



Broken Head Quarry

Enforceable Undertaking Progress Report

Report #21 – September 2024

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1 Introduction

This Report is the regular report required to be given under clause 4.4(a) (“Reporting”) of the Enforceable Undertaking given by Leadshine Pty Limited on 20 August 2018 (“**Enforceable Undertaking**”). The Enforceable Undertaking commenced operation Tuesday 28 August 2018, the date of receipt of the withdrawal of the Order 15 issued by the Department of Planning and Environment.

This is the twenty first progress report under clause 4.4(a) of the Enforceable Undertaking. It relates to the period from Friday 17 April 2020 until 13 September 2024, updating from the status described in Report #20 for April 2020.

The report describes works undertaken on the following aspects:

- Planning for the undertaking of rehabilitation works;
- Landforming Works and Stormwater Management Works carried out since 17 April 2020;
- Vegetation Work carried out since 17 April 2020;
- Other rehabilitation related activities carried out since 17 April 2020, including water quality monitoring and status of Leadshine Pty Limited’s Environmental Protection Licence; and
- Status of works having regard to timetable of the Enforceable Undertaking.

The director of Leadshine Pty Limited (Stuart Dixon-Smith) attended at the Quarry on regular 3 monthly intervals to inspect for the purpose of this report and to provide instructions regarding activities to be carried out to complete the rehabilitation work required under the Enforceable Undertaking. Staff from the auditor (GeoLINK) attended the site on 15 September 2023 to undertake an update inspection and nominate any remaining works to be undertaken and provided a written report (the “**GeoLINK September 23 Report**”). Works required to be undertaken as nominated in that report have been progressively undertaken and all such works, except for final plantings, are complete as at the date of this report. Planting is expected to be completed by the end of September 2024.

2 Executive Summary

All landforming and vegetation works required under the Enforceable Undertaking have been completed for some time. Recently a number of maintenance type works have been required as the initial works settle in and are tested by various climate events. At present the landforming maintenance works have been undertaken. Revegetation of some landforming maintenance works, and infill planting to rectify poor survival rates of initial plantings remain to be performed. These planting are expected to be completed by early to mid-October.

A landslip event occurred on the Westside of the Quarry in the location east of PZW2 and the batters above the road to the east of PZW2 following extraordinary rainfall event requiring substantial civil works to reform the batters where the landslip occurred, as well as precautionary reforming of the batters to the north of the landslip area, which were demonstrating instability and risk of further landslip. These works required the rebuilding of the access way and reforming of the batters below the road to a shallower gradient to ensure long term stability of the access way. It should be noted that the landslip occurred in an area not required to be rehabilitated under the Enforceable Undertaking. Nevertheless Leadshine carried out a full repair of this area.

In addition, works to a number of the tracks and internal roads were required to prevent further erosion and repair scoured areas.

The landslip repair areas required replanting as well as a number of previously planted areas required infill planting to replace planting which had died since originally planted.

The GeoLINK September 23 Report which informed the works scope is attached as Annexure D.

In addition, after years of monitoring water and other environmental quality factors and determining that the Quarry is consistently performing within environmental standards, Leadshine Pty Limited reached agreement with the EPA for the surrender of Leadshine's environmental protection licence EPL 4860, including agreement to the final works to be undertaken to achieve EPA's consent to the EPL surrender. Those works were undertaken and reported to EPA and EPL 4860 was surrendered with effect from 30 June 2024. Leadshine Pty Limited will continue to monitor water quality for the medium term notwithstanding the surrender of EPL 4860.

3 Rehabilitation Planning

Forward planning of the finalisation of rehabilitation in accordance with the Enforceable Undertaking is now completed. However, following the inspection organised by Leadshine Pty Limited in September 2023, further planning was undertaken in late 2023 to implement the works required to satisfy the works outlined in the GeoLINK September 23 Report and contractors were engaged in March 2024 to carry out this work. The same contractors were engaged to undertake the works required by EPA to permit the surrender of EPL 4860.

4 Landforming Works and Stormwater Management Works Progress

Landforming works were informed by the GeoLINK September 23 Report. The GeoLINK September 23 Report required the following landforming works and stormwater management works to be undertaken:

- 1 Landslip restoration works in location east of PZW2 (see photo 4 in the GeoLINK September 23 Report);
- 2 Drainage works to former road located in location PZE12 (see photo 5 in the GeoLINK September 23 Report);
- 3 Installation of occasional whoa-boys on the road in location south of PZE5 (see photo 6 in the GeoLINK September 23 Report);
- 4 Installation of occasional whoa-boys on the road between locations of PZE4 and PZE5 (see photo 7 in the GeoLINK September 23 Report);
- 5 Installation of occasional whoa-boys on the road between locations of PZE2 and PZE3 (see photo 8 in the GeoLINK September 23 Report).

The approximate location of the required landforming works is shown below:



Figure 1 – Overview of works on Eastside



Figure 2 – Overview of works on Westside

Further detail on water quality is discussed in section 7.2.

4.1 Landslip restoration works in location east of PZW2

See photo 4 in the GeoLINK September 23 Report.

It is noted that the landslip occurred in an area not required to be rehabilitated under the Enforceable Undertaking. Nevertheless Leadshine carried out a full repair of this area.

In addition to photo 4 of the GeoLINK September 23 Report, the below aerial photo shows the landslip area in better detail:

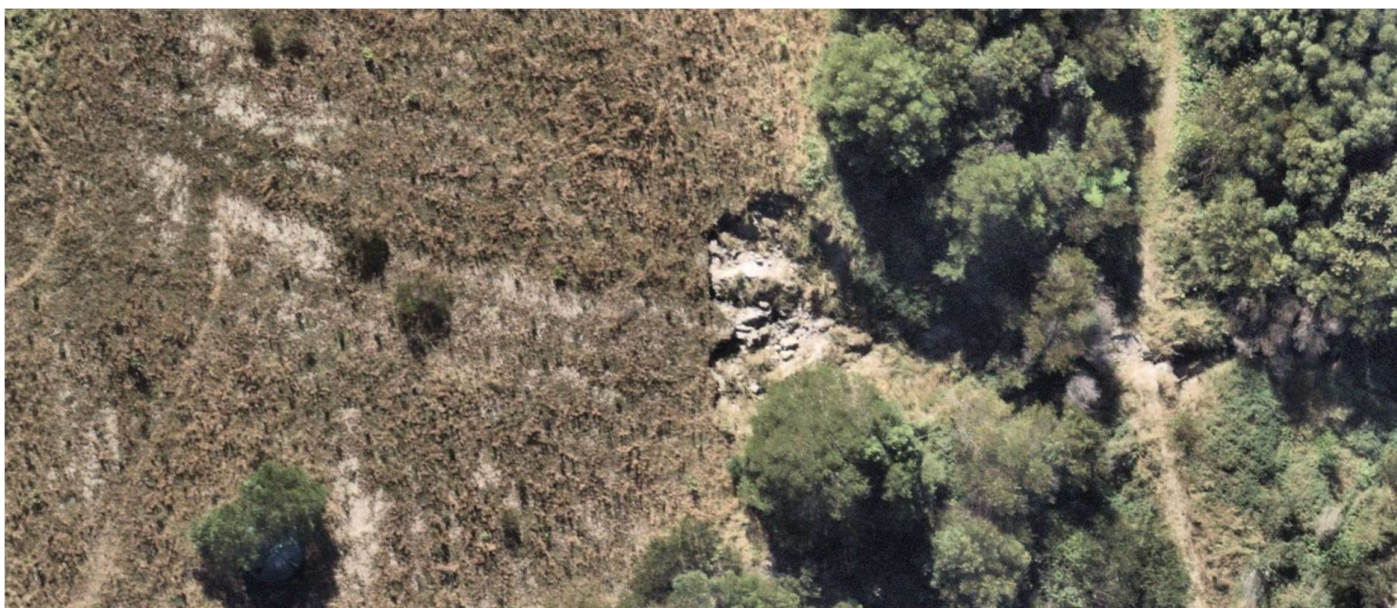


Figure 3 – Landslip Area (source – Nearmaps 14 May 2024)

