



ALKANE
RESOURCES LTD

Tomingley Gold Extension Project

Community Meeting

13 October 2021

Find.

Enhance.

Deliver.

Introductions and agenda

Introductions

- Mike Sutherland – General Manager, NSW
- Jason Hughes – General Manager, TGO
- David Pritchard – Environment & Community Manager, TGO
- Jenna Lehmann – Environmental Coordinator, TGO
- Daniel Short - Opencut Mining Manager, TGO
- Mitchell Bland – RW Corkery & Co

Agenda

- Consultation
- TGO Update
- TGEP Update
 - Project Status
 - Project Design Update
 - Environmental Studies
- Next steps and how to get involved

Consultation – What we have heard so far



The positives

- Mining an important part of the local history
- Acknowledgement that TGO brings jobs and economic benefits
- TGO generally responsive to community concerns when they are raised

Matters commonly raised to date

- Noise impacts
- Visual impacts
- Traffic impacts
- Agricultural impacts
- Air quality impacts
- Working with TGO
- Community benefits
- Continued economic benefits

Future consultation

- Neighbour consultation ongoing
- Individual consultation on request
- CCC meetings and briefings

Next steps

- Finalise and exhibit the EIS
- Make a submission during exhibition
- Future community meetings if deemed valuable

HAVE YOUR SAY

- Fill out and return the Feedback Form
- Register for the TGO Newsletter
- Contact TGO and request a meeting/phone call
- Make a Submission during the Exhibition

Tomingley Gold Operations Update

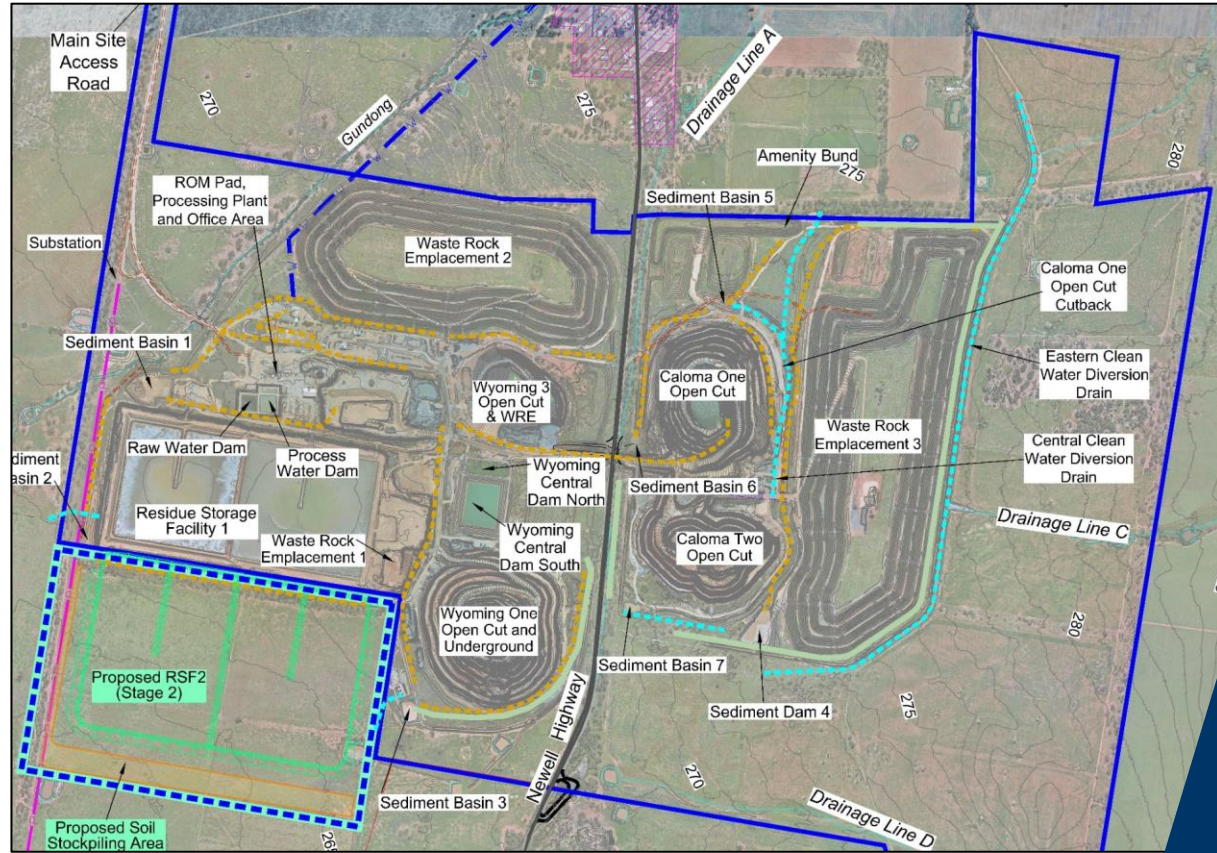


Project approval

- Granted 24 July 2012
- Ends 31 December 2025
- Modified 5 times

Current Operations

- Caloma 1 Open Cut cutback until late 2022
- Underground mining until late 2025
- Ongoing processing operations
- RSF2 construction to commence early 2022



Tomingley Gold Operations Update

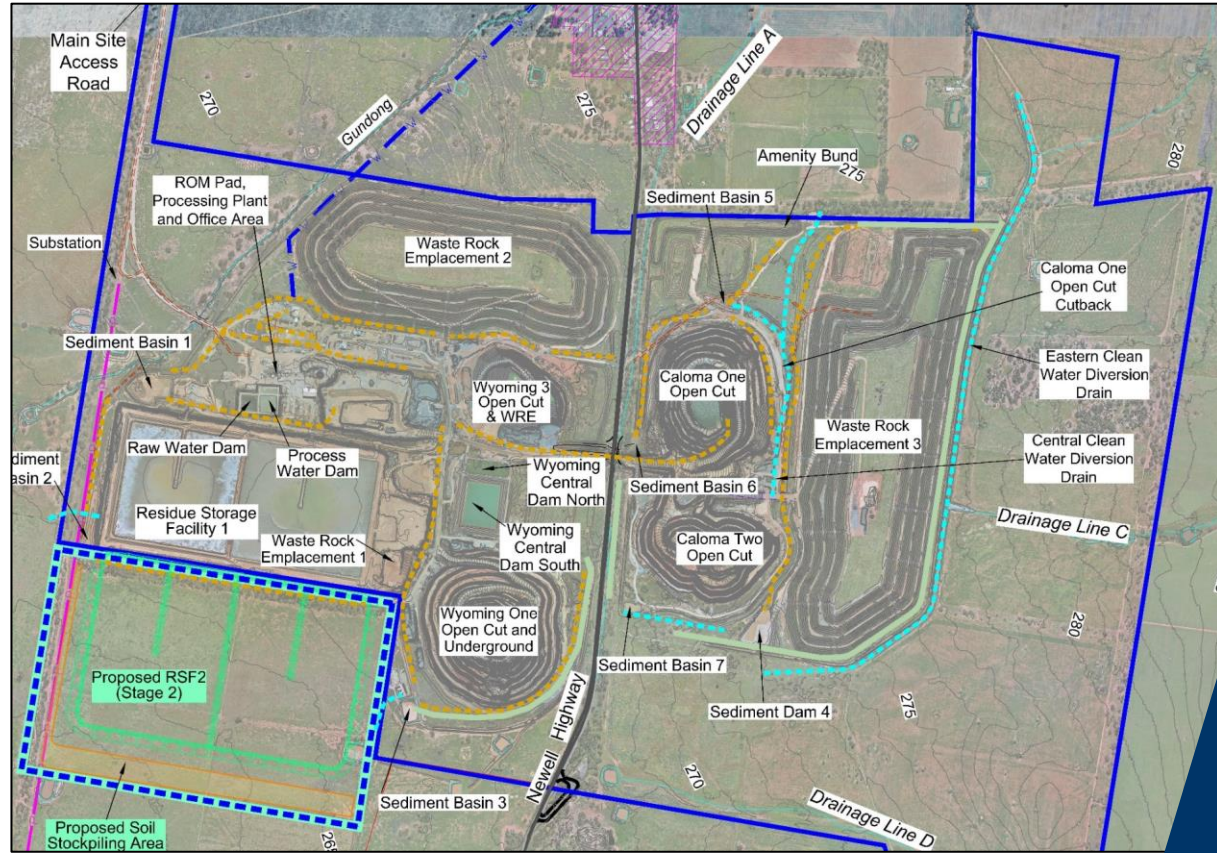


Remaining resources (TGO and SAR)

- Resources = 27.01Mt @ 1.99g/t Au for 1.7Moz.
- Reserves = 11.82 Mt @ 1.86g/t Au for 0.7Moz.

Current contributions

- Employment –230 people
- Wages and salaries - \$25Mpa (without on costs)
- Local services and products - \$4Mpa to \$5Mpa
- Royalties - \$3Mpa to \$4Mpa
- Planning agreement - \$124,000pa



TGEP - TGO Project Components

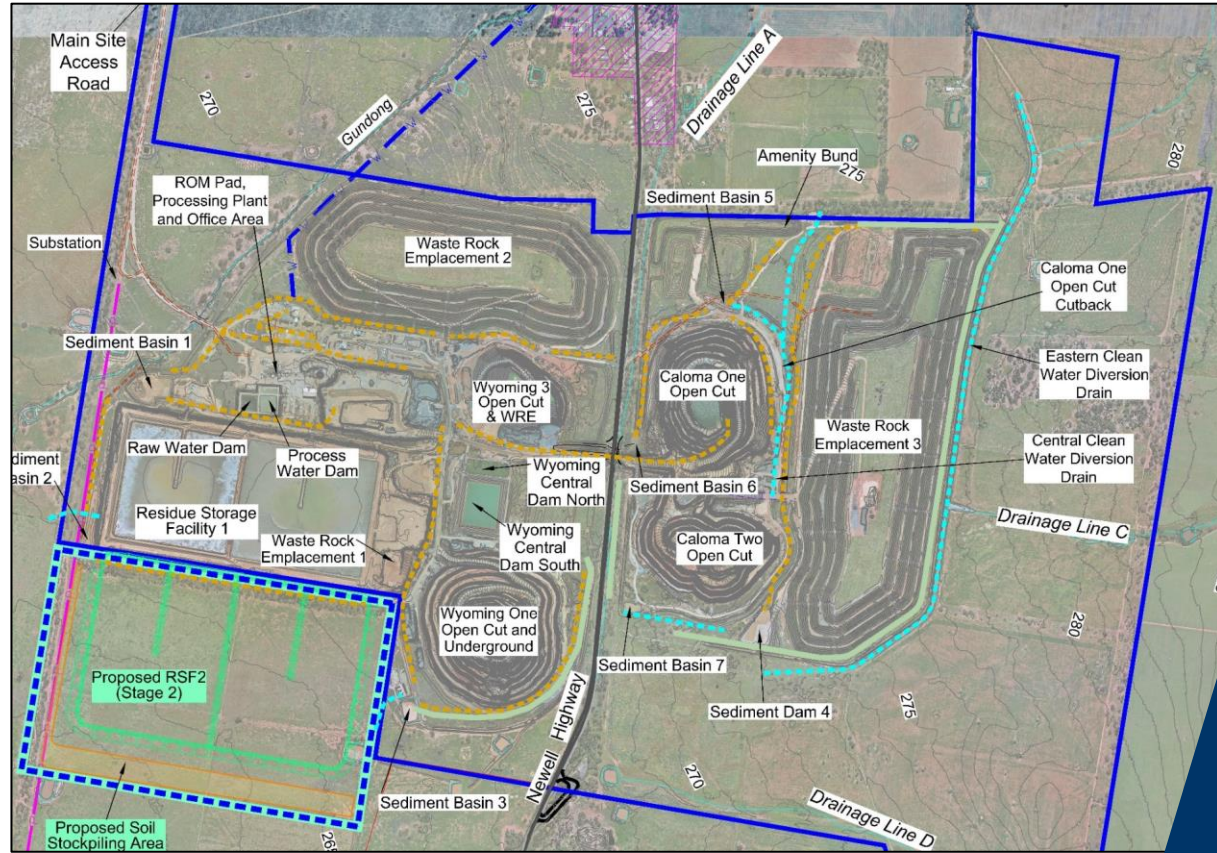


TGO Continuing Operations

- Use of all existing surface infrastructure
- Operation of the processing plant
- Continued underground mining
- Completion of Caloma 1 cut back

