taken to ensure that the placed soil is not overly compacted. Subsoil will not be spread as the pre-existing subsoil was left in place during construction of the stockpiles.

Topsoil will be placed on the shaped landform to a minimum thickness of 200mm. A greater thickness of soil material will be spread if sufficient material is available.

6.2.4.5 Seasonal Considerations

Existing Environment

The TGO Mine Site is subject to regional and local meteorological conditions that during extreme events may present risks during rehabilitation. As identified in Section 6.2.4.3, extreme meteorological conditions experienced by the TGO Mine resulted in delays in vegetation establishment during the rehabilitation of Waste Rock Emplacements 2 and 3.

Table 18 presents data drawn from the Bureau of Meteorology-operated Peak Hill Post Office weather station (Station Number 050031) located approximately 14.5km south of the TGO Mine Site at an elevation of 285m. This station provides continuous temperature and rainfall data for the period July 1965 and September 1890 respectively to present. On average, January is the hottest month, with a mean maximum temperature of 33.4ºC and a mean minimum temperature of 19.5ºC, while July is the coldest month, with a mean maximum temperature of 15.4ºC and a mean minimum temperature of 4.8ºC. Mean rainfall is relatively consistent throughout the year, ranging from a mean maximum of 58.9mm in January to a mean minimum of 38.9mm in September. Significant deviation from mean conditions is shown in the maximum and minimum rainfall values, with maximum rainfall as high as approximately 7.5x that of mean conditions.

Table 18
Monthly Temperature and Rainfall

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature[1]													
Mean max temperature (°C)	33.4	32.6	29.5	25.1	20.1	16.3	15.4	17.1	20.8	25	28.5	31.6	24.6
Mean min temperature (°C)	19.5	19.3	16.5	12.4	8.7	6.1	4.8	5.6	7.9	11.6	14.6	17.3	12
Rainfall[2]													
Mean rainfall (mm)	58.9	50.5	51.4	42.9	44.3	43.3	45	42.2	38.9	47.8	48.2	51.3	564.2
Highest (mm)	237.6	328.7	279.4	323.8	175.0	186.5	142.2	107.1	187.9	202.1	221.1	209.8	1217.1
Lowest	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	232.6

Note 1: Period July 1965 to August 2022

Note 2: Period September 1890 to August 2022

Source: Climate statistics for Australian locations (bom.gov.au) – accessed August 2022

The Company operates an on-site Automatic Weather Station (AWS) as part of the environmental monitoring network for the TGO Mine. Whilst the TGO Mine AWS presents the most accurate and site-specific meteorological data, data collection began in 2013 and is therefore unlikely to represent long-term climate trends. Notwithstanding, the TGO Mine AWS is utilised for ongoing operational planning and monitoring.

Controls to be Implemented

Seasonal and local meteorological conditions will be monitored to identify conditions which may result in delaying vegetation establishment (e.g. extended drought conditions, periods of high rainfall, etc.). Land preparation and growth medium spreading activities will only be undertaken where conditions are predicted to be favourable (i.e. not unusually unfavourable) to the establishment of vegetation.

6.2.4.6 Habitat Augmentation

Existing Environment

No habitat-specific approved rehabilitation objective is included as part of MP 09_0155. Notwithstanding, in part to achieve the approved objective to 'restore self-sustaining ecosystems', the Company has undertaken progressive salvage and stockpiling of habitat features during clearing operations within the TGO Mine Site, as discussed in Section 6.2.1.3.

Controls to be Implemented

Once a suitable growth medium has been established, the Company will salvage stockpiled habitat features to be relocated within areas of the TGO Mine Site identified as Native Ecosystem Area final land use domain. Prior to the salvage of stockpiled habitat features, the Company will consult with a suitably qualified person(s) regarding the most-effective application of stockpiled resources.

6.2.4.7 Weed Control

Ongoing Management

Management of weed species is undertaken in accordance with the existing and approved *Biodiversity Management Plan*, as identified in Sections 6.2.1.2 and 6.2.1.11.

Controls to be Implemented

Management of weed species within the TGO Mine Site will continue to be undertaken in accordance with approved management plans.

Prior to the salvage and placement of stockpiled growth medium, the Company will undertake visual inspections to identify and evaluate the risk of inadvertent spreading/introduction of weed species to areas undergoing rehabilitation. If weed species presence and/or abundance is identified as likely to result in avoidable impacts to rehabilitation, targeted weed controls (e.g. mechanical and/or chemical treatment) may be implemented to reduce risks of weed species presence as far as practicable. This may include identification and monitoring of target or priority weed species communities and timing control operations based on phenological stage (i.e. during or prior to flowering). Follow-up inspections may be undertaken to assess efficacy of controls and to identify need for further action.

6.2.5 Ecosystem and Land Use Establishment

6.2.5.1 Seasonal Considerations

Seasonal considerations during the Ecosystem and Land Use Establishment phase of rehabilitation will be undertaken in accordance with those identified in Section 6.2.4.5.

Seasonal and local meteorological conditions will be monitored to identify conditions which may result in delaying vegetation establishment (e.g. extended drought conditions, periods of high rainfall, etc.). Vegetation establishment activities, including the application of hydromulch, direct seeding and/or broadcast seeding, will only occur where favourable climatic conditions are expected to occur.

Water resources are also available within existing water storage infrastructure of the TGO Mine Site for use in supplementary watering of establishing vegetation.

6.2.5.2 Revegetation Methodologies

Vegetation will largely be established by the following.

- Direct and/or broadcast seeding across relatively flat areas which are less susceptible to erosion or where relatively minor areas of vegetation are required to be established.
- Planting of tubestock to ensure target species establishment, including for species where seed propagation may be less effective.
- Hydroseeding in areas where safe access by rehabilitation practitioners or equipment cannot be provided, or areas that may be prone to erosion.

- Allowing natural revegetation to occur from existing seedbanks or from surrounding established native vegetation.

6.2.5.3 Target Plant Species

Table 19 presents an indicative and non-exhaustive list of native and exotic species that the Company has and will use for revegetation of disturbed areas of the TGO Mine Site. In summary, each species mix has been determined and would be used as follows.