On a close inspection with my earthworks contractor the beginning of the year, the landslip issue was worse than the area affected by the actual landslip, as follows:

- Firstly, the landslip spoil had overrun the road and destroyed vegetation below the road and deposited an amount of debris incompatible with final rehabilitation of the Quarry;
- the watercourse that resulted from the topographical changes arising from the landslip (fed by the runoff that contributed to the landslip occurrence) had (subsequent to the inspection) scoured the road (making it impassible to the top of the hill) and was eroding the downslope of the road; and

- it was clear that the battered slope above the road was unstable along the road alignment north of the landslide area, with a series of small slips and cracks appearing and toppling vegetation. To avoid a recurrence of the landslide, in addition to repair of the landslide area to create a more stable batter and drainage watercourse, the entire upper slope above the road north of the landslide location required to be reshaped consistent with the reshaping on the landslide area.

The scope of works to remediate the landslide this included:

- repair, reshaping and fill of the original landslide area, with a batter gradient of 1:3;
- repair of road and installation of a culvert under to manage the water in the new drain, cut, form and rockfill road edge drain leading to new drainage pit feeding new culvert;
- trapezoid drain, geofab lined and rock filled to manage runoff that caused the original landslide, down to a new drainage pit feeding new culvert;
- repair, reshaping and fill of the batters adjacent to the original landslide area to replicate the batter gradient and direct surface water to the head of the new drain;
- removal of landslide debris, repair, reshaping and reducing batter gradients downside of road, including to improve geotechnical stability of road;
- trapezoid drain, geofab lined and rock filled to manage runoff from culvert to existing northwest detention basin;
- hydromulch all exposed areas;
- shrub planting all exposed areas with approved species after hydromulch installed.

Initial preparation for these works started in late March and the works and hydromulching were completed on 22 July 2024. The following are some photos showing the works in various states of progress.



Picture 1 – original landslip location



Picture 2 – extended batter remediation uphill of landslip, road edge drain



Picture 3 – new drain to road



Picture 4 – new drain from culvert to detention basin



Picture 5 – reformed batter below road



Picture 6 – original landslide location after vegetation clearance prior to reforming batter

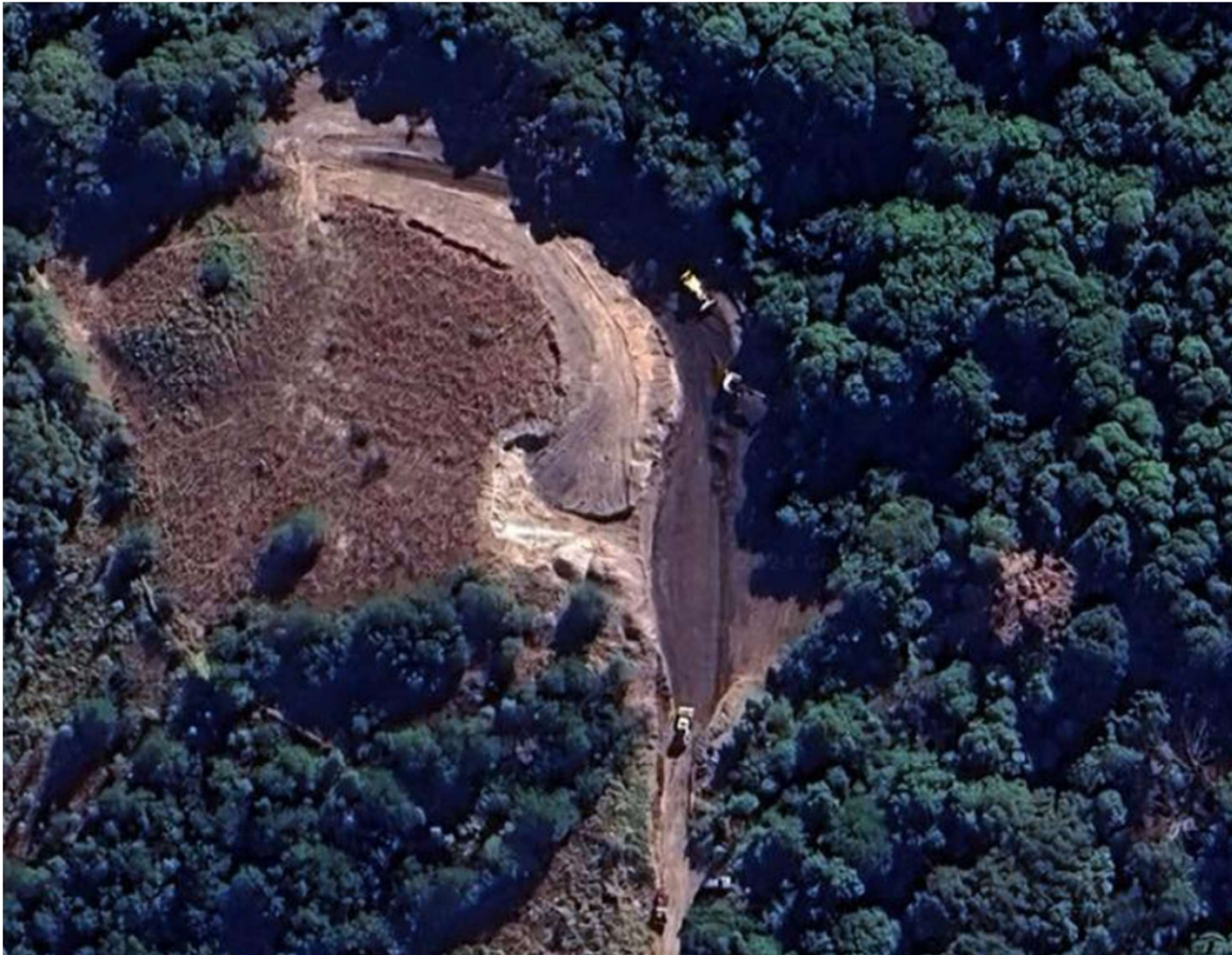


Figure 4 –Landslip Area works in progress (source – Google Maps June 2024)



Figure 5 – Reformed Landslip Area (source – Nearmaps 15 July 2024)