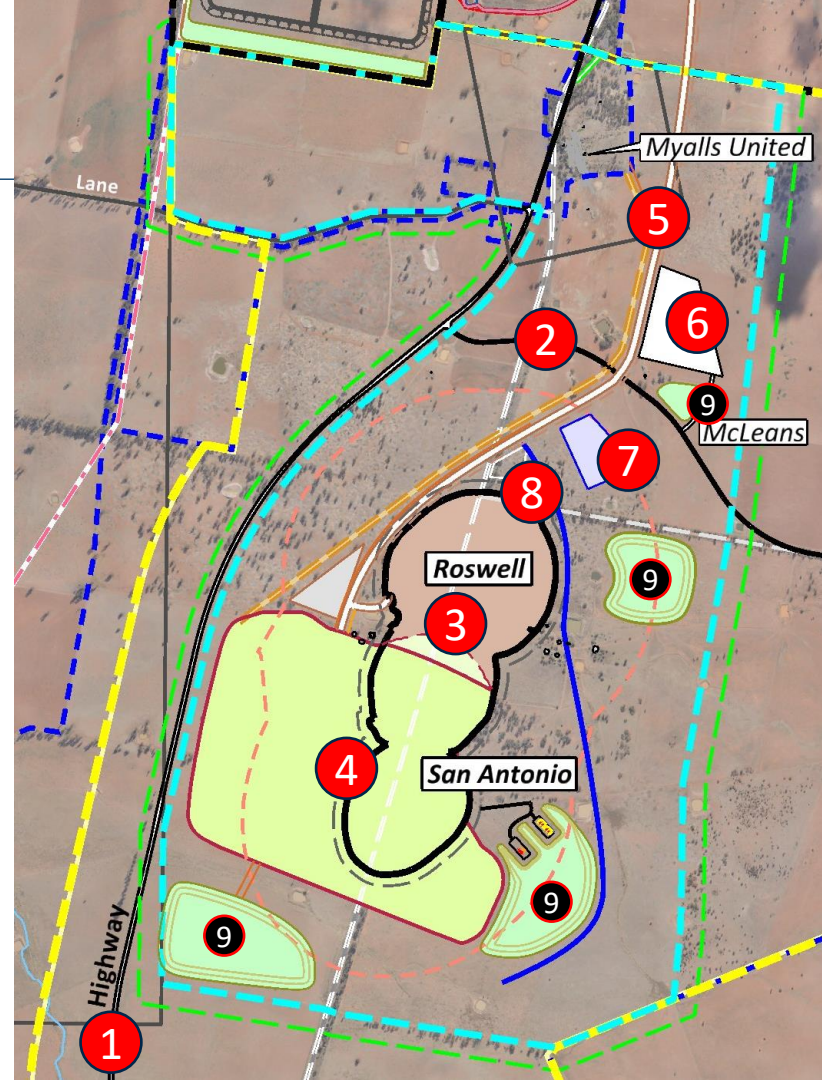
TGO Proposed Operations

- Installation of a new ball mill to increase maximum rate of processing to 1.75Mt
- Additional RSF2 lifts to match height of RSF1
- Backfilling of Caloma 1 and 2 Open Cuts to surface (no hill).



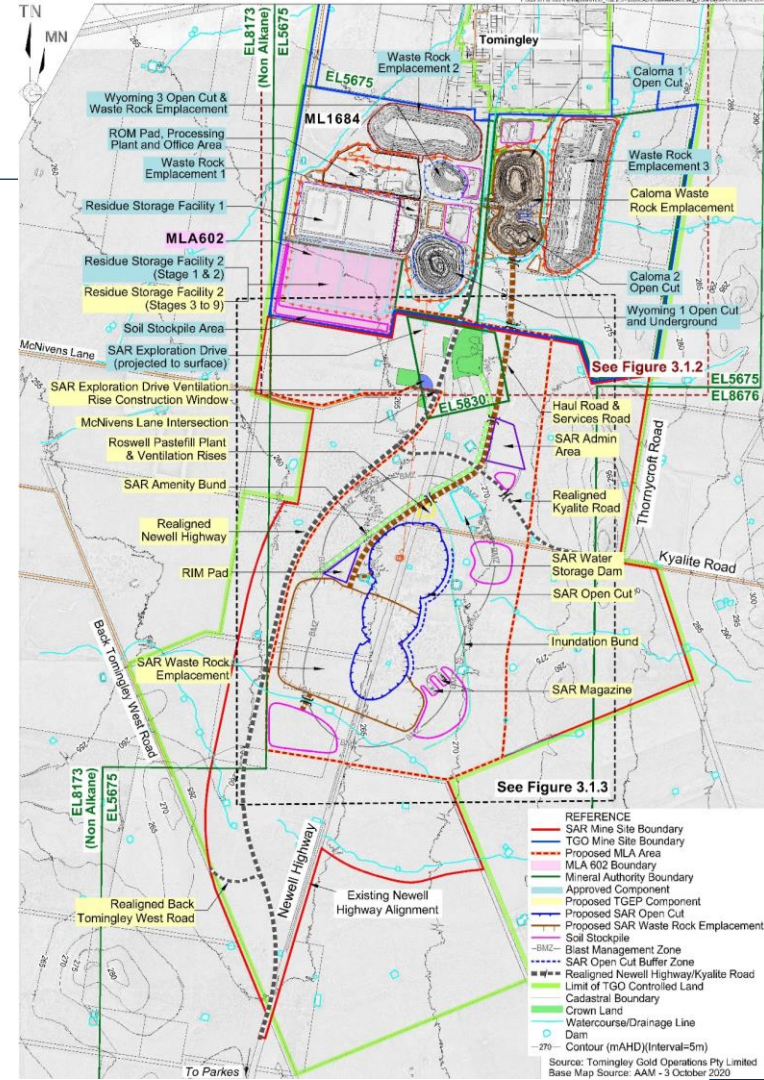
TGEP - SAR Project Components

1. Realigned Newell Highway
2. Realigned Kyalite Road and new Haul Road overpass
3. One open cut and associated underground
4. One waste rock emplacement – in-pit and out-of-pit
5. Haul Road, Services Road and Amenity Bund
6. Administration Area
7. Water management infrastructure
8. Pastefill plant and ventilation rise
9. Soil stockpiles



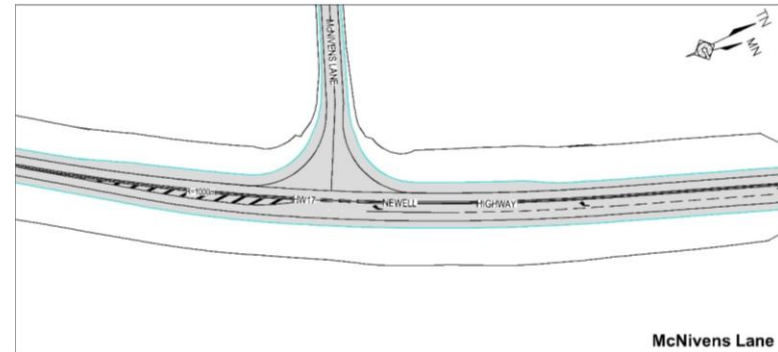
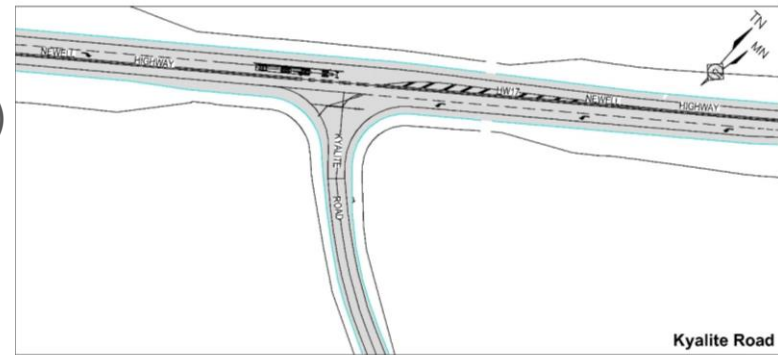
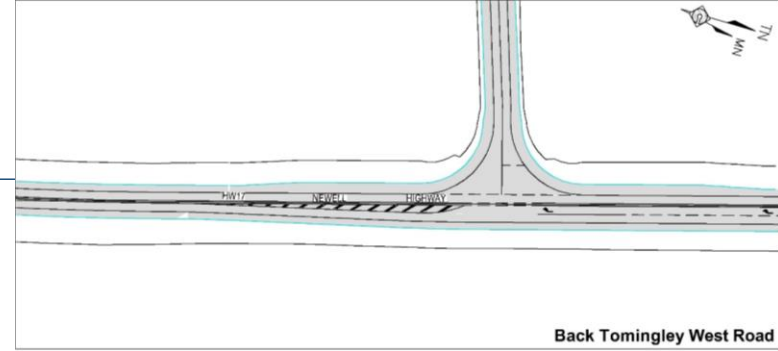
Newell Highway

- 100% design submitted to Transport for NSW
- No closure required for open cut blasting
- Replicate current highway overtaking lanes, shoulders, etc
- Improved safety (wire rope barriers and improved curves)
- Upgraded intersections
- Protected right-hand turn lanes
- Kyalite Road – left-hand deceleration lane
- Improved flood protection
 - Current – floods every 3 to 4 years
 - Proposed – 1 in 100 year protection
- Constructed off-line until tie in to existing road required



Newell Highway

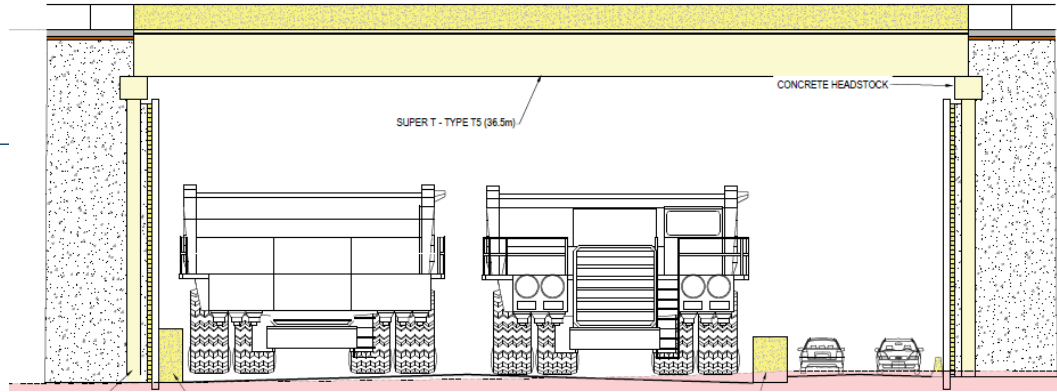
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Local Roads

