

# **Teralba Quarry Community Consultative Committee**

**5<sup>th</sup> May 2021**



# Matters Arising from Previous Minutes

➤ **None**

## 2020

**1. Sales     455,229 tonnes**

**2. No of Blasts     21**

**3. Community Complaints**

Two community complaints were received in 2020.

i) On 23/01/2020 the EPA received a complaint from a member of the public advising of excessive dust generation observed whilst driving along Rhondda Road. The EPA notified Metromix of this complaint via email on 04/02/2020. Metromix responded to the EPA on 11/02/2020 advising that the internal investigation into the matter had determined that on the day of the complaint, Metromix executed all the available dust suppression controls available at that time. There were no unusual circumstances that occurred on the day of the complaint that would have caused excessive dust generation. Supporting documents were also forwarded to the EPA which showed the use of the watercart and the weather conditions on the 23rd of January 2020. To date Metromix has not received a response from the EPA.

### **3. Community Complaints Continued...**

ii) On 12<sup>th</sup> November a member of the public contacted Metromix and lodged a complaint in regard to the amount of truck movements going through the intersection of Rhondda Road and Railway Street. The complainant advised there was an apparent increase in truck noise levels and that truck movements can be heard from 5:30am. Metromix conducted an investigation into the matter, which indicated that truck movements from the last two months had all been within the approved limits and responded to the complainant in writing the next day providing them with a copy of PA 10\_0183, the 2020 noise monitoring report, and the October and September truck movement records.



## 4. Non Compliances from May 2020:

A heavy rain event occurred at the Quarry between the 25th to the 28<sup>th</sup> of July 2020. The rainfall was such that overflow of Dam B was recorded over five consecutive days and the level of rainfall had caused a high volume of runoff to enter the Quarry water management system. The below table presents a summary of the rainfall recorded and water monitoring outcomes during the period with monitoring undertaken during all days when discharge from Dam B was observed.

	Units	Criteria	26/7	27/7	28/7	29/7	30/7	31/7
Rainfall	mm	N/A	129.4	16	18	-	-	-
pH		6.5-8.5	Not Sampled	6.91	6.93	6.9	6.92	6.89
Electrical Conductivity	µS/cm	125-2200*		792	701	692	730	809
Total Suspended Solids	mg/L	50		71	60	55	41	40
Oil & Grease	mg/L	10		10	7	<5	<5	<5
* Criteria based on ANZG 2018 Guidelines all other criteria from EPL 536								

Metromix reported this exceedance to the EPA and Department of Planning Industry & Environment (DPIE) and received a response from the DPIE on 24/08/20 advising that no further action will be taken.

## **4. Non Compliances from May 2020:**

November monthly water grab sample at EPA Point 4 was missed (M2.3). There was a change of personnel in the Leading Hand role and during the handover period the required monthly grab sample was not done. The December water grab sample was successfully tested and the results came back within the specified criteria.

Metromix reported this non compliance to the EPA and Department of Planning Industry & Environment (DPIE) and received a response from the DPIE on 11/01/21 advising that this event must be included in the Annual Review and no further action will be taken.

## 5. On Going Monitoring

- (i) Water Management Plan (*Reviewed and approved in December 2020*)
- (ii) Air Management Plan
- (iii) Noise Management Plan
- (iv) Blasting Management Plan (*Reviewed and approved in December 2020*)
- (v) Transport Management Plan

## 5. On Going Monitoring

### (i) Water Monitoring (*EPA 4 Discharge Point*)

	pH	EC	TSS	Comments	Method
Units	pH Units	µS/cm	mg/L		-
EPL Criterion*	6.5-8.5	NA	<50	None	-
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	None	-
<b>EPA Discharge Point 4 – Mine Adit Dam (Monthly)</b>					
January	7.23	2140	9	None	Grab Sample
February	7.19	1990	<5	None	
March	7.36	2030	29	None	
April	7.22	2060	17	None	
May	7.16	2140	<5	None	
June	7.10	1990	6	None	
July	7.35	2010	<5	None	
August	6.79	849	<5	None	
September	7.12	1900	<5	None	
October	7.13	1960	<5	None	
November	NA	NA	NA	Monitoring not completed due to oversight during changes in sampling processes. Metromix notes that this has led to a non-compliance.	
December	7.25	1910	6	None	

# Summary of Activities

## 5. On Going Monitoring

### (i) Water Monitoring (EPA 5 Discharge Point)

	pH	EC	TSS	Comments	Method
Units	pH Units	µS/cm	mg/L		-
EPL Criterion*	6.5-8.5	NA	<50	None	-
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	None	-
EPA Discharge Point 5 – Dam B (Daily during Discharge)					
January	No discharge				Grab Sample
February					
10/03/2020	7.11	1050	<5	None	
11/03/2020	7.10	1010	<5	None	
16/03/2020	6.93	1180	<5	None	
17/03/2020	6.99	1140	<5	None	
19/03/2020	7.07	1140	<5	None	
20/03/2020	7.17	1140	<5	None	
23/03/2020	7.22	1150	<5	None	
25/03/2020	7.09	1130	<5	None	
26/03/2020	7.16	934	<5	None	
27/03/2020	7.01	1020	<5	None	
30/03/2020	6.85	1140	<5	None	
1/04/2020	6.78	1160	<5	None	
2/04/2020	6.80	1150	<5	None	
3/04/2020	6.94	1150	<5	None	
6/04/2020	7.37	1170	<5	None	
7/04/2020	7.19	1170	<5	None	
8/04/2020	6.91	1170	<5	None	
9/04/2020	6.95	1050	<5	None	
14/04/2020	6.93	1020	8	None	
15/04/2020	6.93	1080	5	None	
16/04/2020	6.96	1010	<5	None	
17/04/2020	6.74	1100	<5	None	
20/04/2020	6.76	1130	<5	None	
21/04/2020	6.86	1160	<5	None	
22/04/2020	6.88	1120	<5	None	
23/04/2020	6.99	1130	<5	None	
24/04/2020	7.02	1130	<5	None	
27/04/2020	6.95	1180	<5	None	
May	No discharge				
June					
27/07/2020	6.91	792	71	TSS exceedance due to significant rainfall.	
28/07/2020	6.93	701	60	TSS exceedance due to significant rainfall.	
29/07/2020	6.90	692	55	TSS exceedance due to significant rainfall.	