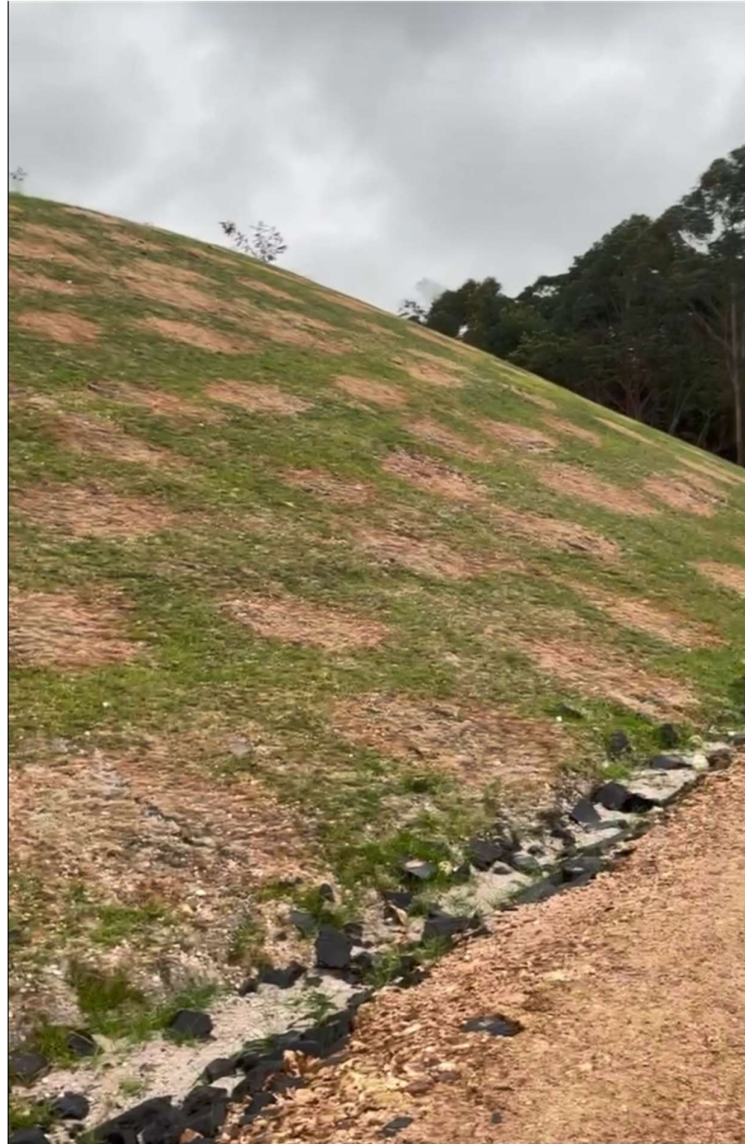
Pictures 7, 8 & 9 – Hydromulched batters 15 July 2024



Pictures 11 & 12 – Grass established 16 August 2024



Picture 13 – Grass established 16 August 2024



Picture 14 – Grass sprayed with weed killer in preparation for planting 12 September 2024

See section 5 further below regarding revegetation of these works.

4.2 Drainage works to former road located in location PZE12

See photo 5 in the GeoLINK September 23 Report.

These works have been undertaken by altering the former road to a rock lined drain, completed on 18 September 2024. The works involved:

- removing encroaching vegetation;
- reforming the road;
- creating a drainage pathway on the edge of the reformed road;
- creating additional drains from the road above to improve drainage of that road and use the new drainage pathway to manage that runoff.



Picture 15 – Reformed road and new drain

4.3 Installation of occasional whoa-boys on the road in location south of PZE5

See photo 6 in the GeoLINK September 23 Report.

A number of woah-boys were installed and the road surface repaired.



Picture 16 – Woah-boy and repaired road



Picture 17 – Woah-boy and repaired road



Picture 18 – Woah-boy and repaired road



Picture 19 – Woah-boy and repaired road



Picture 20 – Woah-boy and repaired road



Picture 21 – Woah-boy and repaired road

4.4 Installation of occasional whoa-boys on the road between locations of PZE4 and PZE5

See photo 7 in the GeoLINK September 23 Report.

A number of woah-boys were installed and the road surface repaired.



Picture 22 – Woah-boy and repaired road



Picture 23 – Woah-boy and repaired road

4.5 Installation of occasional whoa-boys on the road between locations of PZE2 and PZE3

See photo 8 in the GeoLINK September 23 Report.

A number of woah-boys were installed and the road surface repaired.



Picture 24 – Woah-boy and repaired road



Picture 25 – Woah-boy and repaired road



Picture 26 – Woah-boy and repaired road



Picture 27 – Woah-boy and repaired road



Picture 28 – Woah-boy and repaired road



Picture 29 –Repaired road



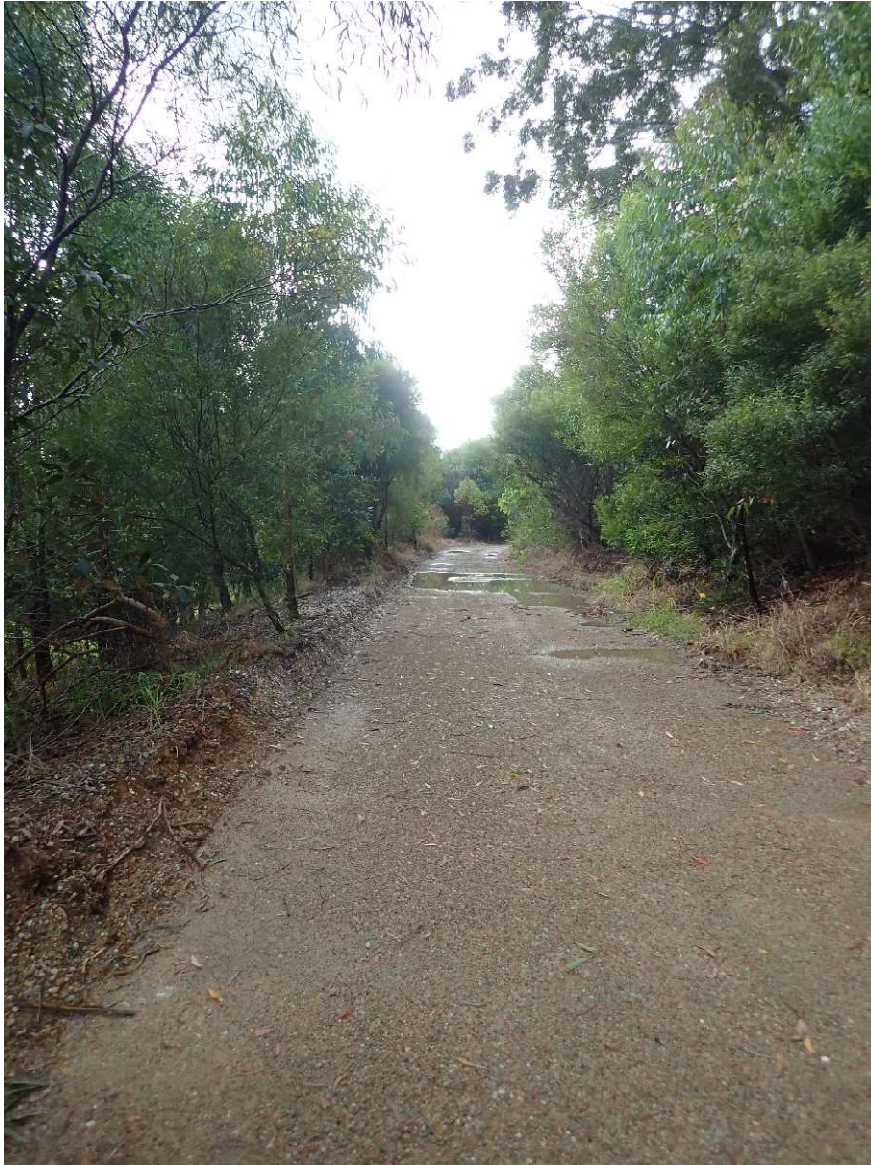
Picture 30 –Repaired road

4.6 Discretionary works

In addition to the works required to be undertaken under the GeoLINK September 23 Report, three further items were carried out to improve road access, slope stability and drainage, comprising:

(a) Resurfacing of upper haul road on Westside.