- Woodland species – would be used in Domain Aa Native Ecosystem Area - Woodland and reflects composition of the Fuzzy Box Woodland Endangered Ecological Community and the species list identified in Table 2.11 of RWC (2011).
- Grassland Species – would be used in Domain Ab Native Ecosystem Area - Grassland. These species currently occur within the TGO Mine Site and would be expected to regenerate naturally in the absence of a revegetation program.
- Pasture species – would be used in Domain B Agriculture - Grazing. This species mix contains a mixture of introduced and native annual and perennial species (including legumes) and is based on the species mix that has been successfully used at Alkane's Peak Hill Gold Mine, located approximately 20km to the south of the Mine Site.

Remaining areas of the TGO Mine Site to be rehabilitated will be vegetated with a mix of plant species based on the area to be revegetated, the suitability of plant species for use in surface stabilisation, and the dominant surrounding target vegetation community.

Table 19
Indicative Flora Species to be used during Rehabilitation

Scientific Name	Common Name	Scientific Name	Common Name
Woodland Species – Domain Aa – Native Ecosystem Area - Woodlands			
Eucalyptus microcarpa	Inland Grey Box	*Acacia pendula*	Myall
Eucalyptus conica	Fuzzy Box	*Acacia deanii*	Dean's Wattle
Eucalyptus populnea	Bimble Box	*Acacia decora*	Western Golden Wattle
Eucalyptus camaldulensis	River Red Gum	*Acacia hakeoides*	Hakea Wattle
Allocasuarina leumanii	Buloke	*Acacia implexa*	Lightwood
Callitris glaucophylla	White Cypress Pine	*Acacia salicina*	Cooba
Pittosporum phillyroides	Butterbush	*Dodoneaviscosa*	Hopbush
Brachychitonpopulneus	Currajong	*Daviesiagenistifolia*	Broom Bitter-pea
Hakea tephrosperma	Needlewood	*Enchylaena tomentose*	Ruby Saltbush
Hardenbergiaviolacea	False Sarsparilla	*Rhagodianutans*	Climbing Saltbush

Table 19 (Cont'd)
Indicative Flora Species to be used during Rehabilitation

Scientific Name	Common Name	Scientific Name	Common Name
Grassland Species – Domain Ab – Native Ecosystem Area - Grasslands			
Austrostipa scabra	Rough Speargrass	*Themeda australis*	Kangaroo Grass
Austrostipa densiflora	Foxtail Speargrass	*Austrostipa setacea*	Corkscrew Grass
Austrodanthonia sp.	Wallaby Grass	*Chloris sp.*	Umbrella Grass
Bothriochloa macra	Redgrass	*Microlaena stipoides*	Weeping Grass
Cymbopogon refractus	Barbed-Wire Grass	*Paspalidium jubiflorum*	Warrego Summer Grass
Paspalum dilatum	Paspalum	*Eragrostis lacunaria*	Purple Lovegrass
Eulalia fulva	Silky Browntop	*Panicum effusam*	Hairy Panic
Digitaria sanguinalis	Summer Grass	*Diplachne fusca*	Brown Beetle Grass
Dactyloctenium radulans	Button Grass	*Digitaria brownii*	Cotton Panic
Echinochloa colonum	Awnless Barnyard Grass	*Dicantheum sericeum*	Queensland Bluegrass
Enteropogon acicularis	Curly Windmill Grass	*Sporobolus creber*	Western Rat's Tail Grass
Pasture Species – Domain B - Agricultural - Grazing			
Chloris gayana	Rhodes Grass	*Cenchrus ciliaris*	Buffel Grass
Pennisetum clandestinum	Kikuyu	*Cynodon dactylus*	Couch Grass
Phalaris sp	Phalaris	*Digitaria eriantha*	Premier Digit
Lolium rigidum	Rye Grass	*Eragrostis curvula ssp.*	Consol Lovegrass
Trifolium repens ssp	White Clover	*Trifolium subterraneum*	Sub-clover
Medicago truncatula	Barrel Medic	*Medicago scutelata*	Snail Medic
Trifolium resupinatum	Persian Clover	*Trifolium hirtum*	Rose Clover
Hordeum vulgare	Barley	*Avenaa ludoviciana*	Black Oats
Source: Tomingley Gold Operations Pty Ltd			

6.2.5.4 Propagation Material Handling

Native plant species seed will be collected from within and in the vicinity of the TGO Mine Site, including the Biodiversity Offset Area and existing rehabilitation/and or native vegetation areas. As many native species flower and seed irregularly, seed collection may occur opportunistically or over an extended period of time. Where practicable, seed collection will be undertaken by or under the guidance of suitably qualified and experienced persons. Where the collection of seeds or other propagation material may result in risk of environmental harm (e.g. damage to existing vegetation, including existing rehabilitation), collection may be delayed or excluded from these areas. Where suitable species or sufficient quantities are unavailable, alternative local sources will be used.

6.2.5.5 Promotion of Vegetation Establishment

Hydroseeding and Straw Mulching

Techniques proposed for vegetative stabilisation of areas to be revegetated with increased risk of erosion (i.e. sloped areas) include the use of hydroseeding and/or the application of mulch.

Where practicable, the use of straw (or equivalent) mulching will be used to support revegetation. Based on the Companies previous experience in revegetation operations, the use of hydroseeding and straw mulching techniques help reduce the need for irrigation to promote germination and establishment of vegetation. Notwithstanding, water resources are also available within existing water storage infrastructure of the TGO Mine Site for use in supplementary watering of establishing vegetation.

Fertiliser Application

The application of fertiliser may occur as part of revegetation operations. Fertiliser will either be applied directly to growth medium or as part of the mix used in hydroseeding. Follow-up inspections and/or assessments may identify the need for additional fertiliser applications.

Irrigation

Where required, irrigation of establishing vegetation may be undertaken using existing suitable water supply, including from on-site storage infrastructure. All water used would be covered by existing licencing and approvals. No additional water licences are anticipated to be required as part of rehabilitation operations.

6.2.5.6 Weed and Pest Control

Existing weed and pest control operations are discussed in Sections 6.2.1.2, 6.2.1.3 and 6.2.4.7.