Kyalite Road

- Sealed for approximately 1.2km from the Newell Highway. Remainder unsealed.
- Overpass over SAR haul road designed for largest vehicle that can access the Newell Highway. No need for oversize/overweight bypass
- Ongoing maintenance by Alkane
- Overpass likely removed at end of life



Back Tomingley West Road

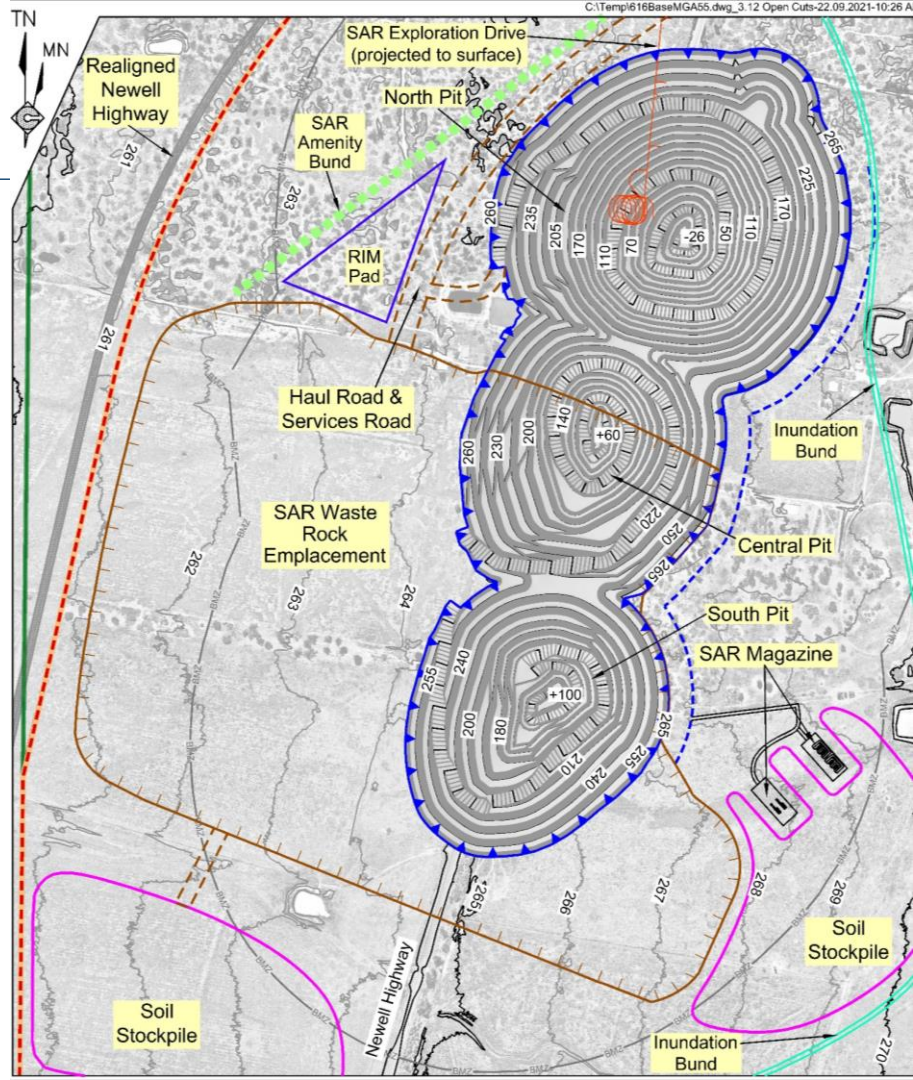
- Relocated intersection with Highway – improved sight distances
- Improved Flood protection

McNivens Lane

- Improved intersection with Newell Highway

Mining Operations

- SAR Open Cut - mined from south to north
- SAR Underground - mining via a drive from TGO
- Ore transported to TGO for processing
 - Ore and low grade stockpiled within Caloma Waste Rock Emplacement
- Waste rock
 - Initially used for construction
 - Then into SAR Waste Rock Emplacement OR Caloma 1 and 2 open cuts



Mining and Waste Rock Operations

Caloma Waste Rock Emplacement

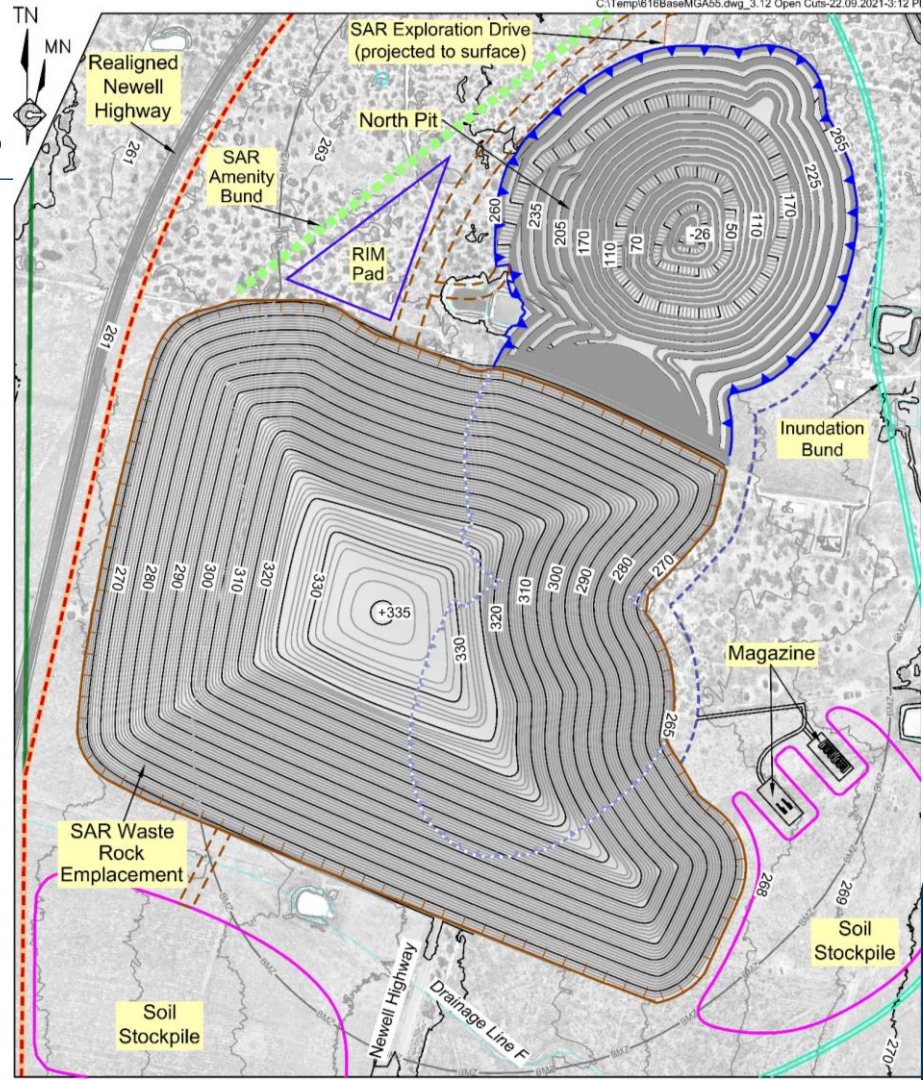
- Backfill both open cuts to surface.
- No substantial “hill”

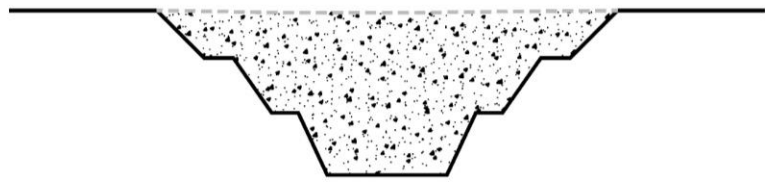
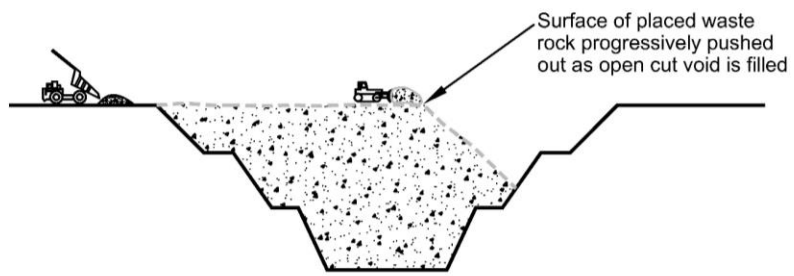
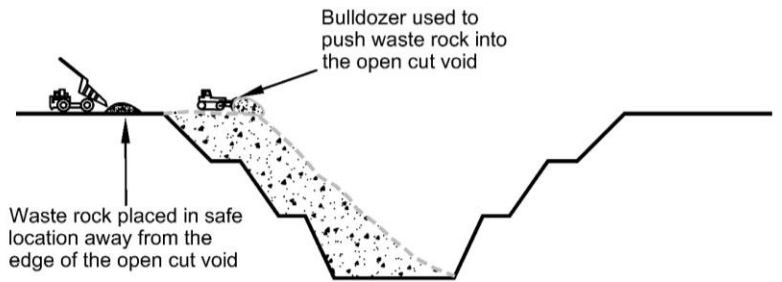
SAR Waste Rock Emplacement

- Geomorphic design to mimic natural hill
- Higher than TGO emplacements, but lower slopes, no benches or large flat top

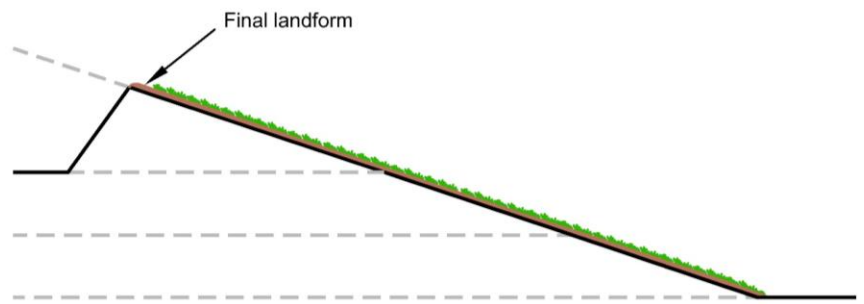
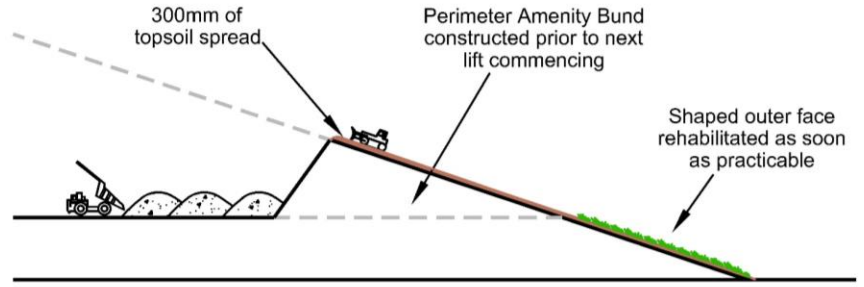
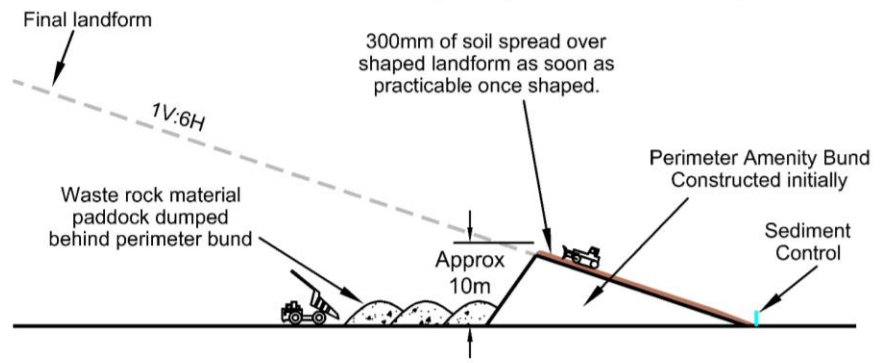
Outer wall or “bund” will be constructed up to 10m high