These works are shown in purple in Figure 3. The upper portion of this road is relatively flat, constructed from sand and drains poorly and becomes sodden and hard to navigate in wet weather. The road was resurfaced with road base.

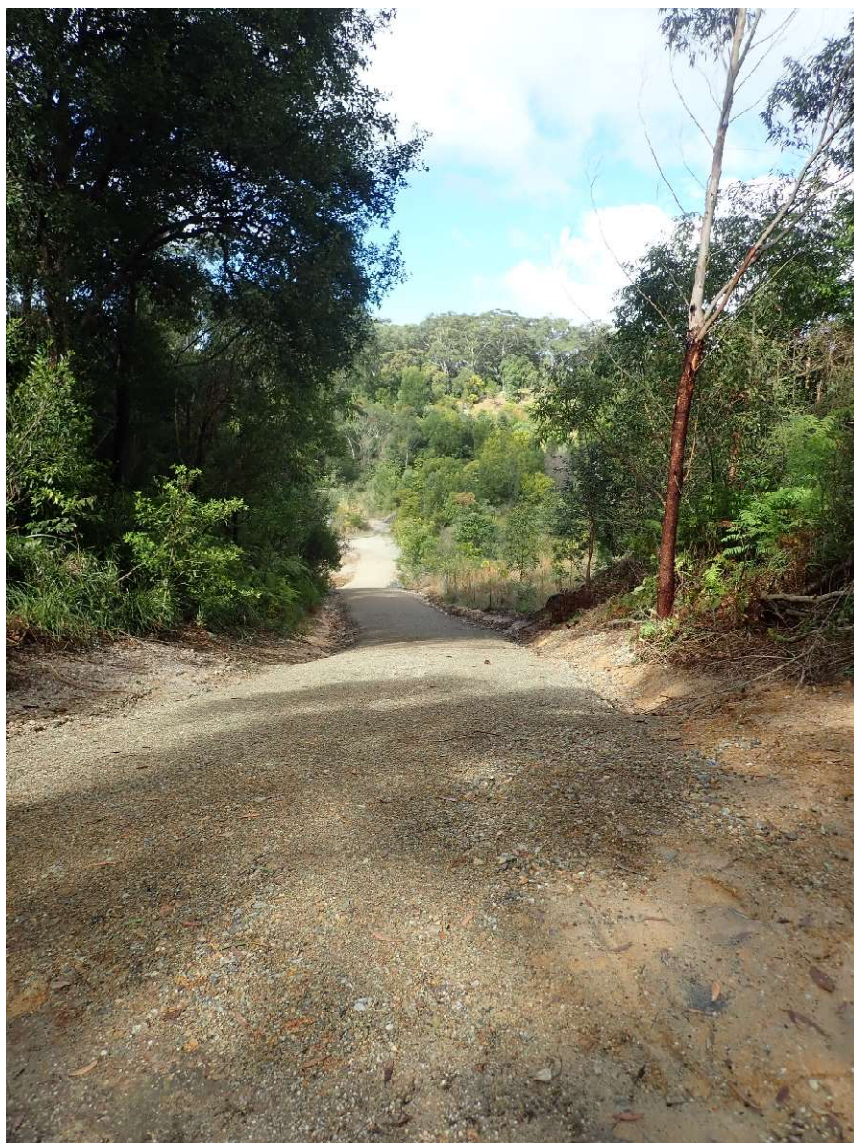


Picture 31 (looking south) & 32 (looking north) – Repaired road

(b) Repair of road and drainage separating dams on Eastside

These works are shown in purple in Figure 2. The spillway from the upper dam formerly discharged to the lower dam via drainage lines underneath the road. These drains were blocked and the entry and exit points overgrown, preventing water from travelling under the road surface. This resulted in silting of the road making it un-trafficable, as well as causing water to collect beside the road. In addition, the steeper portion of the road to the west has suffered scour.

Repairs to rectify these issues were undertaken and drains added to the edge of the road.



Picture 33 (looking down road) & 34 (looking up road) – Repaired road and edge drain



Picture 35 - Repaired under road drains and road surface

(c) Repairs to entry road to Eastside

These works are shown in purple in Figure 2. This road has suffered scour at the southern edge and repairs to this edge and improved drainage were undertaken.

4.7 Costs incurred

The cost of these works has been substantial, with over \$170,000 invoiced already.

5 Vegetation Works Progress

Four revegetation tasks are required:

- (a) Revegetation of landforming works related to landslip on the Westside.
- (b) Infill planting in area PZW10 resulting from poor survival of previous plantings (photo 1 in the GeoLINK September 23 Report);
- (c) Infill planting in area PZW22 resulting from poor survival of previous plantings (photo 2 in the GeoLINK September 23 Report);
- (d) Repair of vegetation impacted by geotechnical survey works in various parts of the Westside, mainly in areas PZW4.

Plants are now available and planting is due to commence in the week ended 27 September and be completed in the following week, subject to weather conditions.

6 Status of works having regard to timetable of the Enforceable Undertaking

6.1 Overview

All landforming and vegetation works required under the Enforceable Undertaking have been completed for some time. Recently a number of maintenance type works have been required as the initial works settle in and are tested by various climate events. At present the landforming maintenance works have been undertaken. Revegetation of some landforming maintenance works, and infill planting to rectify poor survival rates of initial plantings remain to be performed. These planting are expected to be completed by early to mid-October.

6.2 March 2019 works obligation

The following table notes the landforming and drainage works required to be undertaken by 31 March 2019 under clauses 4.1(a) and (b), 4.2(a) and (b) and Annexure 7 of the Undertaking, by reference to the 14 areas identified in Annexure 1 and Annexure 2 of the Enforceable Undertaking:

Undertaking Area	Works description for works required by 31 March 2019	Status
1	Regrade road and eastern batter	Complete
2	Relocate fire access trails, regrade batter and scour and topsoil	Complete
3	If significant erosion occurs, fill rills	No significant erosion has occurred, no action required.
4	Regrade batter	Complete
5	Reprofile where access is possible	Complete
6	Reshape drain	Complete
7	Reconstruct rock check dams and remove accumulated sediment	Complete
8	Reconstruct road and gutter drainage and connect to Area 10	Complete
9	Reprofile where vegetation not established	Complete
10	Construct rock-lined chute and connect to Area 11	Complete
11	Form drain and line	Complete
12	Reprofile southern batter of Central Dam	Complete
13	Construct spillway to cater for 1 in 100 year flows	Complete
14	Reprofile channel where required	Complete

6.3 April 2019 grass sowing obligation

The following table notes the revegetation works required to be undertaken by 30 April 2019 under clauses 4.1(c), 4.2(c) and Annexure 7 of the Undertaking, by reference to the planting areas identified in Annexure A and Annexure B of this report:

Planting Zones	Status
PZE1	Complete
PZE2	Complete
PZE3	Complete
PZE4	Complete
PZE5	Complete
PZE6	Complete
PZE7	Complete
PZE8	Complete
PZE9	Complete
PZE10	Complete
PZE11	Complete
PZE12	Complete
PZE13	Complete
PZE14	Complete
PZE15	Complete
PZE16	Complete
PZE17	Complete
PZW1	Complete

Planting Zones	Status
PZW2	Complete
PZW3	Complete
PZW4	Complete
PZW5	Complete
PZW6	Complete
PZW7	Complete
PZW8	Complete
PZW9	Complete (except for wetland area where not applicable)
PZW10	Complete
PZW11	Complete
PZW12	Complete
PZW13	Complete
PZW14	Complete
PZW15	Complete
PZW16	Not applicable – wetland area
PZW17	Complete
PZW18	Complete
PZW19	Complete
PZW20	Complete
PZW21	Complete.