nt)

	pH	EC	TSS	Comments	Method
Units	pH Units	µS/cm	mg/L		-
EPL Criterion*	6.5-8.5	NA	<50	None	-
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	None	-
EPA Discharge Point 5 – Dam B (Daily during Discharge) (Cont'd)					
30/07/2020	6.92	730	41	None	Grab Sample
31/07/2020	6.89	809	40	None	
14/08/2020	6.9	870	<5	None	
17/08/2020	6.84	874	<5	None	
18/08/2020	6.81	866	<5	None	
19/08/2020	7.21	1670	13	None	
21/08/2020	6.8	833	<5	None	
24/08/2020	6.88	826	<5	None	
25/08/2020	6.88	843	<5	None	
26/08/2020	6.86	852	<5	None	
27/08/2020	6.86	926	<5	None	
28/08/2020	6.88	832	<5	None	
1/09/2020	6.98	909	<5	None	
2/09/2020	6.93	877	5	None	
3/09/2020	6.91	867	<5	None	
4/09/2020	6.97	809	<5	None	
7/09/2020	7.62	863	<5	None	
8/09/2020	7.03	852	5	None	
9/09/2020	6.95	846	<5	None	
10/09/2020	7.1	856	<5	None	
11/09/2020	7.2	826	<5	None	
26/10/2020	7.54	1150	<5	None	
November	No discharge				
December					
EPA Discharge Point 6 – Northwestern Boundary to Creek (During and Following Discharge)					
There were no instances of water discharged from EPA Point 6 during the reporting period					
EPA Discharge Point 7 – Northeastern Boundary to Creek (During and Following Discharge)					
There were no instances of water discharged from EPA Point 7 during the reporting period					
* EPL 536 Condition L1.1 nominates the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997. As such, the ANZECC water quality guidelines have been adopted.					
BOLD – Exceedance of Criteria					

## 5. On Going Monitoring

### (ii) Air Monitoring (Deposited Dust)

Deposited Dust Levels (g/m <sup>2</sup> /month)					
Residence ID	Rhondda <sup>1</sup>	Myrtle <sup>1</sup>	Hillside <sup>1</sup>	Rodgers <sup>2</sup>	York <sup>3</sup>
Criterion	4	4	4	4	4
Pre - 2020 Average*	1.0	1.2	1.5	1.3	1.1
Results 2020					
January	2.6	2.5	4.2	3.3	2.9
February	1.0	0.8	2.7	0.9	1.4
March	0.7	0.6	4.1	1.1	1.2
April	0.5	0.7	5.2	0.8	0.9
May	0.7	1.4	8.7	0.4	0.7
June	0.5	0.3	0.4	0.3	0.7
July	1.1	0.4	2.0	0.3	0.9
August	0.7	0.3	0.4	0.4	0.5
September	0.9	1.5	0.9	0.7	1.0
October	1.0	1.5	0.8	0.5	1.5
November	0.9	0.9	0.8	0.9	1.3
December	1.2	1.0	0.9	0.9	0.9
<b>Average</b>	<b>1.0</b>	<b>1.0</b>	<b>2.6</b>	<b>0.9</b>	<b>1.2</b>
* Based upon available results for deposited dust collected prior to the reporting period.					
<sup>1</sup> Installed and operated since 2004		<sup>2</sup> Installed and operated since 2011		<sup>3</sup> Installed and operated since 2019	

## 5. On Going Monitoring

### (ii) Air Monitoring (Particulate Matter 10)

Month	Samples (Run Dates) (Number)	Monthly Average Result ( $\mu\text{g}/\text{m}^3$ )	Daily 24hr PM <sub>10</sub> Exceedance	Annual Average ( $\mu\text{g}/\text{m}^3$ )
<b>Criteria</b>		<b>50</b>	<b>50</b>	<b>25/30**</b>
January	4	27.5*	2	
February	6	16.8	0	
March	5	11.4	0	
April	5	15.8	0	
May	5	12.2	0	
June	5	10.8	0	
July	6	11.0	0	
August	5	11.4	0	
September	5	13.6	0	
October	5	16.8	0	
November	5	23.0	0	
December	5	18.8	0	
Annual Average	-	-	-	15.6

\* The two exceedances of PM<sub>10</sub> in this month have been excluded from the monthly average.

\*\* Project Approval (PA 10\_0183) outlines the annual average PM<sub>10</sub> criteria to be 30 $\mu\text{g}/\text{m}^3$ . However, EPL 536 Condition R4.5a) requires that the air quality monitoring data is assessed against the Air Impact Assessment Criteria outlined in EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*. The most up to date version of this guideline was published in 2017 and outlines the annual average PM<sub>10</sub> criteria to be 25 $\mu\text{g}/\text{m}^3$ . Metromix has considered both criteria for its review of particulate matter monitoring.

## 5. On Going Monitoring

### (iii) Noise Monitoring

Noise monitoring was conducted during daytime, evening, shoulder and night periods between 12 August 2020 and 18 August 2020 at monitoring locations EPL-A, B, D, E and H by Spectrum Acoustics.

The results of the attended noise monitoring surveys identified that noise from the Quarry was generally inaudible in the local setting. Noise emissions did not exceed the relevant criterion at any monitoring location during any part of the surveyed time period.

It is noted that the results of operational noise monitoring during 2020 are consistent with results recorded from 2015 to 2019, indicating that the Quarry remains generally inaudible in the local setting.



# Summary of Activities

## 5. On Going Monitoring

### (iv) Blast Monitoring

Location		Airblast Overpressure (dB(Lin Peak))		Ground Vibration (mm/s)		Allowable Exceedance	
Any residence on privately owned land, or any public infrastructure		120		10		0%	
		115		5		5% of the total number of blasts over a 12 month period	
Blast Date	Blast Time	Location 1 <sup>1</sup>		Location 2 <sup>1</sup>		Location 3 <sup>1,2</sup>	
		Airblast Over pressure (dB(L))	Ground Vibration (mm/s)	Airblast Over pressure (dB(L))	Ground Vibration (mm/s)	Airblast Over pressure (dB(L))	Ground Vibration (mm/s)
20 January	1:02pm	108	0.9	104	0.2	NM	NM
5 February	11:17am	104.9	0.2	NT	NT	NM	NM
13 February	11:21am	<b>122.3</b>	0.4	109.2	0.2	NM	NM
11 March	10:57am	101	0.2	104	0.2	NM	NM
16 March	2:32pm	<b>116.3</b>	0.3	110	0.1	NM	NM
25 March	2:57pm	<b>115.7</b>	0.2	112.6	0.2	NM	NM
7 April	11:05am	NT	NT	NT	NT	NM	NM
22 April	11:50am	104.1	0.2	NT	NT	NM	NM
3 June	11:37am	100.1	0.3	NT	NT	NM	NM
11 June	12:02pm	102	0.2	81.97	0.5	NM	NM
1 July	11:00am	104.7	0.2	100.6	0.1	NM	NM
3 August	2:19pm	106.6	0.2	103.3	0.2	NM	NM
18 August	12:47pm	NT	NT	NT	NT	NM	NM
1 September	12:27pm	NT	NT	NT	NT	NM	NM
22 September	2:23pm	82.3	0.6	NT	NT	NM	NM
23 October	3:23pm	111.8	0.26	106.6	0.79	NM	NM
5 November	1:22pm	104	0.56	NT	NT	NM	NM
19 November	2:47pm	NT	NT	NT	NT	NM	NM
20 November	11:05am	NT	NT	NT	NT	NM	NM
11 December	2:56pm	109.1	0.23	104.7	0.12	NM	NM
22 December	11:43am	NT	NT	NT	NT	NM	NM