Ongoing weed and pest inspection and control programs will continue to be implemented throughout all phases of rehabilitation. Targeted inspection and control operations in the vicinity of newly sewn or established vegetation. This may include identification and monitoring of target or priority weed species communities and timing control operations based on phenological stage (i.e. during or prior to flowering), as well as increased or additional pest control programs.

6.2.6 Ecosystem and Land Use Development

6.2.6.1 Weed and Pest Management and Monitoring Program

Existing Environment

Weed and pest monitoring and management within the TGO Mine Site is undertaken in accordance with the existing and approved *Biodiversity Management Plan* and the *TGO Site Specific Procedure for Weed Management* (TGO, 2014). Under the *TGO Site Specific Procedure for Weed Management*, the TGO Mine Site is classified into 10 different weed management zones based on each zones' key biological and/or operational features. In addition to monitoring and management procedures, the *TGO Site Specific Procedure for Weed Management* identifies potential hazards, risks, and associated controls relating to the use of hazardous compounds and operating within the active TGO Mine Site.

Controls to be Implemented

The Company will continue undertake existing weed and pest management in accordance with approved management plans until relinquishment. The results of the weed and pest monitoring program will be detailed in an *Annual Rehabilitation Report* together with a record of any specific control operations that have been undertaken. Monitoring frequency may be increased to include post-control monitoring if required.

6.2.6.2 Erosion and Drainage Controls

The existing water management infrastructure that will be retained as part of the final land use will continue to be monitored during annual rehabilitation monitoring. The results of all monitoring will be detailed in an *Annual Rehabilitation Report* together with a record of any specific management operations that have been undertaken.

6.2.6.3 Environmental Management and Monitoring Program

Surface Water and Groundwater

The approved TGO *Water Management Plan* describes the water management system for the TGO Mine Site. The Company undertakes water quality monitoring at several locations within and surrounding the TGO Mine Site. Water quality monitoring locations include those locations specified in EPL 20169, as well as additional sampling locations. The intent of the surface water monitoring program is to ensure that the water quality impacts associated with the TGO Mine are minimised. The purpose of the groundwater monitoring program is to provide a framework for monitoring and management of groundwater quality and levels. Surface water and groundwater monitoring data is reported and made publicly available on a monthly and annual basis.

During the remaining rehabilitation of the TGO Mine Site, no additional surface water or groundwater monitoring is anticipated to be required outside of existing monitoring programs. Based on rehabilitation progress against the proposed rehabilitation criteria, monitoring programs may be reviewed, revised and reduced in intensity and/or frequency prior to site relinquishment. The results of all monitoring will be detailed in an *Annual Rehabilitation Report* together with a record of any specific management actions (i.e. reviews) that have been undertaken.

Flora and Fauna

The existing and approved *Biodiversity Management Plan* incorporates a detailed biodiversity monitoring program for the TGO Mine Site (see Section 8). During the remaining rehabilitation of the TGO Mine Site, no additional ecological monitoring is anticipated to be required outside of existing monitoring programs. Based on rehabilitation progress against the proposed rehabilitation criteria, monitoring programs may be reviewed, revised and reduced in intensity and/or frequency prior to site relinquishment. The results of all monitoring will be detailed in an *Annual Rehabilitation Report* together with a record of any specific management actions (i.e. reviews) that have been undertaken.

6.2.6.4 Agricultural Productivity

Agricultural land management operations are currently undertaken on undisturbed areas of the TGO Mine Site and on surrounding land owned by the Company. Pasture establishment monitoring will be undertaken by or under the guidance of the Company to determine suitability for use for grazing activities. Grazing trials, including maintenance of records related to agricultural productivity, will be undertaken in consultation with the land managers to determine the capability of the rehabilitated landform to withstand grazing pressures. The rehabilitated landform and the results of the grazing trials will be presented to a suitably experienced and qualified person to determine the Land Capability of the landform and progression towards achieving the nominated Class 6 Land Capability in accordance with OEH (2012). The results of all monitoring will be detailed in an *Annual Rehabilitation Report* together with a record of any specific management actions (i.e. reviews) that have been undertaken.

6.2.6.5 Revegetation Management and Monitoring

Vegetation establishment activities at the TGO Mine, including growth medium spreading and seeding operations, will occur only where favourable climatic conditions are expected to occur. Consequently, unfavourable meteorological conditions may result in extended delays to these rehabilitation conditions. In the event that extended unfavourable periods occur at the TGO Mine Site, rehabilitation schedules will be updated to prioritise other rehabilitation activities and opportunities to prepare additional areas for revegetation once favourable conditions return will be investigated.

Where rehabilitation monitoring identifies significant areas of germination failure, plant loss, damage to vegetation, the absence of target plant species or the presence of unsuitable plant species, the Company may undertake remedial action which may include the following.

- Investigation into the potential causes of the phenomena, including consultation with suitably qualified persons, where required.
- Installation of temporary surface stabiliser (e.g. sterile groundcover, binding polymer) and/or temporary erosion and sediment controls.
- Consider alternative method of vegetation establishment (e.g. use of hydroseed).
- Undertake in-fill planting of target species to achieve as far as practicable target densities.
- Undertake targeted and short-term control strategies to remove un-suitable plant species.

6.2.6.6 Land Management and Infrastructure Maintenance

In general, ongoing management of infrastructure such as tracks, security infrastructure and stock fencing occur on an as-needed basis. Regular inspections are undertaken by Company personnel. Regular inspections will continue to occur until relinquishment. The results of ongoing monitoring will be detailed in an *Annual Rehabilitation Report* together with a record of any specific management operations that have been undertaken.

6.3 Rehabilitation of Areas Affected by Subsidence

No areas affected by subsidence are located within the TGO Mine Site.

7. Rehabilitation Quality Assurance Process

The following section details the rehabilitation quality assurance process for the TGO Mine Site that has been developed in consideration of *Guideline: Rehabilitation Controls (July 2021)*. The rehabilitation quality assurance checklist included in this section is intended to be used as an indicative guide for rehabilitation operation managers and practitioners responsible for the rehabilitation of the TGO Mine Site.