- Mine vehicles and machinery operate behind wall
- Outer surface progressively stabilised/rehabilitated





In-pit Waste Rock Placement



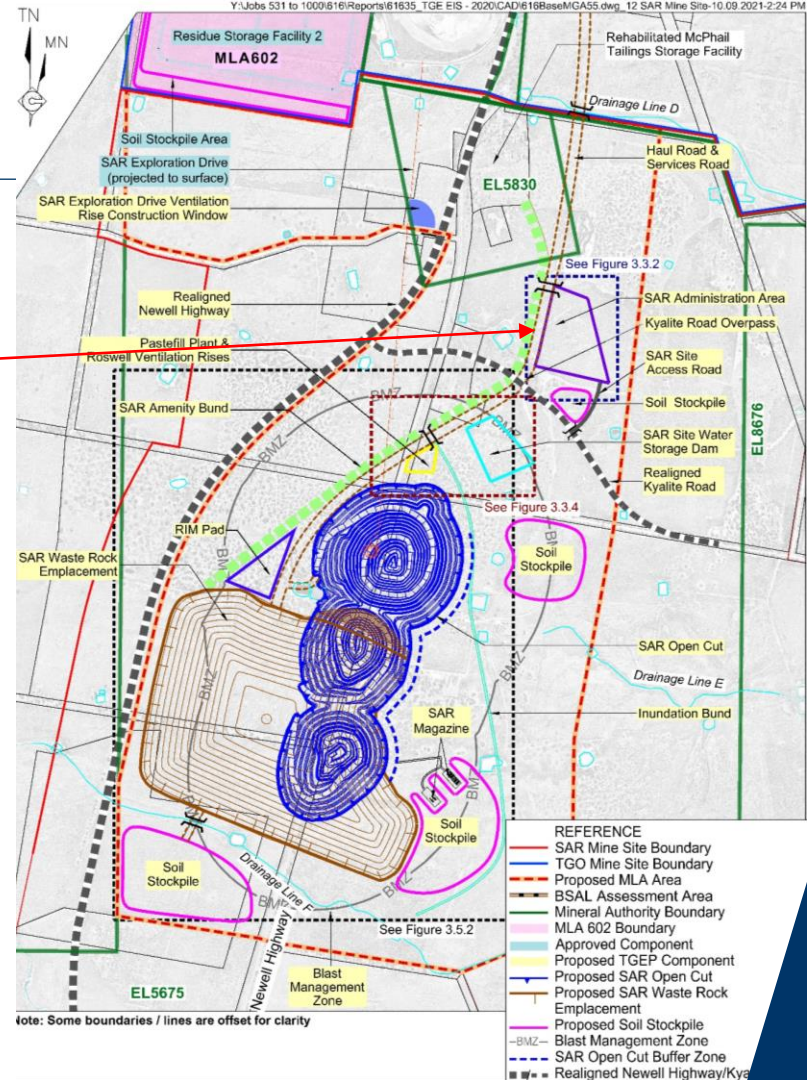
Out-of-pit Waste Rock Placement

Other Activities/Infrastructure

- Haul Road / Services Road / Amenity Bund



- Administration Area
 - Accessed via Kyalite Road
 - Offices, workshops, stores, carpark
- Pastefill Plant and Ventilation Rise
- Surface water management
- Explosives magazines
- Hours of Operation – 24 hours/7 days per week
- Project Life – to end 2032



Rehabilitation and Mine Closure



SAR Waste Rock Emplacement

- Most of SAR Open Cut backfilled
- Progressive rehabilitation of outer face

Caloma Waste Rock Emplacement

- Backfilled to surface and revegetated

RSF 1 and 2

- Capped, covered and revegetated

All infrastructure removed

- Haul Road and Amenity Bund
- Administration Area
- Pastefill Plant

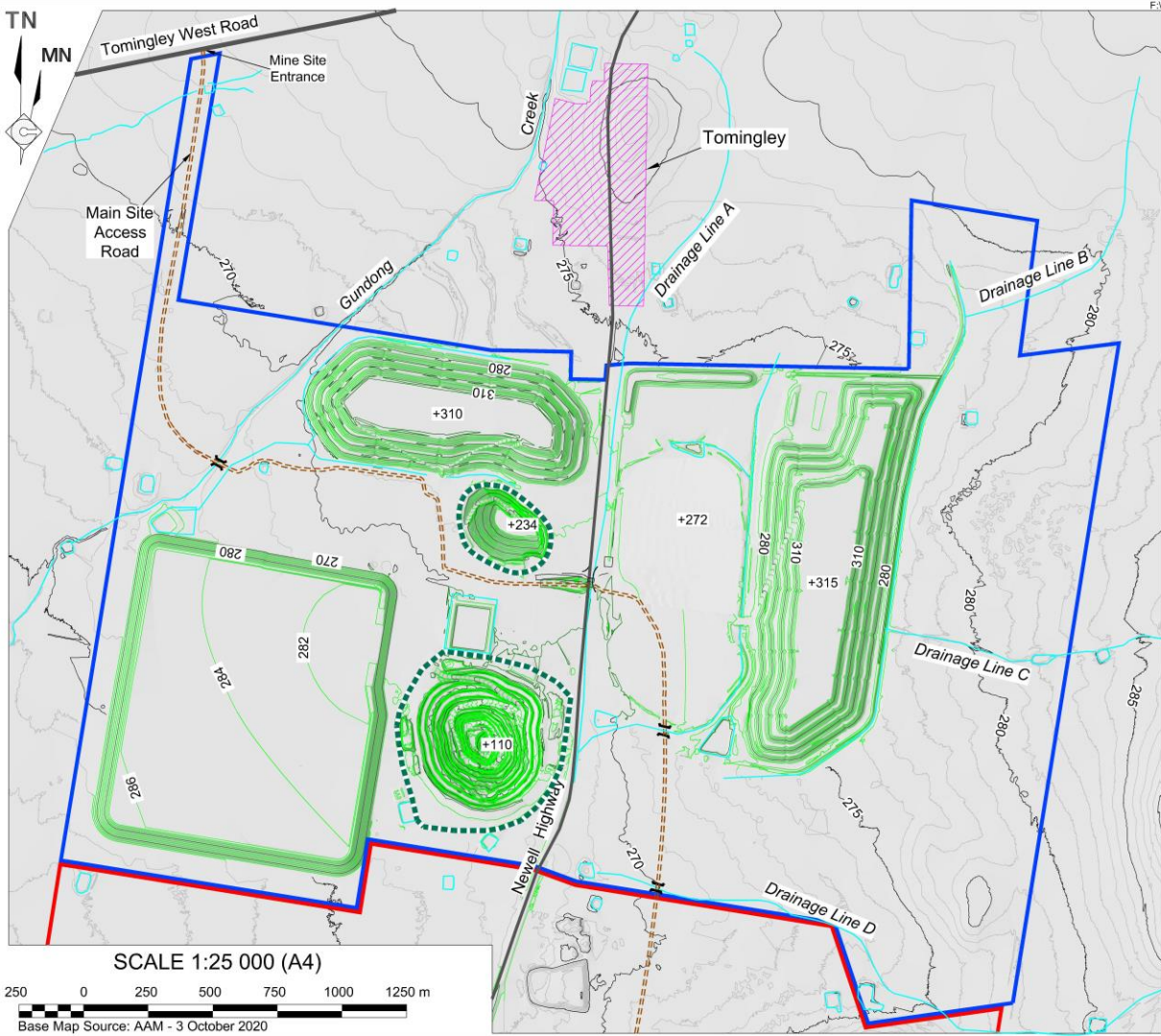
Vent rises

- Sealed and made safe

Kyalite Road – as agreed with Council/Residents

Remainder – as per existing TGO approvals Final Land Use

- Agriculture and Native Vegetation
- Actively investigate alternate use to generate jobs/economic activity



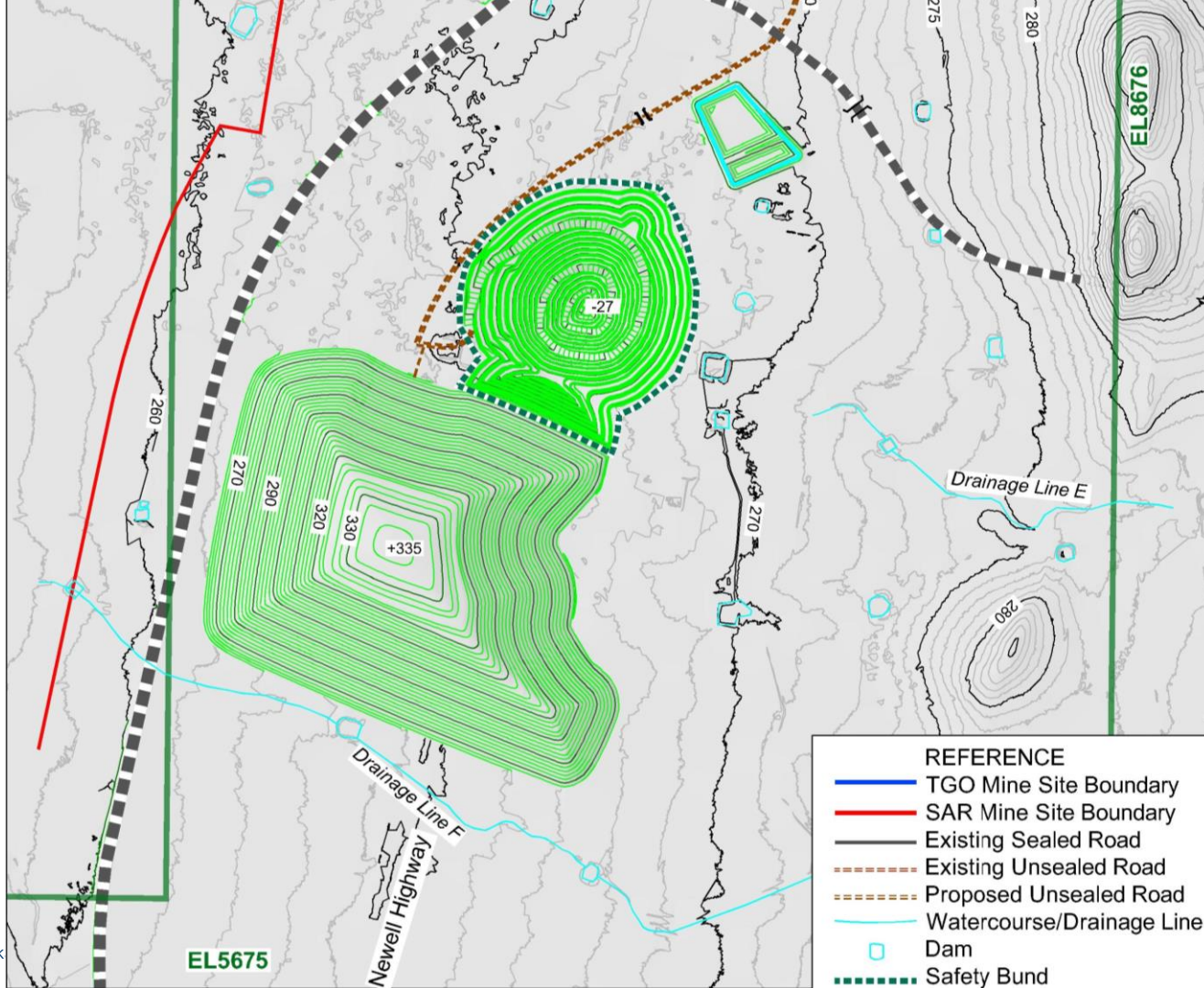
- REFERENCE**
- TGO Mine Site Boundary
 - SAR Mine Site Boundary
 - Existing Sealed Road
 - - - Existing Unsealed Road
 - - - Proposed Unsealed Road
 - Watercourse/Drainage Line
 - Dam
 - - - Safety Bund
 - ⌋ Culvert
 - 285 Existing Contour (mAH)(Interval=1m)
 - 285 Final Landform Contour (mAH)(Interval=2m)