Planting Zones	Status
PZW22	Complete.
PZW23	Complete
PZW24	Complete
PZW25	Complete
PZW26	Complete

6.4 June 2019 vegetation works obligation

The following table notes the revegetation works required to be undertaken by 30 June 2019 under clauses 4.1(d) and (e), 4.2(d), (e) and (f) and Annexure 7 of the Undertaking, by reference to planting areas identified in Annexure A and Annexure B of this report:

Planting Zones	Status
PZE1	Complete
PZE2	Complete. Planting of repaired landslip area to be undertaken shortly
PZE3	Not included in areas to be planted
PZE4	Complete
PZE5	Complete
PZE6	Complete
PZE7	Complete
PZE8	Complete
PZE9	Complete
PZE10	Complete
PZE11	Complete

Planting Zones	Status
PZE12	Complete
PZE13	Complete
PZE14	Complete
PZE15	Complete
PZE16	Complete
PZE17	Complete
PZW1	Complete
PZW2	Complete
PZW3	Complete
PZW4	Complete
PZW5	Complete
PZW6	Complete
PZW7	Complete
PZW8	Complete
PZW9	Complete
PZW10	Complete. Infill planting to be undertaken shortly for areas of poor survival rates
PZW11	Complete
PZW12	Complete
PZW13	Complete

Planting Zones	Status
PZW14	Complete
PZW15	Complete
PZW16	Complete
PZW17	Complete
PZW18	Complete
PZW19	Complete
PZW20	Complete
PZW21	Complete
PZW22	Complete. Infill planting to be undertaken shortly for areas of poor survival rates
PZW23	Complete
PZW24	Complete
PZW25	Complete
PZW26	Complete

6.5 Audit

The remaining vegetation works described in this report are the only remaining works to be undertaken before audit sign-off can be given.

Arrangements for an audit inspection in mid-October for this purpose have been made.

Due to retirements new staff at GeoLINK have been identified to complete the audit. CVs have been provided to the Department for approval, but Declarations of Independence are still outstanding. The final audit signoff cannot be given until these replacements are approved by the Secretary of the Department.

7 Other Matters

7.1 Works status

The works undertaken during the month are detailed in the table attached to Annexure A and Annexure B, which Annexures are kept constantly up to date and each monthly change is shown in tracked text in the Annexure.

7.2 Water quality monitoring

Since the beginning of April 2019, Leadshine has undertaken voluntary monthly water quality testing of the waterbodies on BHQ to establish a "background" water quality baseline. This was considered beneficial since water quality testing is normally only undertaken after a significant rainfall event where the water stored in the waterbody might require treatment and discharge, such tests not being representative of the normal day to day water quality.

Initially the testing program was restricted to the Eastside waterbodies. As the testing progressed and the results were better than expected, the program was expanded to take in all waterbodies within BHQ, whether regulated by the BHQ EPL or not.

A copy of the most recently received report is attached as Annexure C. This report demonstrates that the works undertaken by Leadshine at BHQ are having the desired erosion and sediment control outcomes, and essentially have been since April 2019, if not before.

7.3 Surrender of Environmental Protection Licence 4860

Leadshine Pty Limited has been in correspondence with the EPA over the last 9 months with a view to the surrender of EPL 4860, which both EPA and Leadshine Pty Limited wished to implement.

After years of monitoring water and other environmental quality factors and determining that the Quarry is consistently performing within environmental standards, Leadshine Pty Limited considered it appropriate that EPLK 4860 could be surrendered because the Quarry no longer requires the EPL to authorise any pollution emanating from the Quarry. Leadshine reached agreement with the EPA for the surrender of Leadshine's environmental protection licence EPL 4860, including agreement to the final works to be undertaken to achieve EPA's consent to the EPL surrender. The authority to surrender the licence was issued on 1 May 2024 and a copy is attached in Annexure E. A supporting report was provided by ENV Solutions, Leadshine's water quality contractor, a copy is also attached in Annexure E.

The works (except for the diesel tank removal) were undertaken and reported to EPA on 17 June 2024. The diesel tank removal occurred on 29 June 2024 and the remaining annual reports were submitted by 30 June 2024. In accordance with the approval of the surrender of licence no. 4860, EPL 4860 was surrendered with effect from 30 June 2024. Leadshine Pty Limited will continue to monitor water quality for the medium term notwithstanding the surrender of EPL 4860.

Although not covered in the surrender conditions, the chemical dosing plant that has serviced the process pond on the Westside for many years has been decommissioned and removed from site.

8 Glossary, Definitions and Locations of Features

8.1 Features at Broken Head Quarry

The following plan identifies key areas at Broken Head Quarry and names used to define those areas in this and other Reports.



Figure 1 – Plan of major features of Broken Head Quarry

The following waterbodies are contained at Broken Head Quarry:

- Sediment Pond No. 2 – this is the lower dam on the East Pit which has formed part of the Quarry for most of its operation.
- Sediment Pond No. 1 – this is the upper dam on the East Pit, constructed in 2014 with dam wall alterations undertaken in 2017.
- North No 1 Sediment Pond – this is the small pond on the West Pit at the north eastern edge of the limit of extraction.
- Central Dam – this is the pond in the centre of the West Pit which collects stormwater runoff from most of the West Pit and feeds the cut off drain. It is referred to as Sediment Basin 3 (P#) in the water quality monitoring reports.
- Process Pond – this is the main working waterbody for the Quarry, located north of the Maintenance Sheds on the West Pit. It supplied water for the sand and gravel washing plant.
- Upper Lilypond – This is a dam on the edge of the West Pit which collects natural waterflows from west and north of the Quarry and overflows from the Process Pond.
- Lower Lilypond – This is a dam on the edge of the West Pit which is downstream of the Upper Lilypond and collects natural waterflows from the Upper Lilypond.

8.2 Other Defined Terms

Broken Head Quarry means the former sand and gravel quarry operated on the land comprised in the Eastside Land and the Westside Land and consists of the following parcels of land:

- Lot 2, Deposited Plan (“DP”) 700806;
- Lot 1, DP 123302;
- Lot 1, DP 184443;
- Lot 1, DP 245836;
- Lot 1, DP 245605; and
- Auto Consol 12993-34.

Department means the NSW Department of Planning and Environment.

Eastside Land means the land comprised in titles:

- Lot 1, DP 184443;
- Auto Consol 12993-34; and
- Lot 1, DP 245605.

Enforceable Undertaking means the enforceable undertaking given by Leadshine to the Department dated 20 August 2018 accepted by the Secretary of the Department on 27 August 2018.

EPL 4860 means the Environmental Protection Licence (No 4860) issued to Leadshine by the Environmental Protection Authority relating to Broken Head Quarry.

Leadshine means Leadshine Pty Limited (ABN 21 102 229 943).

Order means the Order 15 order issued by the Department to Leadshine under section 121B of the *Environment Planning and Assessment Act 1979* on 11 August 2017.