As the TGO Mine is currently operational, many of the pre-disturbance risk controls outlined in *Guideline 3* (e.g. baseline assessments and monitoring) have either been completed or form part of ongoing investigations to be undertaken during rehabilitation planning. As such, a condensed risk control checklist containing items applicable to the remaining active mining and planned rehabilitation phases of the TGO Mine Site has been prepared and is presented as **Appendix1**.

It is noted that rehabilitation progress through the planned rehabilitation phases will not occur at the same rate across all mining and final land use domains identified in **Figure 5** and **Plan 1**. Therefore the quality assurance records of rehabilitation for each domain will be recorded as appropriate to the respective phase of rehabilitation for that domain. In some instances, validation and monitoring records that apply to all/multiple domains may occur following completion of the relevant phase for all domains.

As part of the rehabilitation quality assurance process, relevant records and documentation will be recorded in a *Rehabilitation Quality Assurance Register* and reported as part of the *Annual Rehabilitation Report*. The *Rehabilitation Quality Assurance Register* will, as a minimum, include a copy of the checklists presented in **Appendix 1** as well as a compliance register used to assess the status of compliance with requirements under relevant development consents, leases and licences. The *Rehabilitation Quality Assurance Register* will be maintained, reviewed and refined by management staff to ensure that it is reflective of current rehabilitation progress, risk controls implemented at the TGO Mine Site and the outcomes of any updated rehabilitation risk assessments.

Table 20 outlines key responsibilities for Company personnel with regards to rehabilitation operations.

Table 20
Roles and Responsibilities for Rehabilitation Implementation

Role	Responsibilities
General Manager - Operations	Accountable for the overall environmental performance of the operations, including the outcomes of this Plan. Ensure that operations are compliant with the requirements of this Plan and applicable approvals. Provide necessary resources required to implement the rehabilitation process outlined within this Plan. Ensure employees are competent through training and awareness programs.
Environment and Community Manager	Ensure the implementation of this Plan, including reporting of non-compliances, and subsequent implementation of the relevant action plan. Ensure that monitoring, report review and preparation are undertaken as outlined within this Plan and associated management plans. Report the progress of rehabilitation and monitoring in the relevant *Annual Rehabilitation Report*.
All employees	Follow direction provided by the General Manager - Operations and the Environment and Community Manager. Ensure operations are consistent with the plans and objectives detailed in this Plan.

8. Rehabilitation Monitoring Program

8.1 Analogue Site Baseline Monitoring

8.1.1 Vegetation Establishment

To assess the rate of recovery and determine the performance of rehabilitation areas, DnA Environmental prepared a Rehabilitation Monitoring Program (incorporating both rehabilitation and biodiversity monitoring) to assess the performance of rehabilitation against the performance indicators, measures and criteria of established as part of various approved management plans. The Rehabilitation Monitoring Program establishes clearly defined, repeatable and consistent methodologies for monitoring changes in various aspects of ecosystem function, succession and long-term sustainability. The Rehabilitation Monitoring Program provides for:

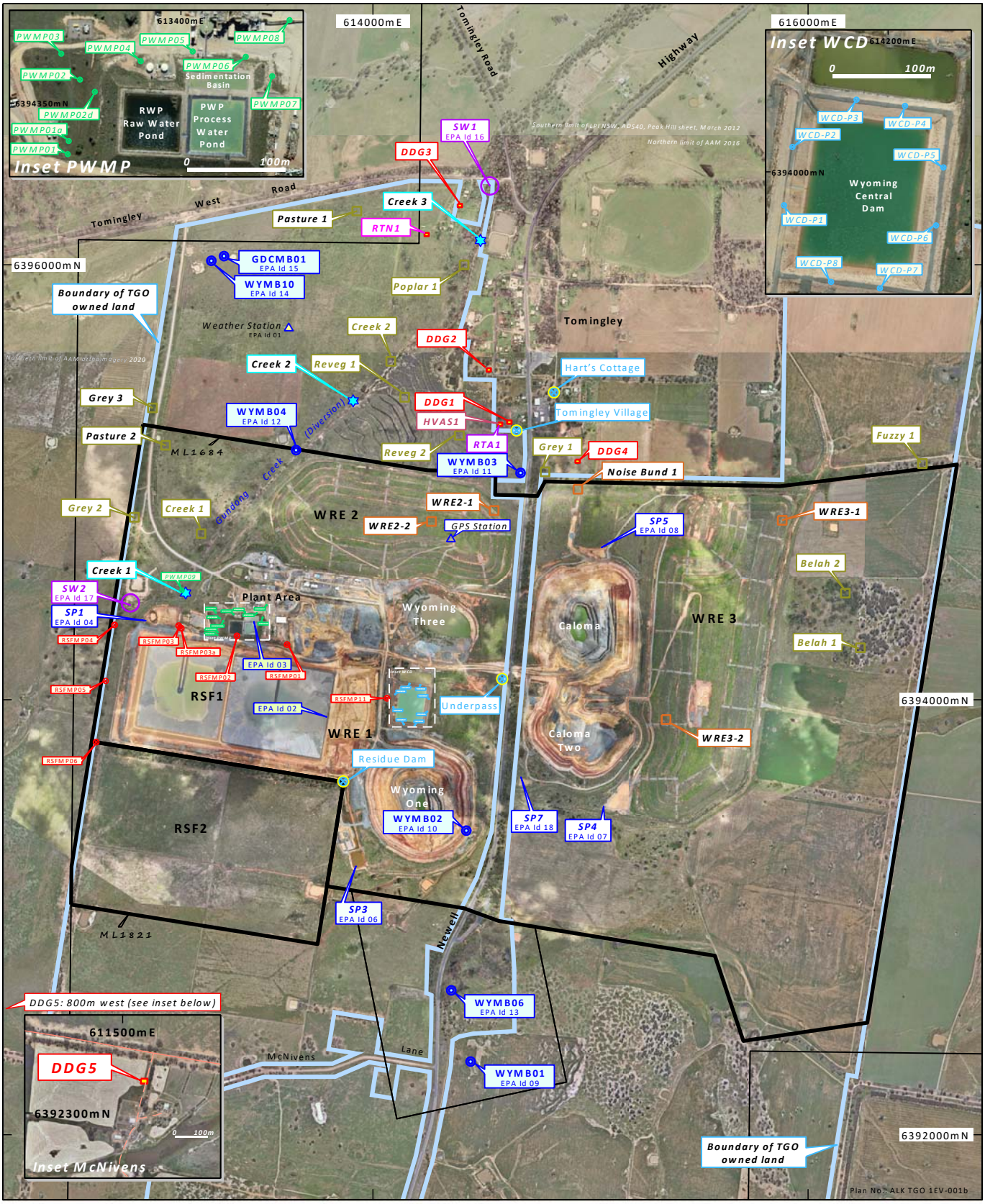
- establishment of relevant reference sites to compare and track the progress and inherent ecosystem function of rehabilitation areas;
- establishment of suitable reference sites reflecting the desired final land use, biodiversity targets, historical disturbances and local community expectations; and
- methods for monitoring that provide simple but informative and reliable information to demonstrate positive recovery trends or rapid detection of rehabilitation failure.