Note: Some boundaries / lines are offset for clarity



Figure 3.17.1
FINAL LANDFORM -
TGO MINE SITE

SCALE 1:25 000 (A4)
0 250 500 750 1000 1250 m
Base Map Source: AAM - 3 October 2020



REFERENCE	
	TGO Mine Site Boundary
	SAR Mine Site Boundary
	Existing Sealed Road
	Existing Unsealed Road
	Proposed Unsealed Road
	Watercourse/Drainage Line
	Dam
	Safety Bund

Noise

5 x scenarios (plus sub scenarios) modelled

Construction

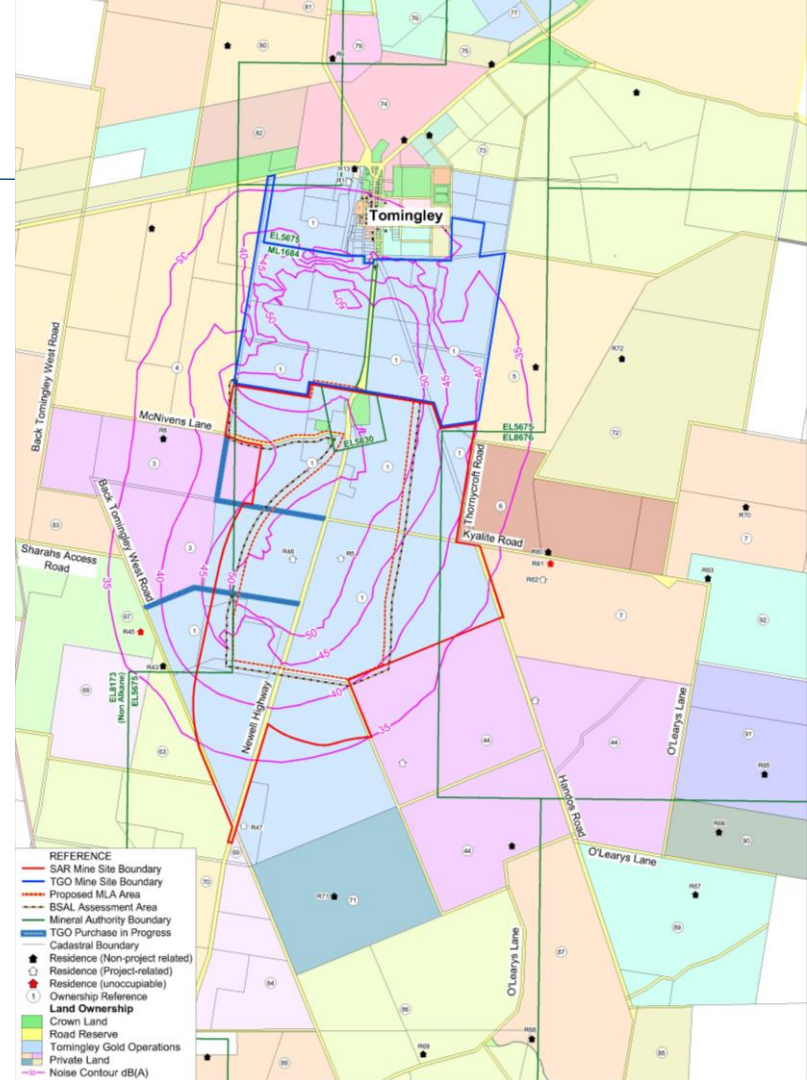
- Comply with criteria under most circumstances
- Discussions with potentially affected landholders

Operations

- Maximum noise emissions – Years 1 and 2
- Some exceedances of noise criteria - Discussions with potentially affected landholders in progress
- Tomingley – similar to prior TGO mining operations
- Southern residences - noise sources will be closer than currently

Mitigation and management

- Amenity bunds
- Real-time noise monitoring and reduced activity when trigger reached
- Regular attended and unattended monitoring
- Negotiated agreements and commercial arrangements



Air Quality



3 x scenarios modelled

Construction

- Complies with all annual average cumulative criteria
- No additional exceedances of 24-hour cumulative criteria

Operations

- Maximum dust emissions – Years 1 and 2
- Complies with all annual average cumulative criteria
- Some additional exceedances of 24-hour PM₁₀ criteria
 - Trigger Action Response Plan – will prevent most exceedances except where the background level is already within 5% of the criteria

Mitigation and management

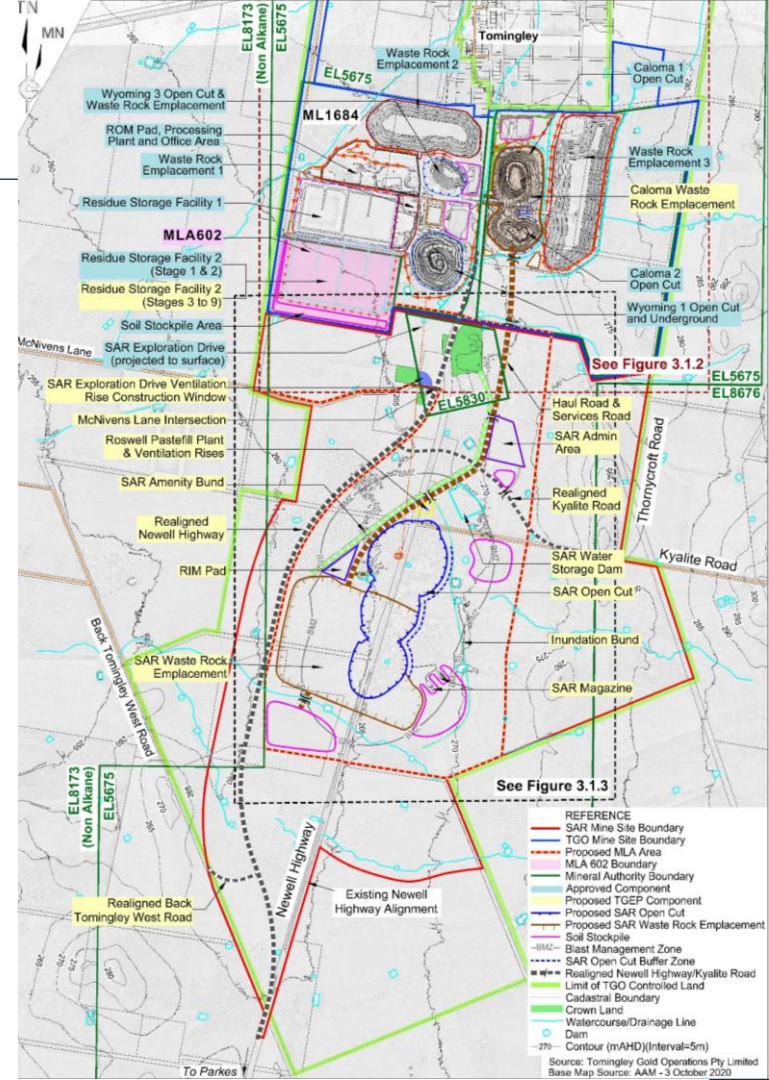
- Two real-time air quality monitors to be installed
- Automated alarms when trigger reached and reduced activity
- Expanded dust monitoring network



Traffic and Transportation

- Realigned roads constructed on a like-for-like basis or better
- Improved intersections
- Improved flood protection
- Improved safety infrastructure
- Changed travel time/distance

Route	Changed Distance	Changed Travel Time
Tomingley to Peak Hill	+410m	+13s
Thornycroft Road to Tomingley	-60m	-2s
Thornycroft Road to Peak Hill	+1,670m	+59s



Visual Amenity

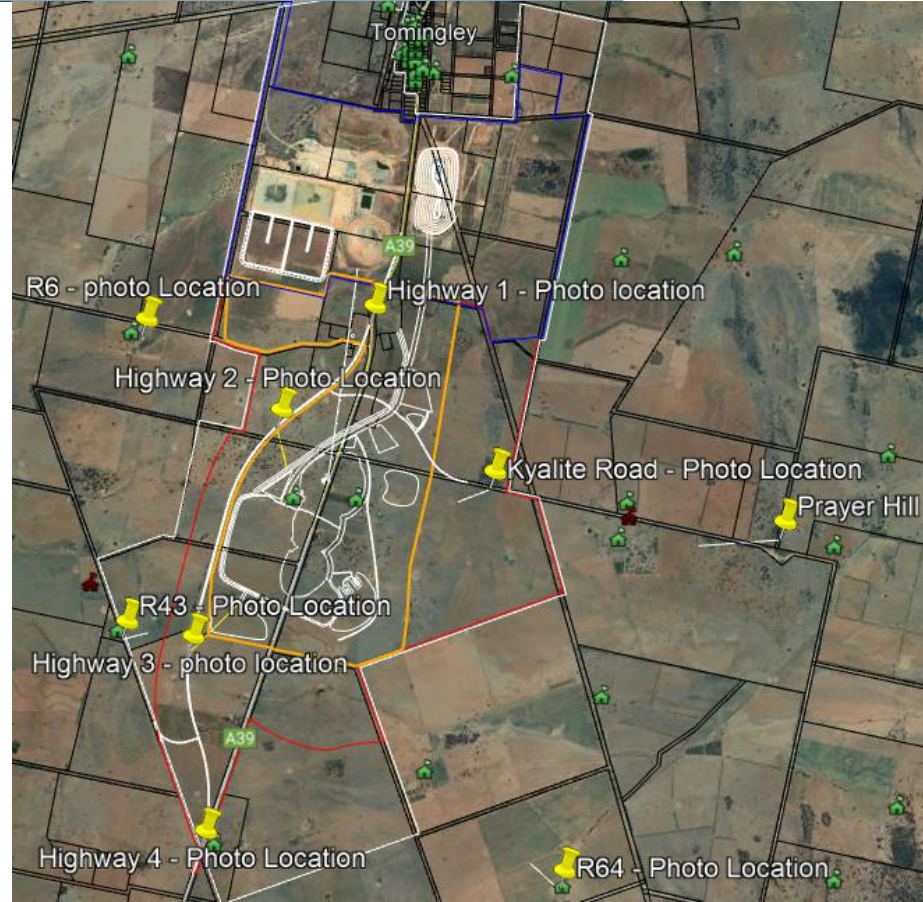


Anticipated changes

- Views from residences, the Newell Highway and local roads
- Additional SAR activities closer to residences to southeast, south, southwest
- SAR Waste Rock Emplacement
- Newell Highway – adjacent to SAR Mine Site