Notes: NT – Not Triggered, NM – Not Measured

<sup>1</sup> See **Figure 7**.

<sup>2</sup> Monitoring only undertaken at Location 3 when blasting is conducted in the Mid Pit or Northern Extraction Area.

**Bold text indicates exceedance.**

## 5. On Going Monitoring

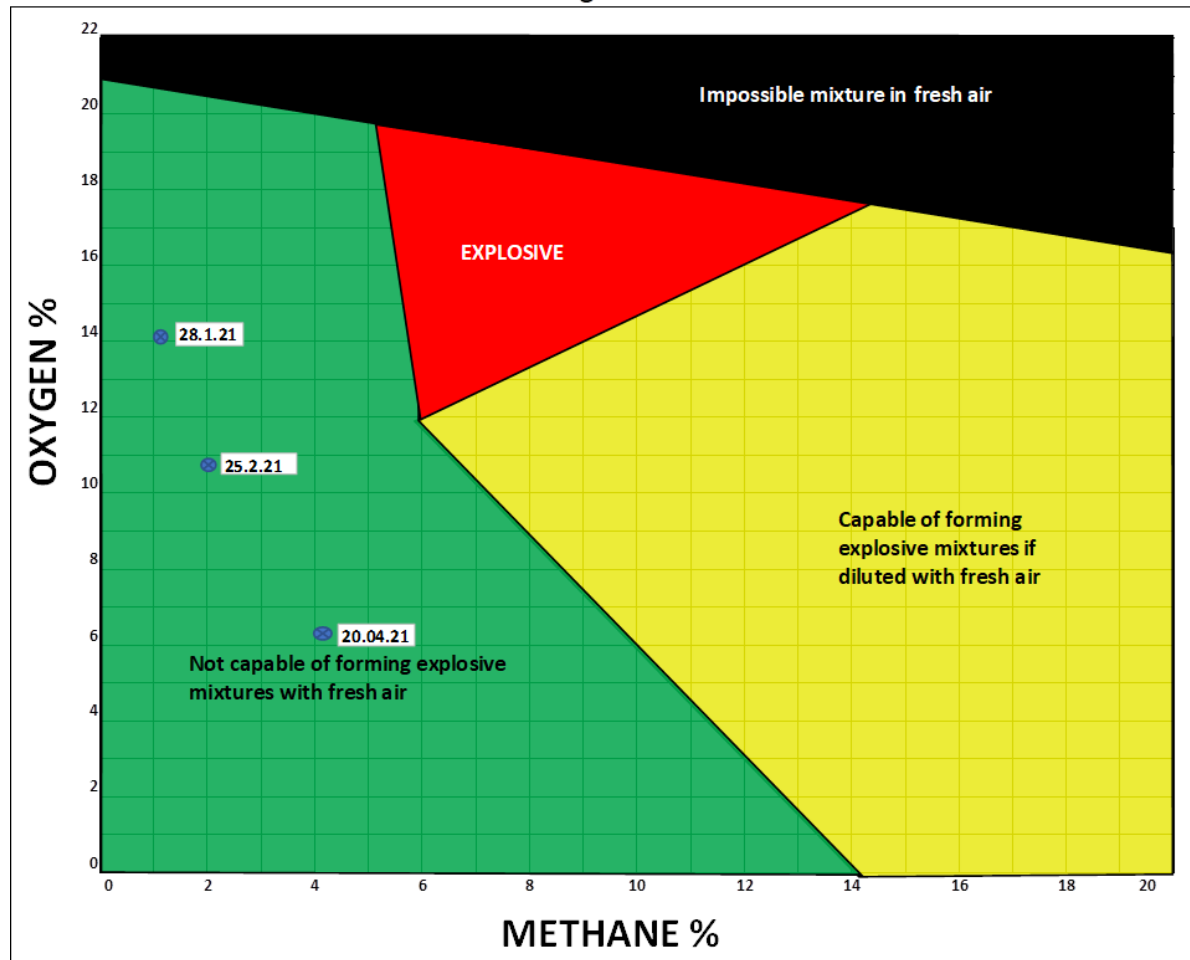
### (v) Transport Monitoring

	<b>YTD March 2021</b>	<b>LYTD March 2020</b>	<b>Total 2020</b>
<b>Sales (kt)</b>	139	100.9	455.2
<b>Production (kt)</b>	117.7	97	468.3
<b>Truck Movements</b>			
East Through Teralba	2056	1622	7719
West - Rhondda Rd	3841	2829	13922
Total	5897	4451	21651