The details of the Rehabilitation Monitoring Program (as provided by an excerpt from the 2021 Rehabilitation and Biodiversity Monitoring Report) are provided as **Appendix 2**. In summary, the existing Rehabilitation Monitoring Program is comprised of Landscape Function Analyses, soil analyses, and monitoring structural diversity, floristic and other biodiversity attributes.

OEH guidelines propose a minimum number of rehabilitation monitoring sites according to the size of the rehabilitation area. Initially ten sites were established which included six remnant woodlands (Woodland Sites), two areas of EEC woodland revegetation (Revegetation Sites) and two areas of riparian woodland revegetation along Gundong Creek (Creek Sites). **Figure 9** presents the rehabilitation monitoring sites.

One woodland site was situated within remnant *E. populnea* (Poplar Box) woodland to the north, while two sites were established within the large *Casuarina cristata* (Belah) remnant to the east of the Mine Site. Three remnant Woodland sites including two Inland Grey Box - Poplar Box - White Cypress Pine EEC (Grey 1, Grey 2) and one Fuzzy Box Woodland EEC (Fuzzy 1) are used as woodland reference sites in both the biodiversity and future woodland rehabilitation monitoring programs.

In 2016 the monitoring program also involved establishing two pasture reference sites which provide ecological completion targets for the pasture rehabilitation on the slopes of the Caloma Amenity Bund. Two pasture rehabilitation sites at Waste Rock Emplacements 2 and 3 were also established in 2017. Another two additional sites were also established at Waste Rock Emplacements 2 and 3 in 2020. Biodiversity and rehabilitation monitoring has been undertaken during August in all monitoring years and the results are presented in the *Biodiversity and Rehabilitation Monitoring Report*.



Projection - MGA Zone 55
Datum (horizontal) - GDA94

Image: Mosaic 20211207 MineDrone - TGO Site (central plan)
Orthimage: LPI NSW, ADS40, Peak Hill sheet, March 2012 (far north of plan)
Orthoimage AAM 2016 (mid north of plan)
Orthoimage AAM Lidar October 2020 10cm (south ⅓ of plan; external)

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Environmental Monitoring Sites

(RMP 2022 - Figure 9)

Compiled: TGO (D Pritchard) Plan No.: ALK TGO 1EV-001b
Drafted: DJM Date: 21 December 2022 Figure No.: 9

Within each plot, a range of rehabilitation variables was selected, including the following.

- Batter/slope length.
- Thickness and type of subsoil/substrate placed over the waste rock and under the topsoil. This material may include stripped subsoil or weathered waste rock to determine whether specifically stripped subsoil is required to achieve acceptable rehabilitation results.
- The thickness of topsoil and amelioration (if any). This will determine the preferred topsoil placement methodology and treatments required to achieve acceptable rehabilitation results.
- The preferred post-planting/seeding treatment, such as watering, installation of grazing controls, etc.

Following establishment, the trial plots have been monitored, initially bi-annually, with a combination of photography, quadrat-based vegetation surveys and Landscape Function Analysis undertaken using the procedures of Tongway and Lindley (2004).

The results of the trials, including recommendations for further trials, amendments to the general rehabilitation methodology described in this Plan, and recommendations for additional monitoring sites are reported in each *Annual Review* prepared for the TGO Mine.

8.1.2 Agricultural Production

No formal analogue site monitoring program for agriculture is undertaken for the TGO Mine Site. Notwithstanding, agricultural production has been maintained by or on behalf of the Company within undisturbed rural lands within the TGO Mine Site and on surrounding lands owned and/or controlled by the Company. Extensive and long-term records of management operations and production statistics have been collected and will be used to evaluate rehabilitation performance on lands to be managed for agricultural grazing.

8.2 Rehabilitation Establishment Monitoring

8.2.1 Vegetation Establishment

The existing Rehabilitation Monitoring Program will continue to progressively be implemented across rehabilitated areas of the TGO Mine Site. A full description of all monitoring methods and parameters is presented in **Appendix 2**. In consideration in revised reporting requirements (i.e. compared to previous *Mining Operation Plans*), the existing monitoring and reporting methodology will be required to be revised and updated in accordance with this Plan, including the proposed rehabilitation objectives and rehabilitation completion criteria presented in Section 4.

In summary, the monitoring parameters associated with each of the proposed rehabilitation completion criteria have been developed in consideration of the results and information collected by the Company since 2014. By comparing rehabilitation progress against both analogue sites within the TGO Mine Site and the extensive existing rehabilitation, the Company be able to track short term progress as well as assess long-term rehabilitation trajectory.

Rehabilitation establishment monitoring methods will generally be consistent with existing monitoring methods, namely the establishment of permanent monitoring quadrats located within the remaining areas to be rehabilitated. The location and density of any additional permanent monitoring quadrats will be determined by or under the guidance of a suitably qualified person(s).

As each permanent monitoring location is established, information on target vegetation types, species mix used, sowing/planting densities, and soil amelioration including fertiliser applications will be recorded. Each site will be added to the formal rehabilitation monitoring regime at the time of the next site-wide monitoring event.