Mitigation and management

- Consultation with potentially affected landholders
- More-natural design elements for WREs
- Strategic visual screens and tree planting
- Amenity bund to limit views from west and south
- Progressive rehabilitation



Visual Amenity – Highway Location 1



Existing



Post Mining



Visual Amenity – Highway Location 2



Existing



Post Mining



Visual Amenity – Highway Location 3



Existing



Post Mining



Visual Amenity – Highway Location 4



Existing



Post Mining



Visual Amenity – Kyalite Road



Existing



Post Mining



Surface Water

Mitigation and management

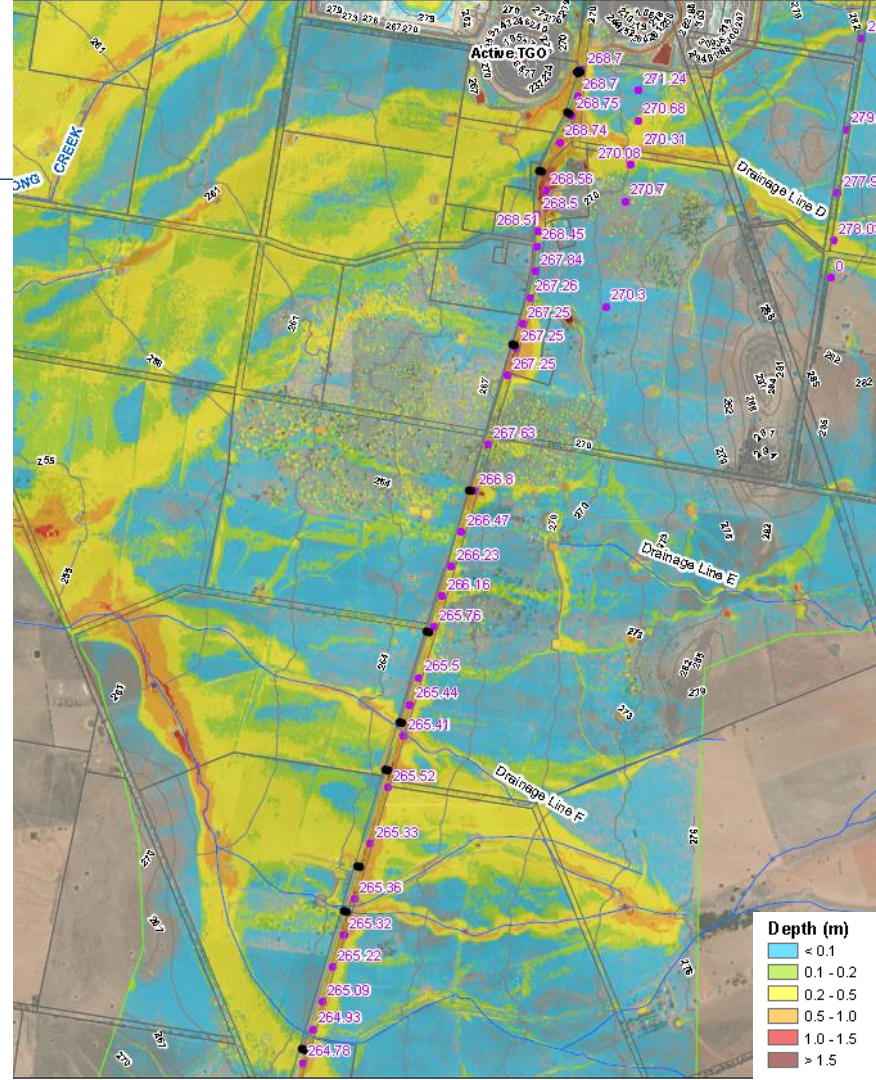
- Diversion of clean water around site
- Retention of clean water on site
- Water transfer between TGO and SAR

Water quality

- No significant changes

Flooding

- Current
 - Highway floods every 3 to 4 years
- Proposed
 - Highway no flooding under 1 in 100 year rainfall
 - Up to 1.5m water depth under 1 in 100 year rainfall
 - Minor changes to flow paths. To be discussed with relevant landholders
 - Flood peaks slightly lower and later
 - Flood Volume – 2.9% lower as a result of reduced catchment



Surface Water

Mitigation and management

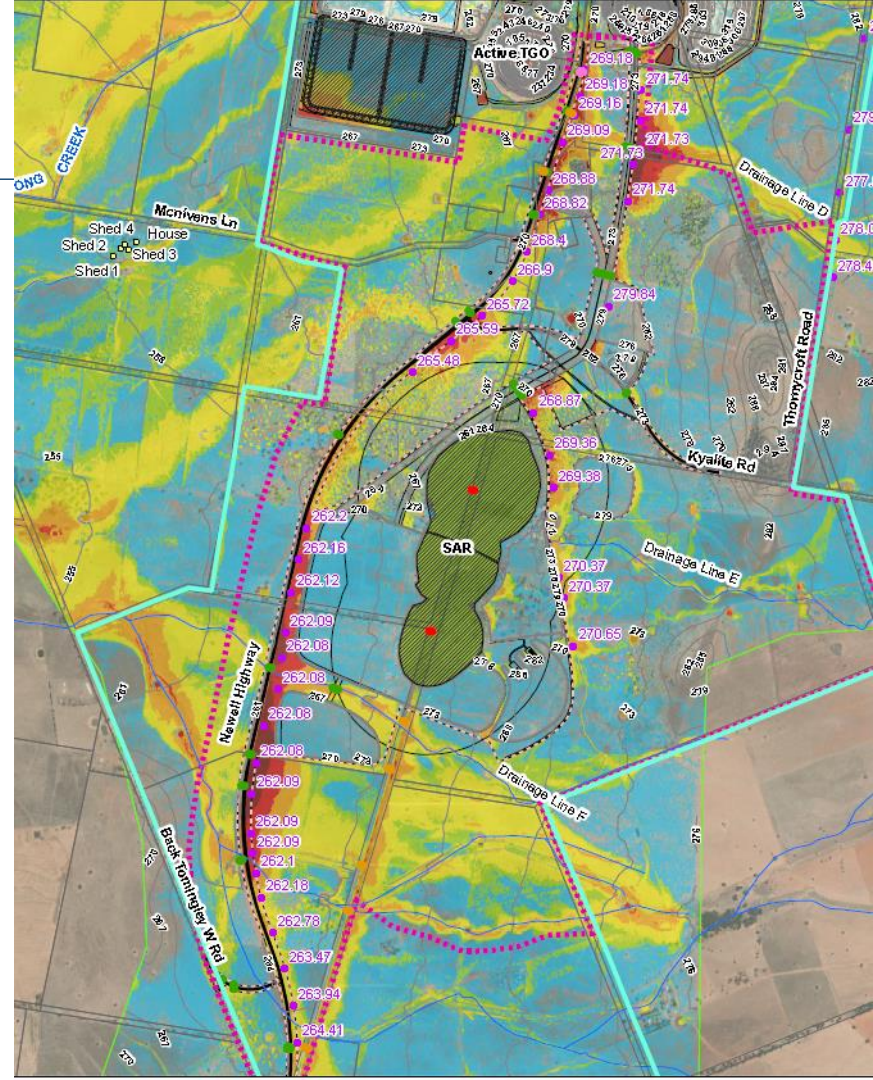
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Surface Water

Mitigation and management

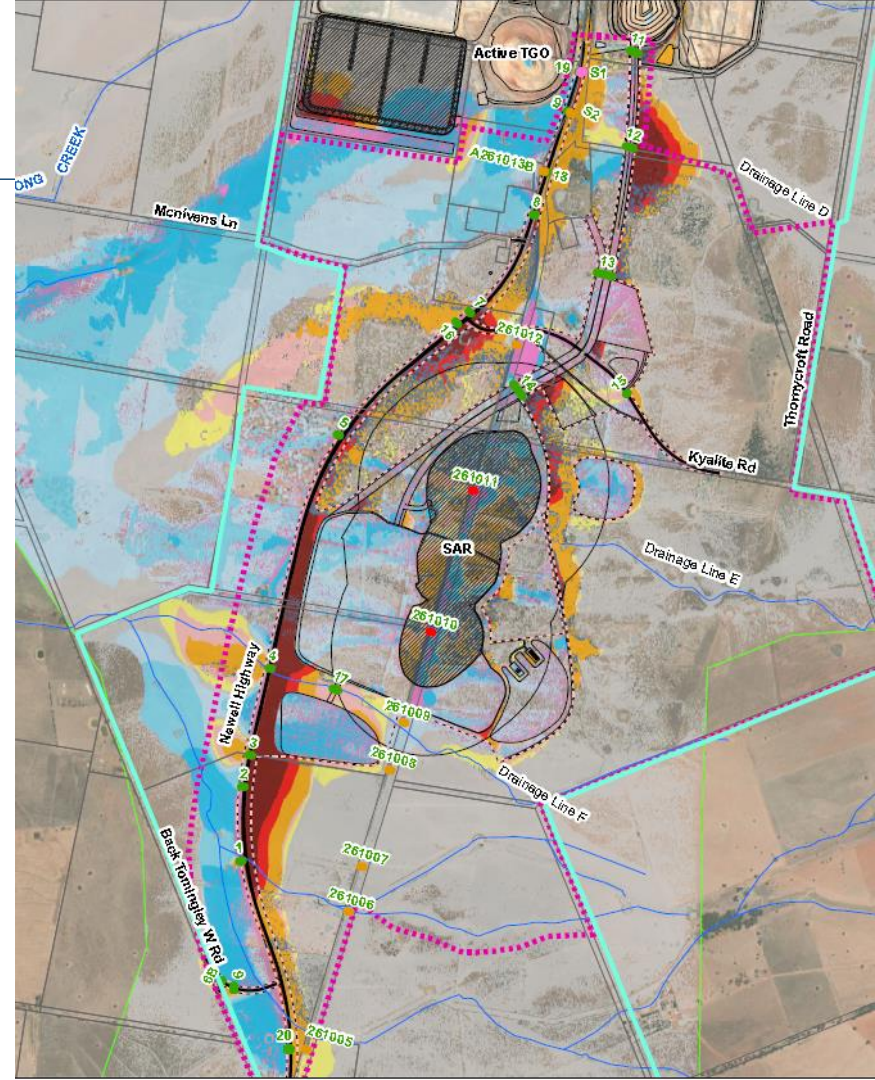
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Groundwater