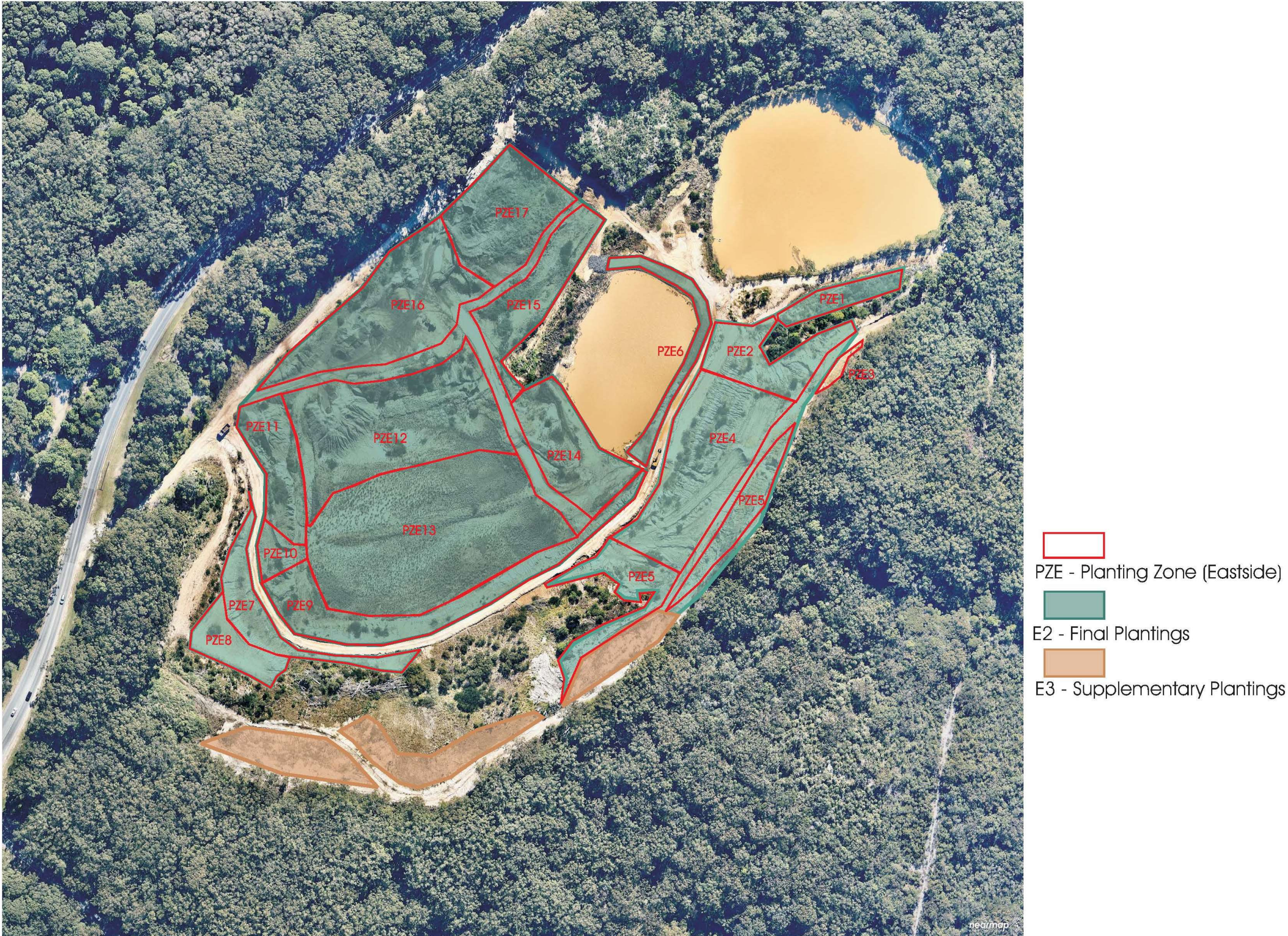
Rehabilitation Works Plans and Specifications means the plans and notes in in Appendix 1 and Appendix 2 of the Enforceable Undertaking.

Westside Land means the land comprised in titles:

- Lot 1, DP 123302;
- Lot 1, DP 245836; and
- Lot 2, DP 700806.

Terms defined in the Enforceable Undertaking and not defined in this Report have the same meaning as defined in the Enforceable Undertaking.

Annexure A Eastside Sectors



Eastside Rehabilitation Zones

Zone	Description	Status	Activity in October-November from 17 April 2019 20 to 20 September 2024 and Future Plans
PZE1	North Facing Batter below future fire trail	Well vegetated with established semi mature vegetation. Unlikely any further vegetation will be required	
PZE2	Batter below future fire trail. Comprises part of Area 1 in the Rehabilitation Works Plans and Specifications	<p>Future fire trail to be re-landformed to reduce slope of batter. Area was hydromulched in January 2018 and contains some areas with semi mature regenerated plants. However, large areas are bare soil due to landforming works.</p> <p>Once fire trail is re-landformed batter to be hydromulched and planted with shrubs selected by Mark Free.</p> <p>Rehabilitation Works Plans and Specifications requires the following action: “REGRADE AREA TO LOWER TRACK ELEVATION TO MATCH GRADES TO SOUTH EAST. TRACK TO BE PROFILED WITH SINGLE CROSS FALL SOUTH EAST DISCHARGING TO EXISTING VEGETATED SLOPES. WHERE OUTFALL IS NOT POSSIBLE MITRE DRAINS TO BE PROVIDED AT 20 M INTERVALS.</p> <p>UNVEGETATED PORTIONS OF BATTER TO THE NORTH WEST OF TRACK TO BE REGRADE TO PROVIDE MAXIMUM 50% GRADE. BATTER TO BE TRACK ROLLED, TOPSOILED THEN REVEGETATED WITH SHORT TERM COVER CROP. FINAL REHABILITATION BY PLANTING WITH APPROVED SPECIES.”</p> <p>Landforming works were undertaken during September 2018 in accordance with the Rehabilitation Works Plans and Specifications.</p> <p>Topsoil emplaced in October 2018 and planting undertaken in early November 2018.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p> <p>Infill planting undertaken in late April 2020.</p>	Constructed occasional woah-boy and repaired road
PZE3	East side of future fire trail. Comprises part of Area 1 in the Rehabilitation Works Plans and Specifications	<p>Area outside of areas to be revegetated under Enforceable Undertaking. However, this area will be impacted by the re-landforming of the fire trail. Following fire trail re-landforming it is expected this will need some revegetation.</p> <p>Once fire trail is re-landformed batter to be planted with shrubs selected by Mark Free.</p> <p>Landforming works were undertaken during September 2018 in accordance with Rehabilitation Works Plans and Specifications.</p> <p>Further rectification works undertaken in February 2019 as instructed by Martens & Associates to ensure compliance with Rehabilitation Works Plans and Specifications.</p> <p>Planting commenced in 3rd Quarter 2019 but was disturbed by trespasser in car which had to be retrieved and land reformed ready for planting.</p> <p>Infill planting undertaken in late April 2020.</p>	Constructed occasional woah-boy and repaired road
PZE4	Lower west facing batter above Sediment Pond No 1	<p>Area landformed and hydromulched in January 2018. Grass well established with some native plants self-generating.</p> <p>Minor alteration to location of road, relocating the lower access trail further west to allow for reduction of batter in area PZE5 Upper was undertaken</p>	Constructed occasional woah-boy and repaired road