## 6. Lower Level Management Plan

### (i) Managed by Mining Operation Services

Figure 1

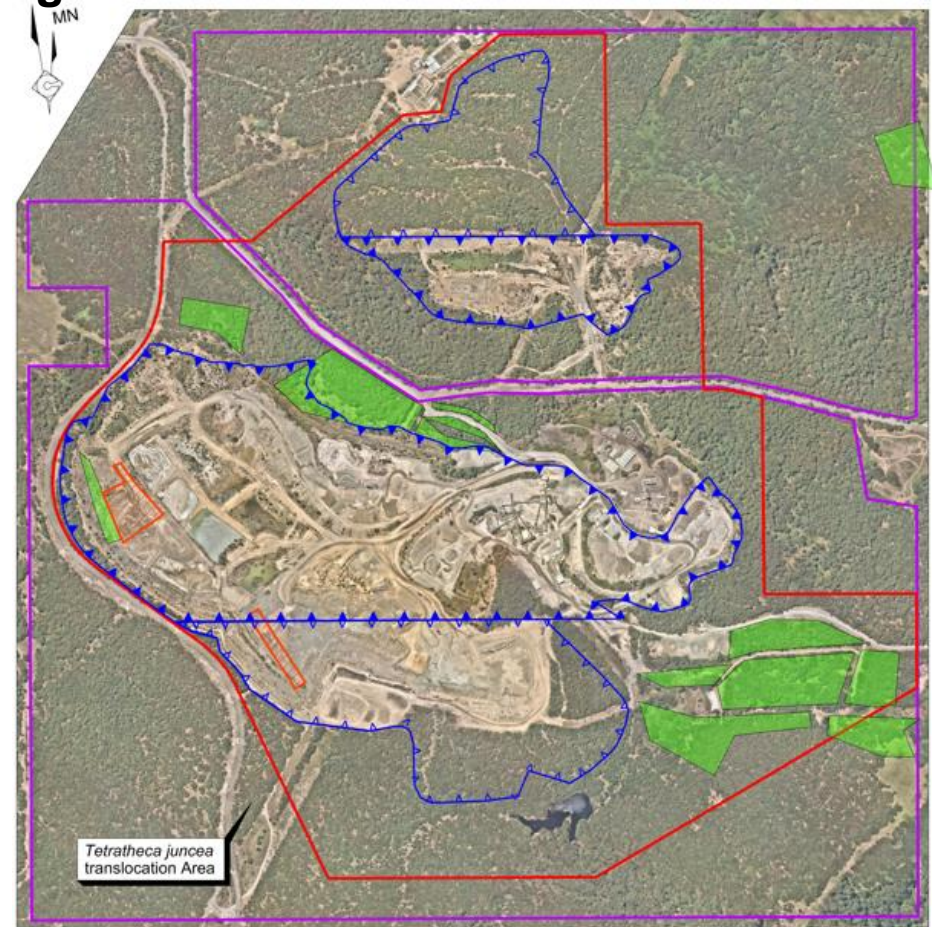


## 7. On Going Rehabilitation & Weeding Program

A total of 902.5 hours were worked by T.E.N.T.A.C.L.E. staff performing environmental restoration and bush regeneration activities during 2020.

A variety of weed control methods were used including the removal of target weed species through both manual and chemical controls such as cut/scrape and paint or splatter gun application of herbicide, hand removal or seed head removal.

During 2020 a total of 1,634 native trees, shrubs and grasses were planted in the western portion of the Quarry along completed benches and completed silt cells.



- REFERENCE
- Property Boundary
  - Project Site Boundary
  - Extraction Area Boundary
  - Proposed Extraction Boundary
  - Treatment Area
  - 2020 Planting Area

## 8. Nesting Box Monitoring Program

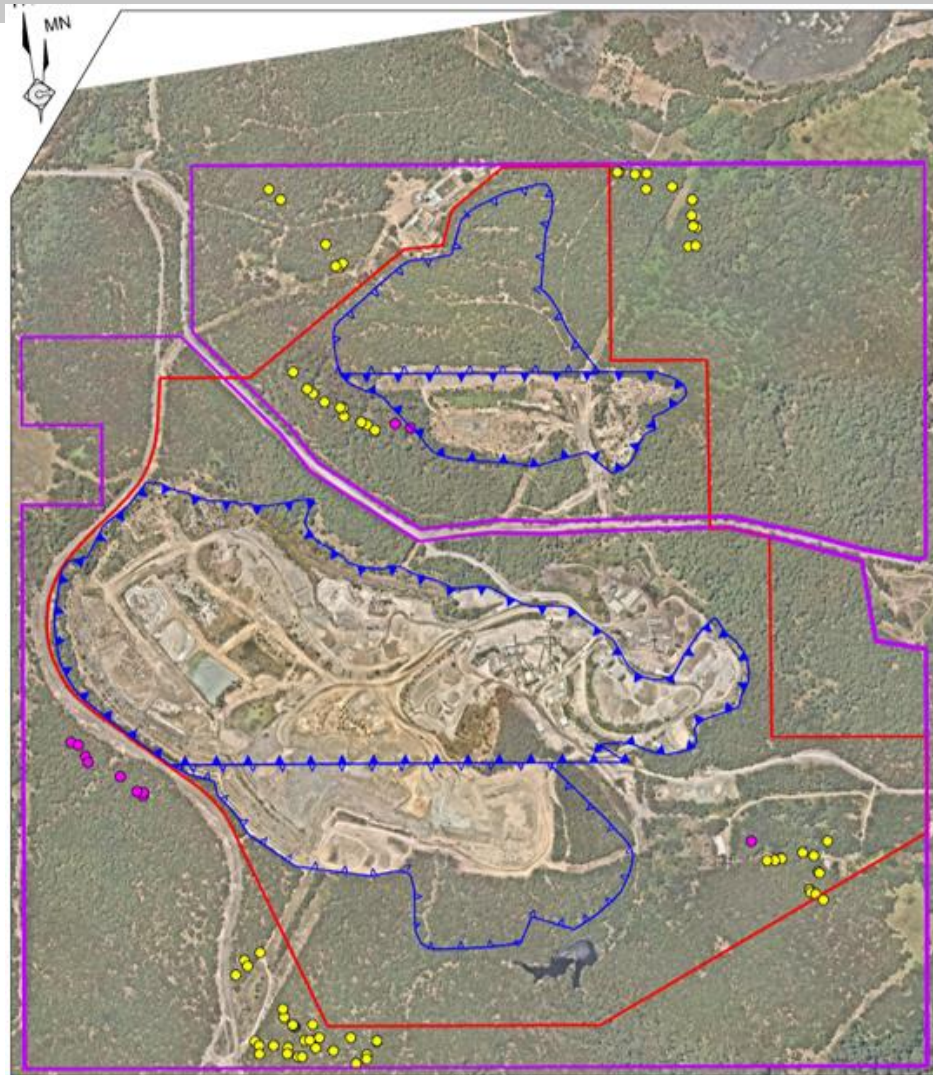
Nesting boxes were inspected on 24th September 2020 by Echo Ecology and Surveying. An additional 11 nesting boxes were installed as required under a commitment relating to vegetation clearing for the approval for the powerline relocation. These boxes have now been included as part of the annual nesting box monitoring program.

Below is a summary of 2020's monitoring survey:

- None of the target species (Squirrel Gliders, Little Lorikeets or microbats) were observed in the nesting boxes during the inspection.
- One of the nesting boxes were recorded as being occupied by Sugar Gliders with two other nesting boxes containing either Sugar or Squirrel Gliders (could not be confirmed).
- A further 28 nesting boxes contained leaves with depressions like those created by Sugar Gliders, indicating that these boxes are used by Sugar Gliders for sheltering.
- A total of seven boxes had leaves present (but no defined nest) indicating that animals had visited the nesting boxes.
- Ants were found in two of the boxes.
- Termites were found in another two of the boxes.
- No feral honey bees were observed.