Groundwater setting

- Surface alluvial aquifer – not impacted
- Deep/regional fractured rock aquifer

Groundwater users within 10km

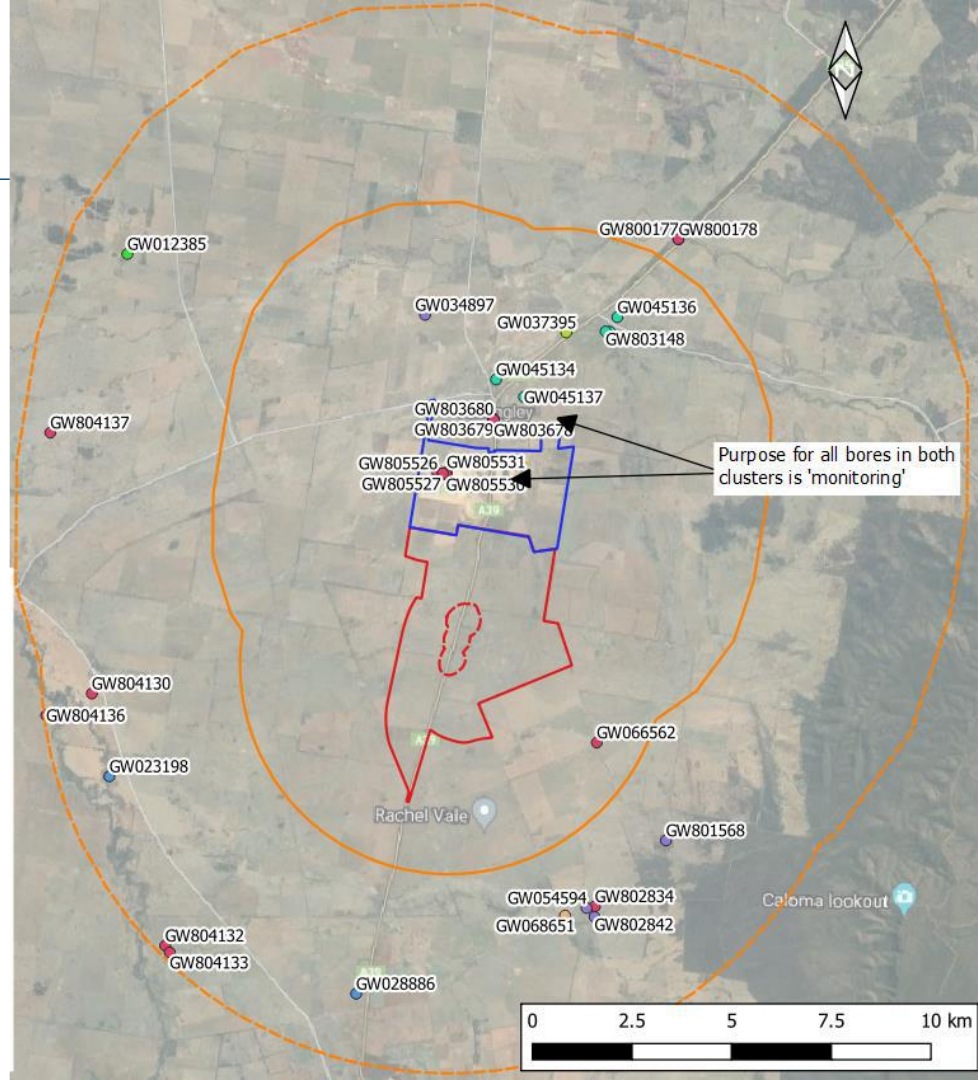
- 13 production bores of which 7 are shallow
- Remainder are monitoring bores

Regional fractured rock groundwater setting

- East to west gradient (Harveys Ranges to Bogan River)
- Low yield and transmissivity and poor quality

Local fractured rock groundwater setting

- Standing water level – approximately 60m below surface
- Water quality – poor (TDS - 11,700mg/L to 19,800mg/L)



Groundwater Modelling Results

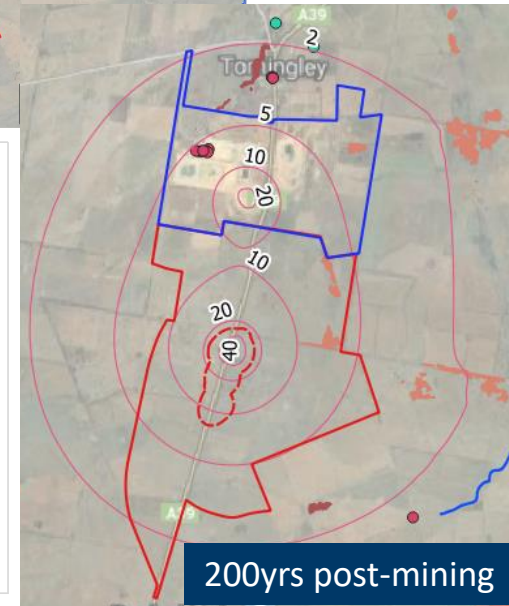
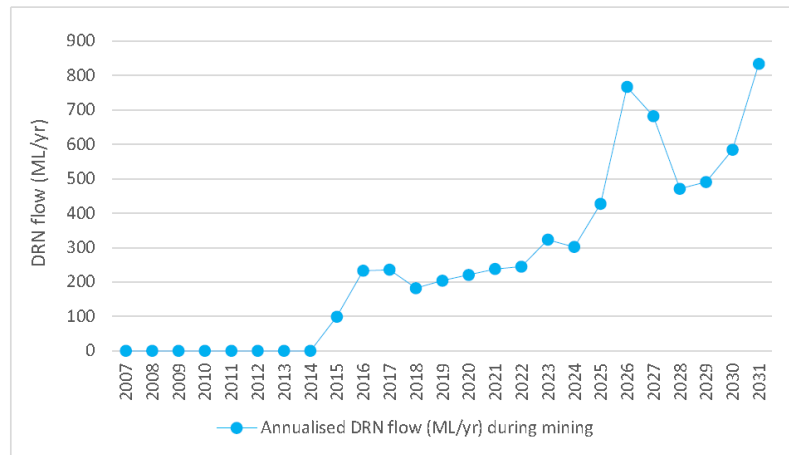
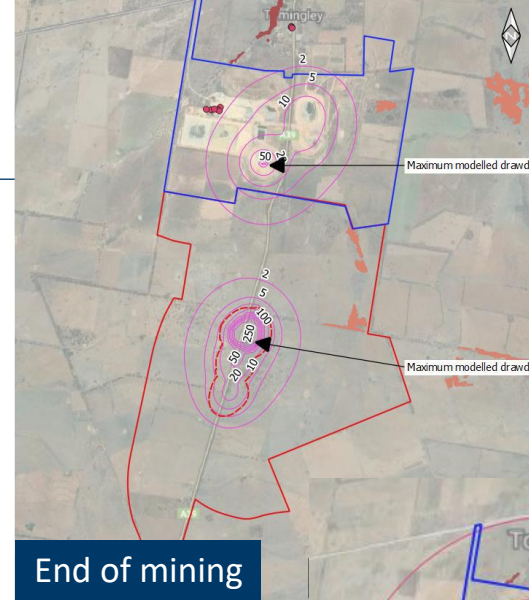
Inflows - to be licenced

- Increase from current 200-250Mpa to 425MLpa in FY25
- Maximum predicted inflow of 767MLpa in FY26

Drawdown

- End of mining - >1km from mine workings
- 200 years post mining - >2km from mine workings

No impacts on groundwater users or springs



Biodiversity

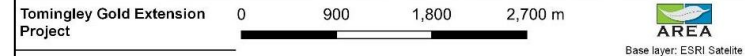
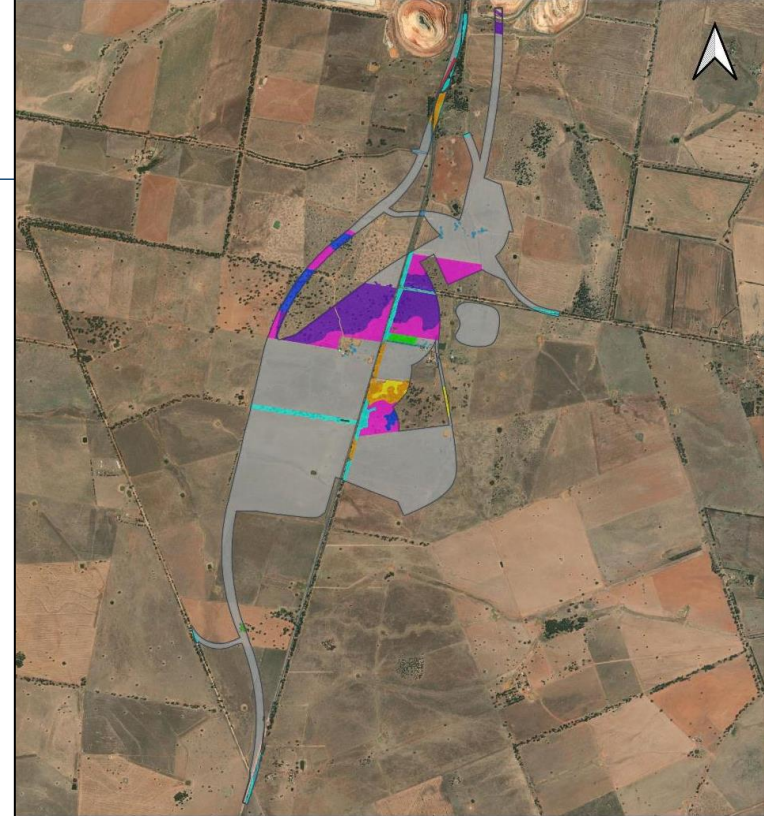
Survey Results

- Site dominated by Category 1 Agricultural land
- Four native vegetation communities
 - One of which is a Threatened Ecological Community
- Two threatened species observed
 - Grey-crowned Babbler
 - Superb Parrot
 - Glossy Black Cockatoo

Assessment Report in progress

Biodiversity offsets

- In accordance with the *Biodiversity Conservation Act 2016*
- All offsets likely to be offsite



Legend

- | | | |
|-------------------------|-----------------------|-------------------------------|
| Development footprint | 2 - PCT55 - Moderate | 7 - PCT201 - Moderate_trees |
| Vegetation Zones | 3 - PCT55 - Good | 8 - PCT201 - Moderate_cleared |
| 0 - Category 1 Land | 4 - PCT82 - Moderate | 9 - PCT201 - Good |
| 1 - PCT55 - Poor | 5 - PCT82 - Good | 10 - PCT27 - Moderate |
| | 6 - PCT82 - Kurrajong | |