Prior to the initial formal survey, establishment monitoring will consist of the following.

- Photo monitoring of rehabilitated areas, including photos prior to seeding, immediately following seeding and at least quarterly until first formal survey is undertaken. Additional photo monitoring may be undertaken on an opportunistic basis or as directed by rehabilitation experts.
- Visual inspections, including photographs, following significant rainfall events to identify any signs of erosion and detail any follow up actions required (e.g. repairs, installation of additional erosion and sediment controls)
- Recording of all monitoring and inspection events, including the results of monitoring and any follow up activities, in accordance with the Rehabilitation Quality Assurance Register.

The results of any rehabilitation establishment monitoring will be detailed in the respective *Annual Rehabilitation Report* together with a record of any specific management actions (i.e. reviews) that have been undertaken.

8.2.2 Agricultural Production

Monitoring of agricultural production on rehabilitated areas of the TGO Mine Site will generally consist of detailed production reports as part of ongoing agricultural land management practices in combination with the results of vegetation establishment monitoring.

The results of any rehabilitation establishment monitoring will be detailed in the respective *Annual Rehabilitation Report* together with a record of any specific management actions (i.e. reviews) that have been undertaken.

8.3 Measuring Performance Against Rehabilitation Objectives and Rehabilitation Completion Criteria

Details of validation methods and indicators to be employed during monitoring to assess performance against the rehabilitation completion criteria for the TGO Mine Site are provided in Section 4 and **Table 7**.

Established ecological monitoring methodologies will be the foundation of long-term monitoring at the TGO Mine Site. As outlined in Section 8.2, the progressive establishment of additional permanent monitoring locations will be undertaken following the completion of growth medium spreading and revegetation activities. Subsequent monitoring events will be undertaken at a frequency determined by suitably qualified persons that reflects observed and predicted rehabilitation progress and success as measured against rehabilitation completion criteria listed in Section 4.1.

As detailed in Section 8.1, long-term analogue site monitoring within the TGO Mine Site has provided extensive information on the ecological performance of the surrounding ecological communities. This data will continue to be used to infer local and regional patterns in biodiversity and ecological function. Combined with the long-term data collected from the existing rehabilitation monitoring locations, the Company will be able to infer rehabilitation performance against background processes (i.e. outside of the control of the Company) and previous rehabilitation success.

The results of relevant rehabilitation monitoring parameters will be graphed and compared against target values to determine:

- the relative performance of rehabilitated areas compared to other rehabilitation monitoring sites within the TGO Mine Site and the established analogue sites;
- the rate of development towards target values, including a timeline for the achievement of target values and/or rehabilitation completion criteria; and
- whether additional controls, management measures or specialist assessments to identify issues and provide recommendations are required based on trigger values (see Section 10).

The *Rehabilitation Quality Assurance Register* will be used to record details of any additional management measures or risk controls implemented during the ecosystem development phase in response to the analysis of rehabilitation monitoring results. The result of all rehabilitation monitoring will be included in the respective *Annual Rehabilitation Report*.

9. Rehabilitation Research and Trials

9.1 Current Rehabilitation Research, Modelling and Trials

No formal rehabilitation research, modelling or trials are currently undertaken within the TGO Mine Site.

9.2 Future Rehabilitation Research, Modelling and Trials

No future rehabilitation research, modelling or trials are proposed or are anticipated to be required for the remaining rehabilitation of the TGO Mine Site. The Company has extensive experience in local rehabilitation operations, namely with the rehabilitation of the Peak Hill Gold Mine (located approximately 13.5km south of the TGO Mine Site) and has progressively rehabilitated the TGO Mine Site over the life of the Mine. In addition, the proposed rehabilitation operations are considered to be widely understood and unlikely to present any significant challenges that may warrant specific rehabilitation research.

10. Intervention and Adaptive Management

Section 3 of this document presents an assessment of environmental risks associated with the TGO Mine Site. Similarly, this section presents an analysis of the specific risks or threats to rehabilitation within the TGO Mine Site. This analysis of threats to rehabilitation has been prepared broadly in accordance with the requirements of *AS/NZS ISO31000:2009 Risk Management - Principles and Guidelines.*

In summary, threats to rehabilitation were identified based on the performance indicators and relinquishment criteria identified in **Table 21**. For each threat, potential adverse outcomes were identified and allocated a risk based on the potential consequences and likelihood of occurrence. Risks were determined based on implementation of industry standard mitigation measures and the existing experience of the Company. Where risks were determined to be unacceptable, namely those risks classified as "moderate" or above, a Trigger Action Response Plan has been developed and is presented in **Table 21** below.

Table 21
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
General			
Insufficient skills / experience of rehab personnel.	Increased cost and timeframe of rehabilitation. Final landform unsuitable for final land use. Unable to achieve completion criteria.	Rehabilitation monitoring identifies significant failure to meet completion criteria.	Investigate potential causes of failure. Review and revise this Plan.
Active Mining Phase of Rehabilitation			
Handling and containment of geochemical and geotechnically unsuitable process residue and reject materials.	Increased rehabilitation costs. Remediation/ clean up costs due to loss of containment. Final landform is a source of pollution.	Opportunistic visual monitoring identifies potential or actual contamination of surface water. Surface water monitoring identifies contamination.	Investigate potential source and extent of contamination to determine appropriate scale of response. Immediately if practicable isolate source of contamination. Remove contaminated material as far as practicable for disposal either on-site or off-site at appropriately licensed facility.
Adverse surface and groundwater quality and quantity (underground and surface operations).	Reduced rehabilitation success. Final landform is a source of pollution. Loss or degradation of surface water and/or groundwater resulting in impacts to surrounding users.	Surface water and/or groundwater monitoring identifies contamination. Groundwater monitoring identifies significant reduction in groundwater quantity.	Investigate potential source and extent of contamination to determine appropriate scale of response. Immediately if practicable isolate source of contamination. Remove contaminated material as far as practicable for disposal either on-site or off-site at appropriately licensed facility.
Decommissioning Phase of Rehabilitation			
Contamination resulting from associated activities (e.g. storage and use of hydrocarbons/chemicals, drilling fluids, spillage of dirty or produced saline water, brine, sewage).	Cost and time to remediate contaminated areas. Final landform is a source of pollution. Final landform is unsuitable for final land use.	Surface water and/or groundwater monitoring identifies contamination. Groundwater monitoring identifies significant reduction in groundwater quantity.	Investigate potential source and extent of contamination to determine appropriate scale of response. Immediately if practicable isolate source of contamination. Remove contaminated material as far as practicable for disposal either on-site or off-site at appropriately licensed facility.