# Summary of Activities



- REFERENCE
- Property Boundary
  - Quarry Site Boundary
  - Existing Extraction Area
  - - - Extension Area Boundary
  - Nesting Box Location
  - New Nesting Box Location

Note: Nesting box locations are often co-located and are superimposed in this figure.

# Summary of Activities

- 9. **Extraction** - In 2020 approx 630,746t was extracted of which approx 99,591t was overburden material.
- 10. **Rehabilitation** – During 2021 a total of 1.17Ha of seed mix and 1,260 plants were planted in the south western portion of the Quarry on top of capped silt cells.



## 10. Rehabilitation

Species	QTY
Acacia implexa	50
Acacia ulicifolia	80
Angophora costata	50
Corymbia maculata	50
Daviesia ulicifolia	80
Entolasia stricta	100
Eucalyptus acmenoides	50
Eucalyptus paniculata	50
Eucalyptus umbra	50
Imperata cylindrica	300
Lomandra longifolia	200
Themeda australis	200
	1260

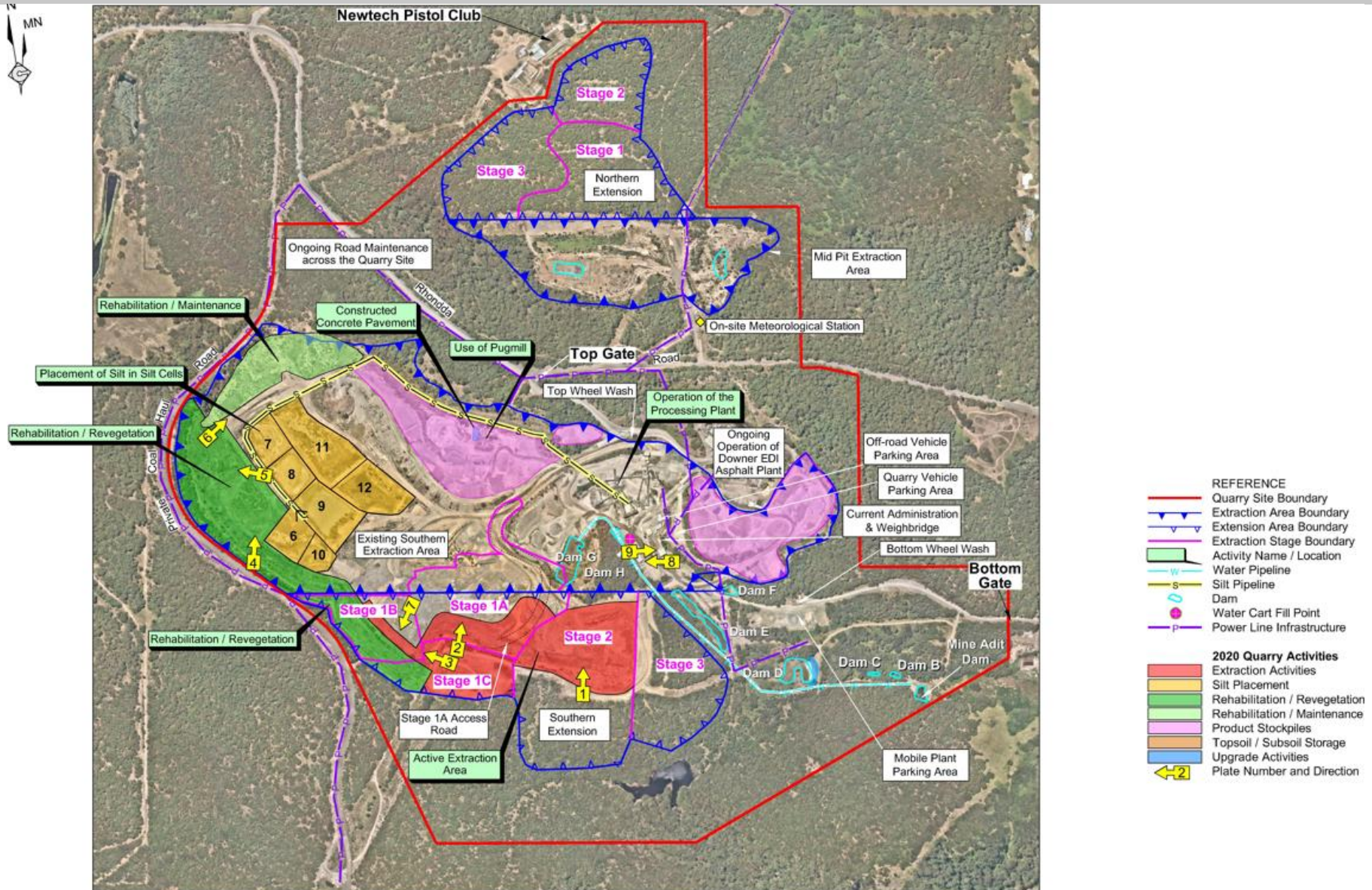


## 10. Rehabilitation





# Summary of Activities



## **2020 Annual Environmental Review**

Was submitted to the DPIE on 30/03/2021. We are awaiting a response from the DPIE before uploading a copy to the Metromix website.

## **EPA 536 Variation**

Metromix requested a variation on 23/06/2020 to condition M2.3, Point 5 to allow a grab sample once within 12 hours of discharge. This variation was approved on the 9<sup>th</sup> of September 2020. An updated Water Management Plan was submitted to the DPIE and approved in December 2020.

The EPA conducted a licence integrity review on 17<sup>th</sup> November 2020 with the purpose of assessing the appropriateness of the licence. The review concluded that several changes to licence conditions were required for transparency and to reflect current operations. On the 18<sup>th</sup> February 2021 Metromix requested a variation to have noise monitoring points 14 and 17 removed from EPL 536. The EPA approved this variation on 24/03/2021.