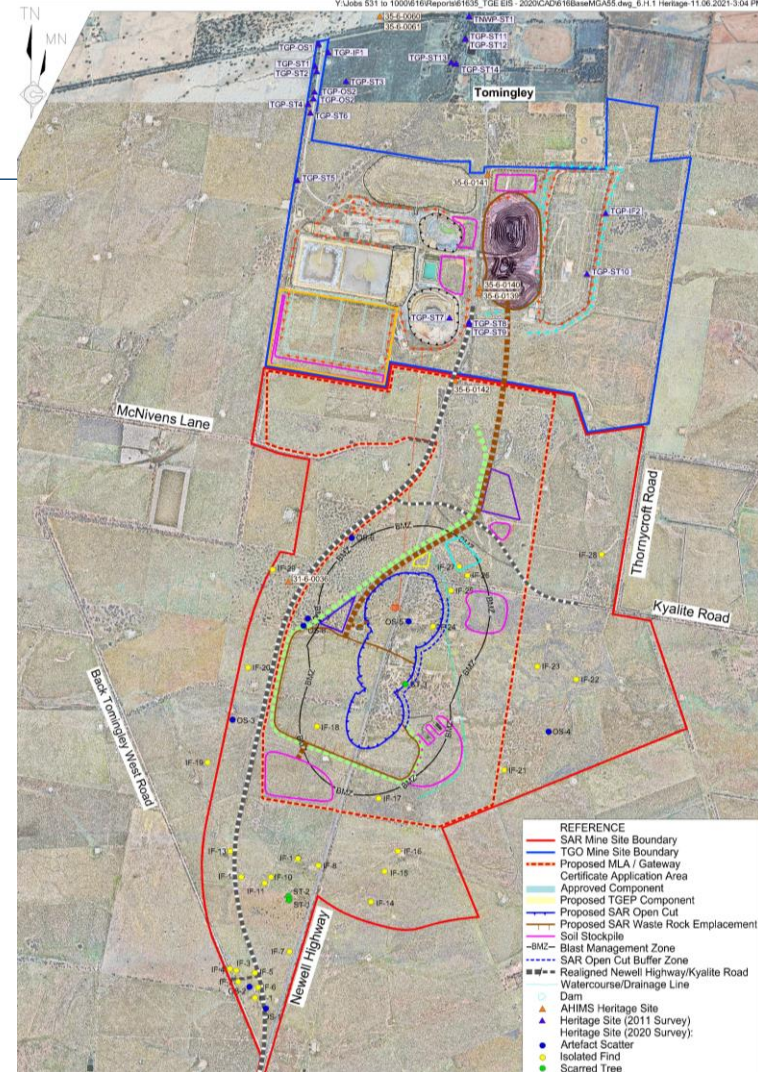
Heritage

Aboriginal heritage

- 39 sites identified
- Highway redesigned to avoid a cluster of sites
- 12 sites to be salvaged
- Consultation with Aboriginal community ongoing

Historic heritage

- Three sites identified
 - McPhail Mine – no disturbance
 - “Rosewood” Trotting Stud
 - Homestead and outbuildings removed
 - Archival recording proposed
 - McPhail Village
 - No surface expression
 - Potential for subsurface artefacts (foundations, etc)
 - Test pitting proposed



Soils, Land Capability and Agriculture

Soils

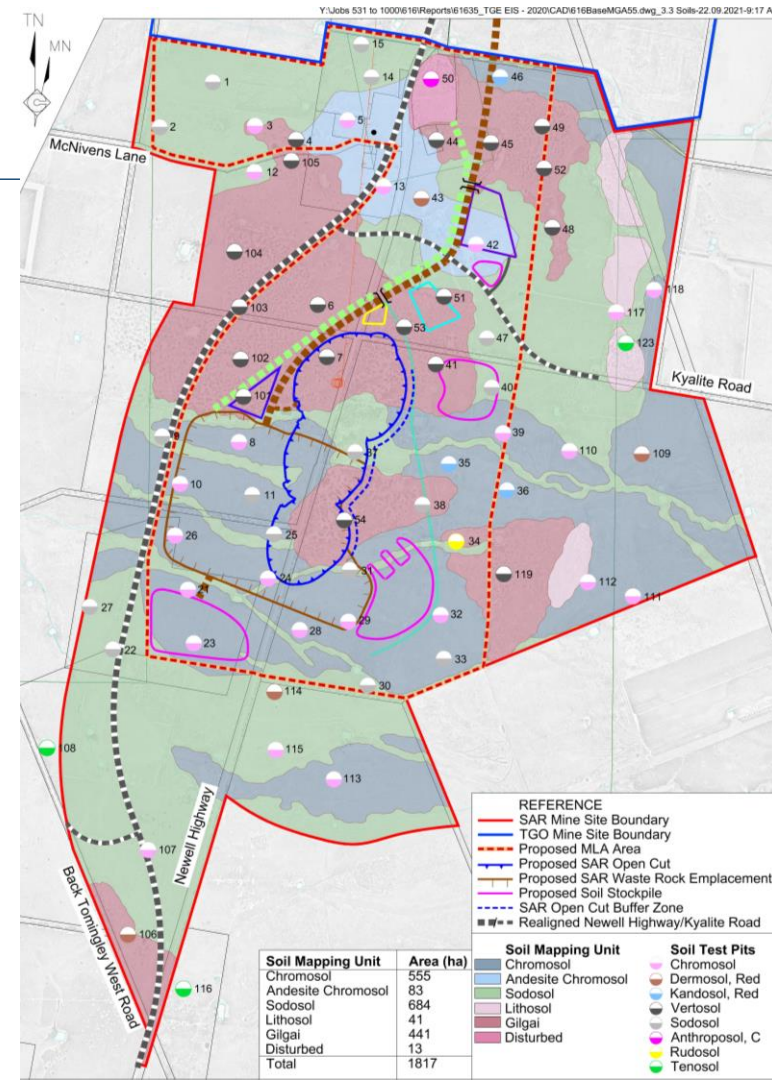
- Six Soil Mapping Units identified
- Andesite Chromosol, Chromosol and Sodosol (topsoil only) suitable for use in rehabilitation.
- Remainder – highly dispersible

Land capability

- Class 4 (moderate capability) - Andesite Chromosol, Chromosol
- Class 6 (low capability) – remainder

Agriculture

- Currently - ~3.1DSE
- Proposed – 6.0DSE
- Overall agricultural productivity post-mining greater than pre-mining



Social and Economic



Social Impact Assessment

- Consultation in progress
- Individual responses to the Project will vary
- TGO working with local residents

Economic Impact Assessment

- Average of 126 additional FTE jobs per year required over the life of the Project
- Continuation of existing employment at TGO past current TGO mine life
- Estimated benefit to NSW of approximately \$624.5M
- Estimated 50% of entire OPEX for the Project will be spent in the local region - ~\$300M

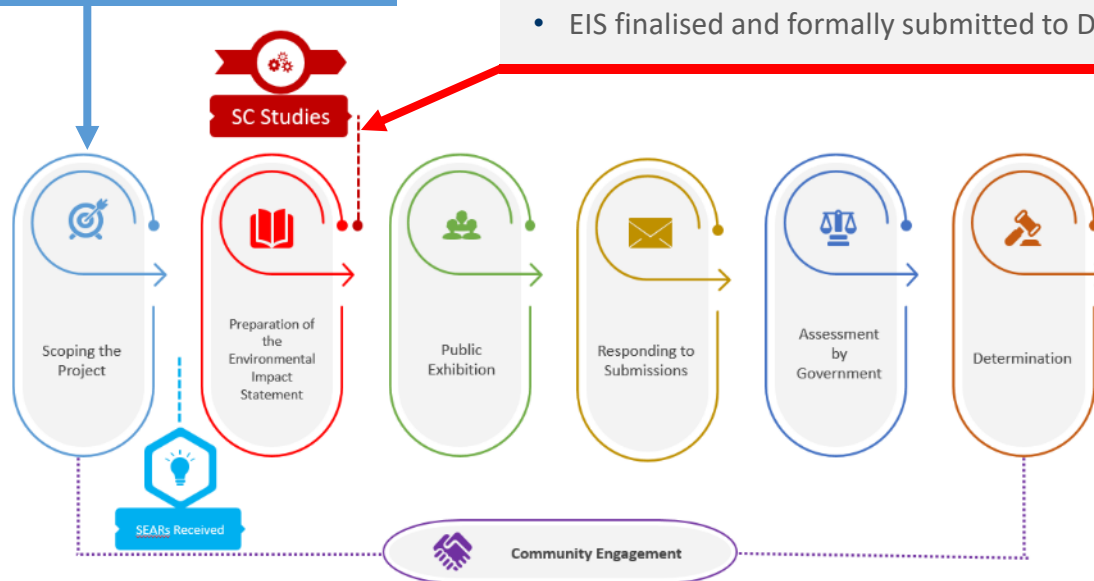
Application Pathway

Scoping the Project

- Scoping Report submitted October 2020
- Revised Scoping Report submitted July 2021
- SEARs issued July 2021
- Gateway Certificate issued

EIS Preparation

- Detailed design/planning ongoing
- Specialist consultants prepare assessments
- Ongoing consultation, including re impact assessment and proposed mitigation
- EIS drafted and provided to DPIE for review
- EIS finalised and formally submitted to DPIE



Application Pathway



Public Exhibition

- DPIE Exhibits the EIS for minimum 30 day
- Public has the opportunity to make a submission – in support or otherwise
- Likely Jan/Feb 2022

Responding to Submissions

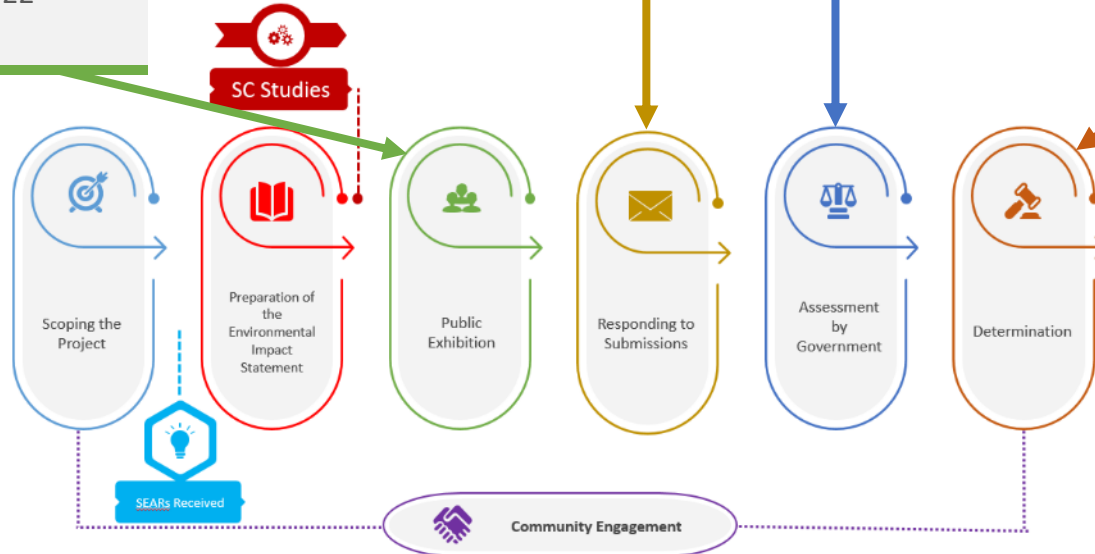
- Public and Agency submissions placed on Planning Portal
- TGO prepares a response, and amends or clarifies the EIS as required

Assessment by Government

- DPIE assesses the application
- TGO provides additional information if required

Determination

- DPIE Senior Officer or Independent Planning Commission determines application
- Target – Q3 2022



Post Approval

- Obtain additional approvals
- Update Planning Agreement
- Complete Management Plans
- Commence works

Next Steps

Technical

- Continue engineering/design/optimisation work

Planning/Environmental

- Complete Specialist Studies
- Draft and submit EIS

Consultation

- Ongoing through EIS preparation, assessment, determination and operational stages

HAVE YOUR SAY

- Fill out and return the Feedback Form
- Register for the TGO Newsletter
- Contact TGO and request a meeting/phone call
- Make a Submission during the Exhibition
 - If you support the Project - please make a submission.
 - If you have questions, concerns, objections – please tell us now so we can try to address them





ALKANE
RESOURCES LTD


Questions?

Community Information Line

- 02 6865 6116.
- tomingleygold@alkane.com.au

 [@alkaneresources](https://twitter.com/alkaneresources)

 [alkane-resources-ltd](https://www.linkedin.com/company/alkane-resources-ltd)

 [alkane.com.au](https://www.alkane.com.au)