Table 21 (Cont'd)
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
Decommissioning Phase of Rehabilitation (Cont'd)			
Exposure or access to underground workings.	Danger to public safety if unauthorised access is gained.	Visual inspections identify signs of unauthorised access to restricted areas of the TGO Mine Site.	Undertake investigation including review/inspection of all security infrastructure. Undertake repairs to security infrastructure and, if necessary, install additional security measures to prevent and/or discourage public access.
		Engineering inspections identify potential or actual failure or damage to security infrastructure.	
Landform Establishment Phase of Rehabilitation			
Unstable landform due to erosion and/or mass movement issues associated with inappropriate design and/or quality assurance during landform construction.	Increased cost and time to rehabilitate landform. Final landform is a source of pollution. Final landform is unsuitable for final land use.	Visual monitoring identifies signs of erosion of rehabilitated landforms.	Undertake inspection of rehabilitated areas to identify potential cause of erosion and suitability of existing erosion and sediment control infrastructure. In required, install additional temporary or permanent erosion and sediment control infrastructure and/or surface stabilising treatments.
		Visual monitoring identifies structural failure of water management/storage infrastructure.	Undertaken inspection and review of all water management/storage infrastructure within Mine Site to identify likely cause of failure and suitability for final land use. Undertaken necessary repairs under guidance of suitably qualified persons.
		Surface water monitoring identifies Mine-related impacts to surface water quality.	Undertake investigation to identify potential cause of surface water impacts and identify potential remedial management actions.
Exposure or release of geochemical and/or geotechnically adverse material associated with containment design and construction, including capping/cover system, drainage and liner (if required).	Increased cost and time to rehabilitate landform. Delayed vegetation establishment. Failure to meet rehabilitation criteria.	Visual monitoring identifies signs of erosion of rehabilitated landforms.	Undertake inspection of rehabilitated areas to identify potential cause of erosion and suitability of existing erosion and sediment control infrastructure. In required, install additional temporary or permanent erosion and sediment control infrastructure and/or surface stabilising treatments.
		Surface water monitoring identifies Mine-related impacts to surface water quality.	Undertake investigation to identify potential cause of surface water impacts and identify potential remedial management actions.

Table 21 (Cont'd)
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
Landform Establishment Phase of Rehabilitation (Cont'd)			
Lack of availability of suitable materials for encapsulation or capping of adverse materials.	Final landform is source of pollution. Final landform is unsuitable for final land use.	Rehabilitation materials balance identifies potential deficit in suitable materials.	Investigate potential additional on-site sources and off site sources for suitable capping material.
		Surface water monitoring identifies Mine-related impacts to surface water quality.	Undertake investigation to identify potential cause of surface water impacts and identify potential remedial management actions.
Final landform unsuitable for final land use (e.g. large rocks present affecting cultivation, settlement and surface subsidence leading to extended ponding).	Final landform unsuitable for final land use. Increased cost and time to rehabilitate landform.	Visual monitoring identifies landform does not conform to design requirements.	Undertake investigation to identify potential causes, impacts, and remediation that may be required to address issue.
		Visual monitoring identifies unexpected ponding/retention of water on constructed landforms.	Inspect existing water management infrastructure to identify potential downstream impacts.
Growth Medium Development Phase of Rehabilitation			
Physical and structural properties of substrate.	Final landform is a source of pollution. Delayed vegetation establishment. Final landform unsuitable for final land use.	Surface water monitoring identifies Mine-related impacts to surface water quality.	In required, install additional temporary or permanent erosion and sediment control infrastructure and/or surface stabilising treatments.
		Test pitting following placement of soil material identifies placed soil thickness not consistent with relinquishment criteria.	Additional soil material spread on the final landform.
Subsoil and topsoil deficit for rehabilitation activities.	Increased time and cost to rehabilitate landform. Delayed vegetation establishment. Final landform unsuitable for final land use.	Rehabilitation materials balance identifies potential deficit in suitable materials.	Undertake rehabilitation risk and opportunities analysis, including research and trials to identify potential for reduced growth medium depth.
			Investigate potential additional on-site sources and off site sources for suitable capping material.
			Investigation into measures that may be implemented to ameliorate other materials to make them suitable for use as a growth medium.

Table 21 (Cont'd)
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
Ecosystem and Land Use Establishment			
Weed infestation associated with both introduction and control (or lack thereof).	Increased time and cost to rehabilitate landform. Delayed vegetation establishment. Impacts to surrounding landholders.	Monitoring indicates that species mix on the final landform does not match the approved species mix and/or increase in weed species abundance.	Suitably qualified ecologist or revegetation expert engaged to assess reasons for additional management requirements and recommend actions to align management required with that of the analogue sites. Implement above recommendations in consultation with the relevant government agency(ies).
Availability of areas for revegetation in optimal seasonal conditions.	Increased time and cost to rehabilitate landform. Delay in vegetation establishment. Disruption to rehabilitation scheduling.	Monitoring indicates potential for period of unfavourable meteorological conditions.	Review and revise rehabilitation scheduling for surface disturbance and/or stabilising activities. In required, install additional temporary or permanent erosion and sediment control infrastructure and/or surface stabilising treatments.
Ecosystem and Land Use Development			
Weather and climatic influences (e.g. drought; intense rainfall events; bushfire).	Delayed ecosystem development. Loss and/or degradation of vegetation.	Monitoring indicates potential for period of unfavourable meteorological conditions.	Review and revise rehabilitation scheduling for surface disturbance and/or stabilising activities. In required, install additional temporary or permanent erosion and sediment control infrastructure and/or surface stabilising treatments.
		Monitoring indicates loss of vegetation cover due to extreme meteorological events.	Suitably qualified ecologist or revegetation expert engaged to assess reasons for failure of revegetation program and recommend actions to ensure that revegetation is successful.
Long term water quality and quantity issues (e.g. acid-drainage, high salinity).	Final landform is a source of pollution.	Monitoring indicates that leachate (if present) does not comply with trigger values for upland river systems determined in accordance with ANZECC (2000). Water monitoring indicates leachate is leaking from Residue Storage Facility.	*Residue Storage Facility Management Plan* prepared or updated by a suitably qualified expert. Plan would provide recommendations re remedial actions and monitoring to measure success of those actions. Implement above recommendations in consultation with Division of Resources and Geoscience.