# 2020 Environmental Reports

## EPA 536 Variation continued.

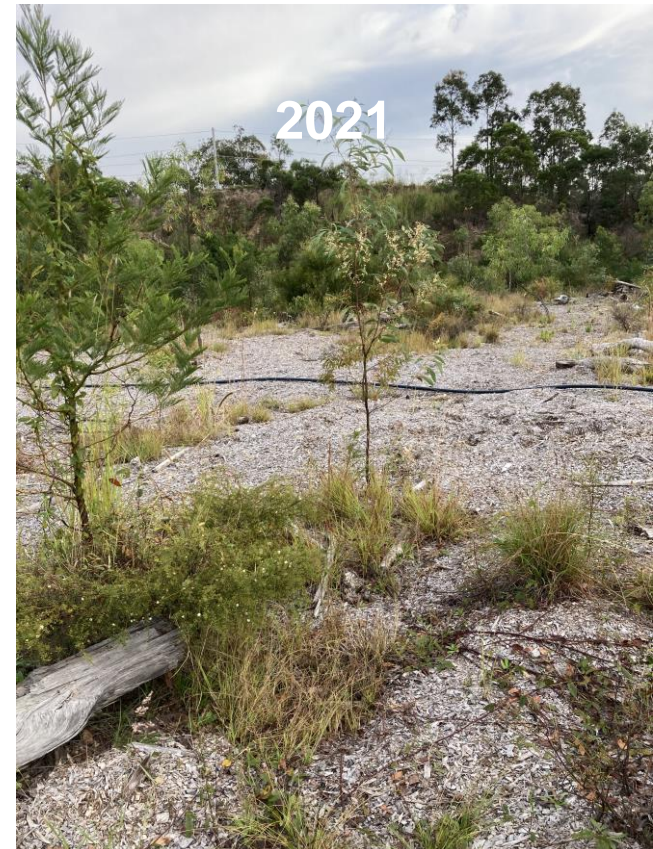
**Table 10.1**  
**Noise Monitoring Locations**

Noise Monitoring Locations*	Address	Easting	Northing
EPL-A (Point 12)	Awaba Street, Teralba	369080	3651470
EPL-B (Point 13) <sup>1</sup>	Rhondda Road, Teralba	369250	6351915
EPL-C (Point 14) <sup>2</sup>	Rhondda Road, Teralba	369205	6352015
EPL-D (Point 15)	Rhondda Road, Teralba	369150	6352135
EPL-E (Point 16)	Victoria Avenue, Teralba	369060	6352620
EPL-F (Point 17) <sup>2</sup>	Victoria Avenue, Teralba	369130	6352945
EPL-H (Point 18)	School Road, Wakefield	366210	6352520
* See Figure 7.1			
1 During monitoring on 30 August 2017, the landowner requested that monitoring be undertaken away from this property. Monitoring was undertaken at easting 369247 and northing 6351878 (approximately 30m south of the property)			
2 Metromix has obtained permission for this monitoring location to be omitted as other monitoring locations are nearby and closer to quarry related noise			