Zone	Description	Status	Activity in-October-November from 17 April 2019 20 to 20 September 2024 and Future Plans
		<p>during September 2018 in accordance with Rehabilitation Works Plans and Specifications.</p> <p>Initial stages or shrub plantings undertaken in early November 2018.</p> <p>Minor additional grassing to be undertaken at edges of reformed road.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZE5 (upper portion)	Upper west facing batter above Sediment Pond No 1. Comprises Area 2 in the Rehabilitation Works Plans and Specifications	<p>Area landformed to remove eroded slope and rilling in March/April 2018. Enforceable Undertaking requires area to be re-landformed to reduce batter and then revegetated.</p> <p>Once the batter is reformed to a reduced gradient area to be hydromulched (if required) and planted with shrubs selected by Mark Free.</p> <p>Rehabilitation Works Plans and Specifications requires the following action:</p> <p>REGRADE BATTER FROM LOWER TRACK TO PROVIDE MAXIMUM 50% GRADE. UPPER TRACK WIDTH TO BE ADJUSTED TO SUIT. UPPER TRACK SINGLE CROSS FALL TO SOUTH EAST TO BE MAINTAINED WITH DISCHARGE TO MITRE DRAIN AT NORTH EASTERN END OF AREA.</p> <p>LOWER TRACK TO BE REPROFILED WITH OUTFALL DRAINAGE TO REVEGETATED SLOPE TO WEST.</p> <p>Landforming works were undertaken during September 2018 in accordance with the Rehabilitation Works Plans and Specifications.</p> <p>Planting undertaken in November 2018.</p> <p>Planting now completed. Some bare patches of soil exist where grass has not taken. Further monitoring required.</p>	Constructed occasional wash-way and repaired road
PZE5 (lower portion)	Southern batter facing west above Sediment Pond No 1.	<p>Site of new drain and reformed batters where topsoil store previously located, fringed by vegetated and rehabilitated areas.</p> <p>Topsoil store removed and area re-landformed and drain constructed in August 2018. Seeded topsoil spread in August 2018.</p> <p>Planting undertaken in November 2018.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZE6	Dam wall and edges to Sediment Pond No 1	<p>No landforming works required. Large culvert from PZE5 (lower portion) drain to Sediment Pond No 1 discharges to a highly eroded bank. Downstream area to be concrete filled to prevent further erosion.</p> <p>Revegetation required.</p> <p>Dam wall to be topsoiled as required to support selected plantings. Area to be planted with grasses and other vegetation selected by Mark Free.</p> <p>Planting undertaken in November 2018.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	Repaired road, cleared drain and created drain

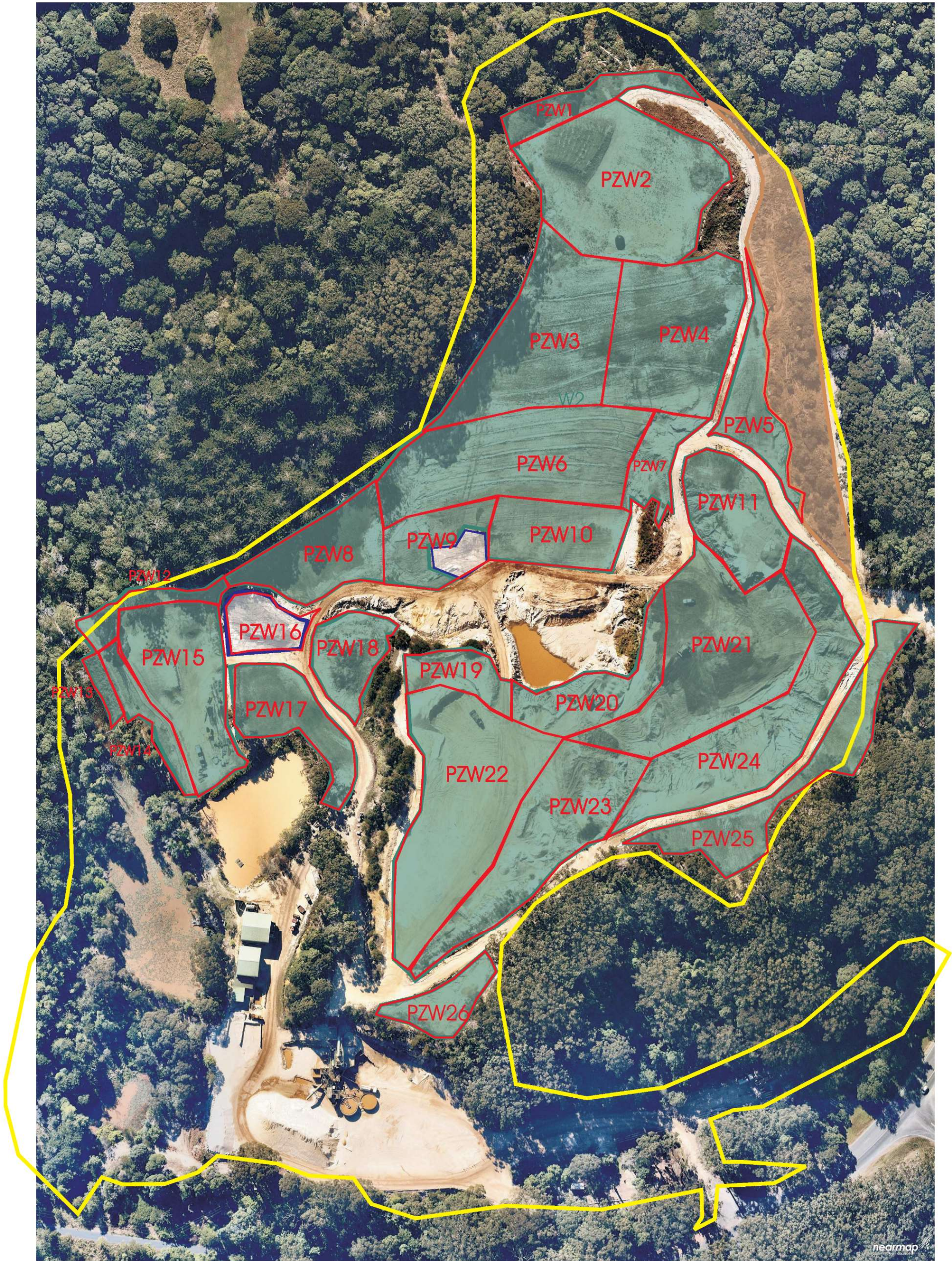
Zone	Description	Status	Activity in-October-November from 17 April 2019 20 to 20 September 2024 and Future Plans
PZE7	Batter below level pad. Comprises Area 5b in the Rehabilitation Works Plans and Specifications	<p>Steeper batter showing some signs of rilling and erosion, but with a scattering of well-established shrubs. Hydromulched in January 2018 with limited grass cover established from that exercise.</p> <p>Bund to be constructed to stop water flowing from level pad PZE8 above. Erosion rills to be filled with seeded topsoil and plantings undertaken to assist in stabilising slope.</p> <p>Rehabilitation Works Plans and Specifications requires the following action: WHERE VEGETATION HAS NOT ESTABLISHED AND WHERE SURFACE RILLS HAVE FORMED REPROFILE WITH TOOTHED EXCAVATOR BUCKET {ACCESS FROM ROADWAY ABOVE OR ON SLOPE WHERE POSSIBLE). APPLY TOPSOIL THEN PROVIDE SHORT TERM COVER CROP. FINAL REHABILITATION BY PLANTING WITH APPROVED SPECIES.</p> <p>Bund established during September 2018.</p> <p>Half of the eroded area successfully re-topsoiled during September 2018.</p> <p>Further topsoil emplacement, scouring with excavator bucket teeth and shrub plantings carried out in February 2019.</p> <p>Further grassing of bare patches undertaken in April 2019.</p>	
PZE8	Level Pad	<p>Landform finished except bund described in PZE7. Seeded in November 2017 and Hydromulched in January 2018.</p> <p>Bund to be constructed to stop water flowing to batter in PZE7 below. Area to be planted with shrubs selected by Mark Free.</p> <p>Bund established during September 2018.</p> <p>Bare patches re-topsoiled and grass seeded in April 2019.</p> <p>Shrub plantings completed in April 2020.</p>	
PZE9	Batter below access trail to settlement areas. Comprises Area 5a in the Rehabilitation Works Plans and Specifications	<p>Hydromulched in January 2018 with very limited success. Scattered shrubs developed in clusters.</p> <p>Rehabilitation Works Plans and Specifications requires the following action: WHERE VEGETATION HAS NOT ESTABLISHED AND WHERE SURFACE RILLS HAVE FORMED REPROFILE WITH TOOTHED EXCAVATOR BUCKET {ACCESS FROM ROADWAY ABOVE OR ON SLOPE WHERE POSSIBLE). APPLY TOPSOIL THEN PROVIDE SHORT TERM COVER CROP. FINAL REHABILITATION BY PLANTING WITH APPROVED SPECIES.</p> <p>Drain concreting undertaken in November 2018.</p> <p>Trial emplacement of seeded topsoil from road above undertaken during September 2018 which appears to have been successful.</p> <p>Major drain from Sediment Pond No 1 perimeter road to Sediment Pond No 1 was rebuilt as a rock-lined chute in February 2019.</p> <p>Further seeded topsoil to be emplaced where possible in 1st Half 2019.</p> <p>Areas now topsoiled and grassed planted in 4th Quarter 2019.</p> <p>Access platform constructed over August, September and October 2019. Areas which were then then be accessed were topsoiled, grassed and planted in October and November 2019.</p> <p>Infill planting undertaken in April 2020.</p>	