Table 21 (Cont'd)
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
Ecosystem and Land Use Development (Cont'd)			
Long term water quality and quantity issues (e.g. acid-drainage, high salinity). (Cont'd)	Final landform is a source of pollution. (Cont'd)	Monitoring indicates that leachate (if present) does not comply with trigger values determined in accordance with ANZECC (2000). Visual inspection indicates iron staining or other evidence of metal precipitation in outflow zones.	Reassessment of waste rock to determine source of acid generating material. Preparation of an *Acid Rock Drainage Management Plan* updated by a suitably qualified expert identifying suitable measures to manage leachate generation and prevent further inappropriate placement of acid-generating waste rock.
Damage to rehabilitation (e.g. fauna, domestic stock, vandalism, vehicular interactions, bushfire, insects and plant disease).	Increased time and cost to rehabilitate landform. Delayed vegetation development.		
Insufficient establishment of target species and limited species diversity.	Final landform unsuitable for final land use. Reduced quality/quantity of available habitat.	Monitoring indicates that species mix on the final landform does not match the approved species mix.	Suitably qualified ecologist or revegetation expert engaged to assess reasons for divergence of species mix and recommend actions to ensure that the final vegetation community corresponds as closely as possible to the approved community. Implement above recommendations in consultation with the relevant government agency(ies).
		Monitoring indicates that revegetation program has failed or partially failed.	Suitably qualified ecologist or revegetation expert engaged to assess reasons for failure of revegetation program and recommend actions to ensure that revegetation is successful.
		Monitoring of the rehabilitated landform indicates that progress towards identified indices is slower than anticipated or non-existent.	Suitably qualified ecologist or revegetation expert engaged to assess reasons for additional management requirements and recommend actions to align management required with that of the analogue sites. Implement above recommendations in consultation with the relevant government agency(ies).
		Measured agricultural productivity of the final landform is significantly less than that of an analogue sites.	Suitably qualified agronomist engaged to assess reasons for lower productivity and recommend actions to sustainably improve productivity. Implement above recommendations in consultation with the relevant government agency(ies).

Table 21 (Cont'd)
Trigger Action Response Plan

Rehabilitation Threat	Potential Adverse Outcome	Trigger	Action/ Response
Ecosystem and Land Use Development (Cont'd)			
Erosion and failure of landform, drainage and water management/storage structures.	Final landform is a source of pollution. Final landform unsuitable for final land use.	Monitoring or final closure geotechnical assessment identifies instability/ unacceptable movement (actual or potential) in final face of open cut void.	Suitably qualified geotechnical engineer engaged to assess the instability and provide a range of recommendations to remediate the instability. Implement above recommendations in consultation with the relevant government agency(ies).
		Routine monitoring for identifies instability/ unacceptable movement (actual or potential) in Residue Storage Facility embankment.	Suitably qualified geotechnical engineer engaged to assess the instability and provide a range of recommendations to remediate the instability. Implement above recommendations in consultation with the relevant government agency(ies).
		Surface water monitoring or visual inspection indicates that final landform is eroding or is a source of unacceptable levels sedimentation.	Remediate eroding area through additional earthworks, soil works, revegetation or other stabilisation works. If the above is unsuccessful, engage a suitably qualified professional in sediment and erosion control to prepare an assessment report and recommendations. Implement above recommendations in consultation with Division of Resources and Geoscience.

11. Review, Revision and Implementation

Table 22 presents the triggers for reviewing this Plan. Following each review, this Plan will be revised if significant structural amendments are necessary. Additionally, further consultation with relevant stakeholders will be undertaken where revisions to this Plan result in changes to the proposed final land uses and final landforms, rehabilitation objectives, rehabilitation completion criteria and/or the rehabilitation schedule. Milestones as documented in this Plan will be updated in the *Annual Rehabilitation Report* and will trigger an update to this Plan in the event that a significant change in rehabilitation risks and/or proposed rehabilitation methodologies is identified.

Table 22
Rehabilitation Management Plan Review Triggers

Trigger	Review
Request from the Resources Regulator or other relevant government agency to review the Plan.	As required by any notice.
Modification of an existing development consent.	Within 3 months.
Modification of ML 1684 or ML 1821.	Within 3 months.
Preparation of a revised Rehabilitation Risk Assessment.	As soon as practicable.
Update of the Rehabilitation Outcomes (objectives and/or criteria).	Within 30 days.
Submission of each *Annual Rehabilitation Report* and Forward Program.	Within 3 months.
Receipt of a specialist consultant report prepared in response to a trigger outlined in Section 10.	Within 3 months.

In addition to reviews of this Plan as outlined in **Table 22**, a *Rehabilitation Quality Assurance Register* will be developed and regularly maintained to ensure that operational and rehabilitation activities at the TGO Mine Site are being conducted in accordance with this Plan. The *Rehabilitation Quality Assurance Register* will include the checklist presented as **Appendix 1** as well as a compliance register used to assess the status of compliance with requirements under relevant development consents, leases and licences. Additionally, the *Rehabilitation Quality Assurance Register* will include:

- records of any contaminated water or hazardous materials collected at the TGO Mine Site and disposed of off site;
- the latest map of contamination at the TGO Mine Site (once prepared); and
- details of any additional rehabilitation measures and/or risk controls implemented within individual subdomains during rehabilitation operations.

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Appendices

Appendix 1 Rehabilitation Control Checklist

Appendix 2 Biodiversity and Rehabilitation Monitoring Methodology