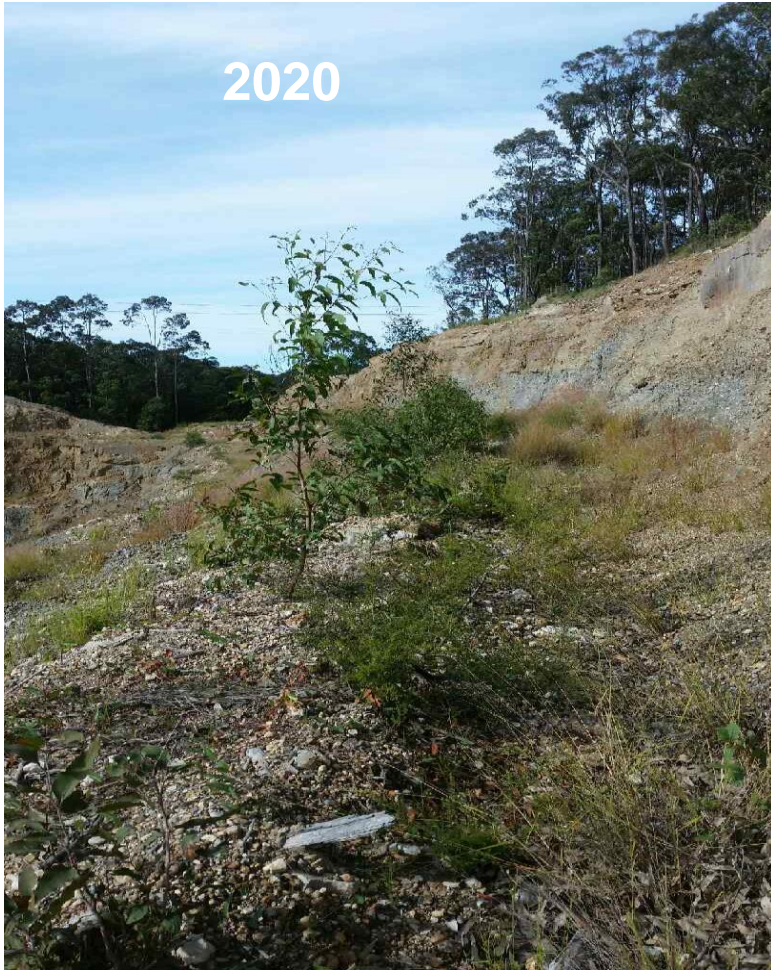
# 2015 Rehabilitation







2020



2021









# 2019 Rehabilitation

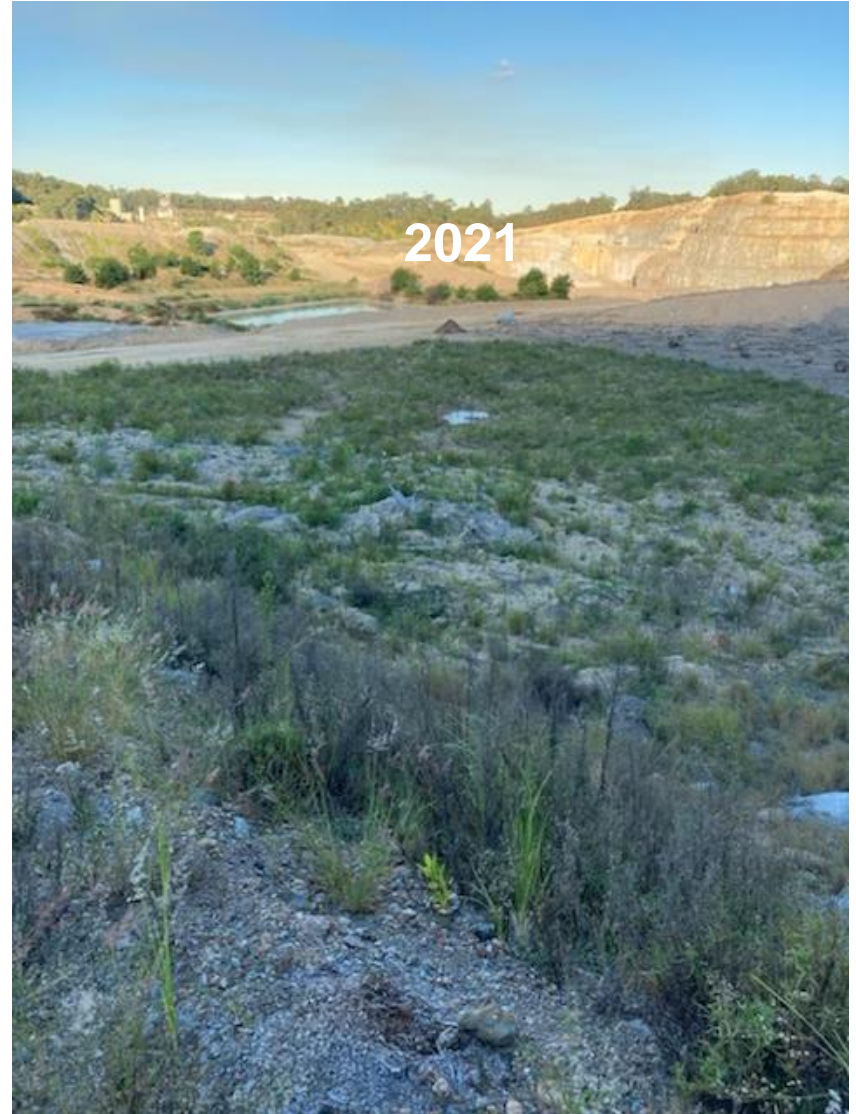




2020



2021





# 2020 Rehabilitation

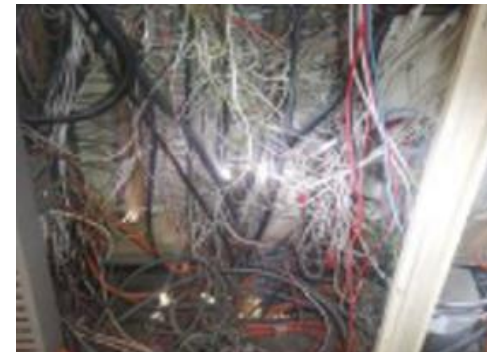




# Electrical Upgrade

## What?

- \* Upgraded the existing Plant Motor Control Centre architecture and installed a new PLC system in the control tower. (Cost \$490k)



- \* Installed remote switching and field full current lockout devices. (Cost \$99k)
- \* Installed a second hydraulic pump and connections for the Pug Mill. (Cost \$15k)

## Why?

- \* The existing Plant Motor Control Centre architecture was outdated. This upgrade achieved a level of functional safety by using extra low voltage field control circuits, prestart alarms and sequenced automatic starting/stopping.
- \* Installing remote switching and field full current lockout devices addressed existing arc flash issues and provided a more robust and safe method of isolation/lockout.
- \* Installing a second hydraulic pump and connections for the Pug Mill was part of the PLC and SCADA system that was installed in 2019.

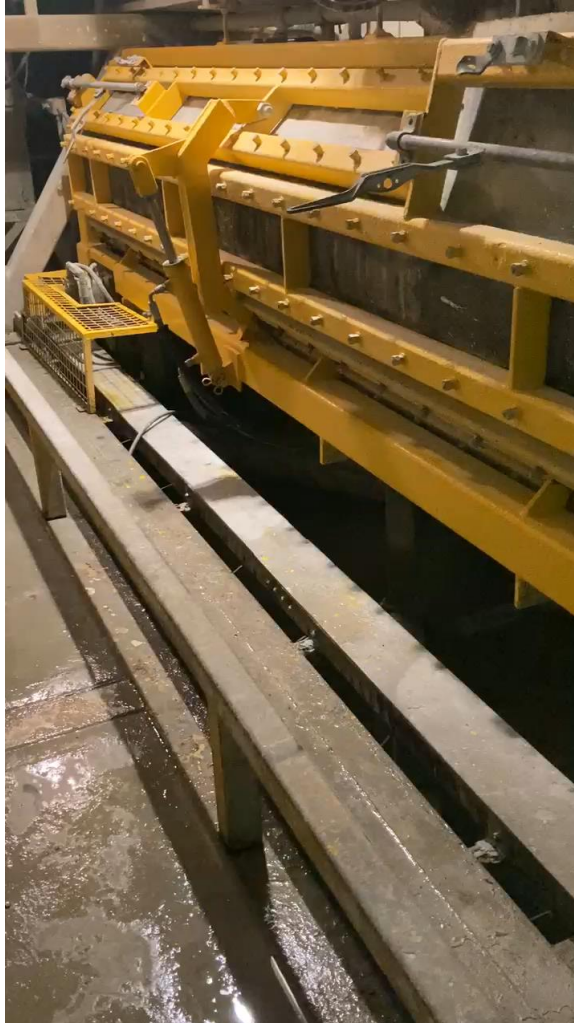
# Electrical Upgrade

## Completion



# Electrical Upgrade

## Completion





# Structural Upgrade

## What

\* Structural Engineer deemed the span lengths of some conveyors were to long and did not meet Australian Standards.

## How

\* Installed additional trestles to conveyors 1, 2, 3, 5, 7, 10 and 11.





## What?

Two sets of power lines owned by Ausgrid traversed the Teralba Quarry Southern Extension Area, being:

(a) the 33kV transmission line traversed the site but was not used by Metromix; and

(b) the 11kV transmission line which connected to a small onsite substation and supplied Downer EDI and the Metromix offices, water supply pump and processing plants.



METRO



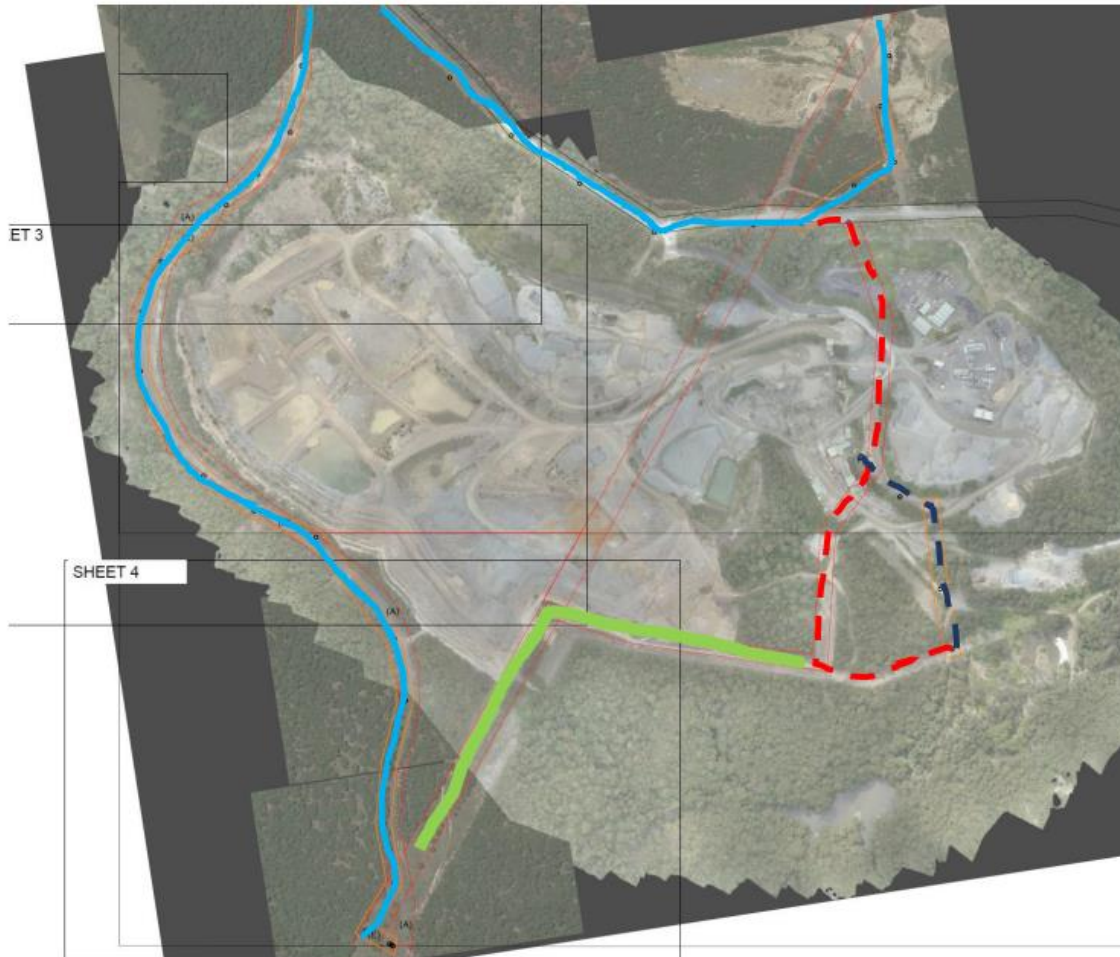
## What?





The scope of the project required clearance of vegetation to create 20 m easements for the new power lines.

The construction works required the removal of 26 poles, replacement of 17 existing power poles and the installation of 49 new power poles.



# Power Line Relocation

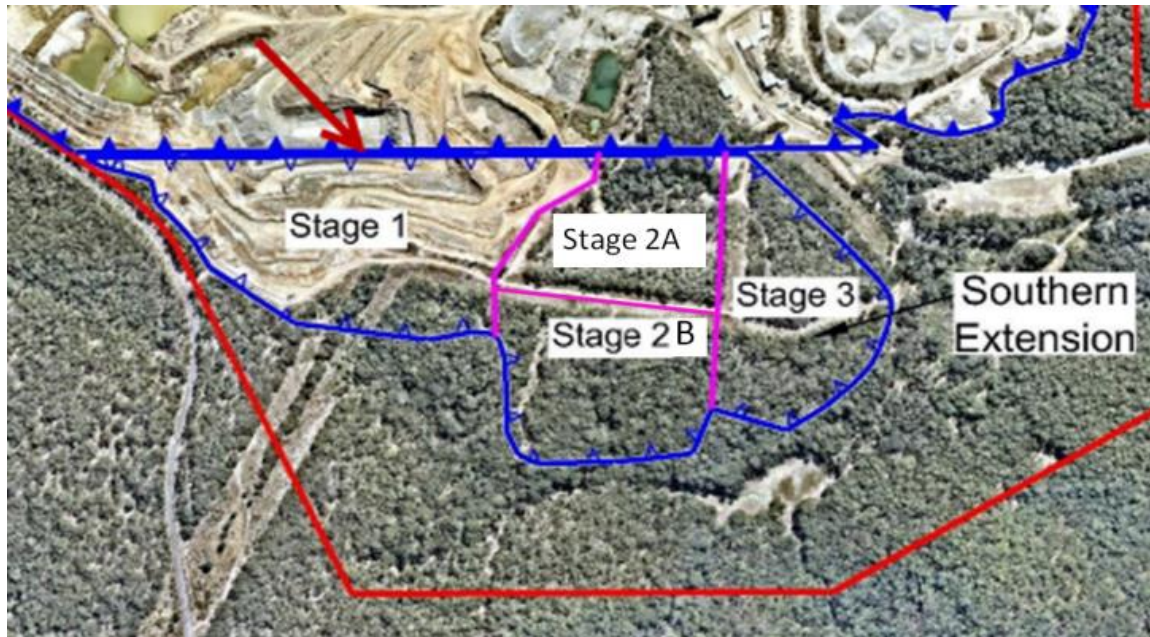


-  New 33 and 11 kV line (complete)
-  Redundant 33 and 11 kV line  
To be dismantled in "Dismantle Stage 1"
-  New 11 kV line (to be completed).
-  Redundant 33 kV line  
To be dismantled in "Dismantle Stage 2"

# Power Line Relocation

## Why?

\* To access the reserves in the Southern Extension Area:



Southern Extension	
2019 Recorded Reserves [t]	
Saleable Overburden	1,355,833
Saleable Rock	8,684,641
Total	10,040,474

\* Southern Extension Area provides approx. 14.8 years of useful life.  
(Based on an annual extraction of 678.4kt)



# Power Line Relocation

## Completion



- Deviated from Mine Plan in 2019 to mine Stage 2A ahead of schedule to compensate for the power lines
- Redundant power lines were removed in late September 2020
- New haul road was required to access Stages 1C and 2B. The new road was designed to the Resources Regulator guidelines and risk assessed before construction commenced









## **Metromix Teralba**

MAXAM-Maitland

19/11/2020

### **Blast – 2018 Ramp**





- Stripping campaign was put out to tender
- Awarded the contract in early October and stripping commenced in late November
- Stripping campaign concluded in early February with approximately 78,174t (48,859m<sup>3</sup>) of overburden removed
- First blast in Stage 1C was done in April 2021







# QUESTIONS?