Zone	Description	Status	Activity in-October-November from 17 April 2019 20 to 20 September 2024 and Future Plans
PZE10	Site of concrete pipe drain from above.	<p>Highly eroded and disturbed area.</p> <p>Rehabilitation of highly eroded batter and new drain to be installed, and then hydromulched and revegetated.</p> <p>Area filled with fill sand and seeded topsoil during September 2018.</p> <p>Concrete canvas drain installed to take discharge from concrete pipe in September 2018. Drain across access trail rocked in November 2018. Minor repairs and bunding of new drain to be undertaken before hydromulching and planting.</p> <p>Blocking vegetation removed and bunding and fill added to drain to prevent edge erosion and improve performance undertaken in February 2019.</p> <p>Further minor repairs and regressing undertaken in April 2019.</p> <p>Infill planting undertaken in April 2020.</p>	
PZE11	Batter area. Comprises Area 4 in the Rehabilitation Works Plans and Specifications	<p>Partially completed batter, awaiting further fill material and topsoil.</p> <p>Rehabilitation Works Plans and Specifications requires the following action:</p> <p>EXTEND BATTER WEST AND SOUTH TO PROVIDE MAXIMUM 50% BATTER SLOPES DOWN FROM ROAD. BATTER TO BE TRACK ROLLED, TOPSOILED THEN REVEGETATED WITH SHORT TERM COVER CROP. FINAL REHABILITATION BY PLANTING WITH APPROVED SPECIES.</p> <p>Further fill emplacement undertaken and seeded topsoil spread during September 2018.</p> <p>Part of PZE12 planting extended into the northeast sector of PZE11 during the November planting campaign.</p> <p>Further fill emplacement and completion of batter undertaken in February 2019.</p> <p>Hand seeding of grass on bare patches and infill planting of shrubs carried out in April 2019.</p> <p>Area planted with shrubs in October and November 2019.</p> <p>Infill planting undertaken in April 2020.</p>	Repaired road and constructed drain
PZE12	South East facing batter	<p>Landforming works complete and finished with seeded topsoil. Grass has germinated and beginning to establish.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p> <p>Area planted in November 2018.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p> <p>Infill planting undertaken in April 2020.</p>	
PZE13	Settlement area	<p>Boggy and very wet flat area. Sedge grass and other suitable species have been established and are being monitored.</p> <p>Planting of shrubs considered difficult if not impossible due to dangerous ground conditions meaning access for planting is unsafe.</p> <p>Trial plantings conducted in November 2018 will be monitored, together with ground water conditions to establish if further plantings in PZE13 are possible or necessary.</p> <p>Finalisation and planting out of platform completed in April 2020.</p>	

Zone	Description	Status	Activity in-October-November from 17 April 2019 20 to 20 September 2024 and Future Plans
		<p>Drainage boxes were altered during September 2018 in an attempt to lower the water level within the settlement area to see if water can be better drained to improve access conditions. Subject to ongoing monitoring.</p> <p>Trial plantings conducted in November 2018.</p> <p>Access platform for PZE9 was constructed on PZE13 as permitted under Enforceable Undertaking. Adequate access to all required parts of PZE9 was achieved in November.</p>	
PZE14	Upper reaches of Sediment Pond No 1	<p>Comprises plume from settlement area PZE13 and runoff from road. Grasses slowly establishing themselves and small shrubs and sedge clumps establishing.</p> <p>Area to be planted with grasses and shrubs selected by Mark Free.</p> <p>Road to be stabilised and performing satisfactorily.</p> <p>After consideration it was decided to supplement the PZE14 plantings with further plants, planted in late April 2020.</p>	
PZE15	East facing batter. Comprises Area 3 in the Rehabilitation Works Plans and Specifications	<p>Batter was landformed and topsoiled with seeded topsoil in late 2017. Small patches of un-topsoiled area remain where no vegetation exists, although these are not eroding. Shrubs have established well at the boundary with Sediment Pond No 1.</p> <p>Area to be planted with shrubs selected by Mark Free.</p> <p>Rehabilitation Works Plans and Specifications requires the following action: ESTABLISHMENT OF VEGETATION TO BE MONITORED. WHERE VEGETATION ESTABLISHMENT IS INADEQUATE FURTHER SEEDING, HYDROMULCHING OR PLANTING TO BE UNDERTAKEN. WHERE SIGNIFICANT EROSION OCCURS (RILLS> 300 MM) FURTHER TOPSOILING, REPROFILING OR RIPPING WITH ADDITIONAL REVEGETATION WORKS TO ACHIEVE LONG TERM STABLE AND VEGETATED BATTER.</p> <p>Inspection reveals no significant rilling or erosion and grass and low profile vegetation has taken well without any need for further topsoil or grassing. Timing of shrub plantings not yet determined, likely to be mid 2019.</p> <p>Infill planting carried out in April 2020.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	Repaired road, cleared drain and created drain
PZE16	Flat pad former stockpile area	<p>Stockpiles have all been removed during August 2018 and September 2018 except for topsoil awaiting emplacement in areas PZE7 through PZE12 inclusive.</p> <p>Area ripped, topsoiled and seeded in November 2019 and partially planted.</p> <p>Remaining vegetation planted in April 2020.</p>	Repaired road and constructed drain
PZE17	Existing topsoil stockpile	<p>Stockpile remains and occasionally is accessed to remove and screen topsoil for use in rehabilitation.</p> <p>Screening plant has been removed to Westside stockpile area.</p> <p>Topsoil stockpile removed and reformed in November 2019 topsoiled and seeded.</p> <p>Vegetation planted in April 2020.</p>	Repaired road, cleared drain and created drain

Zone	Description	Status	Activity in-October-November from 17 April 2019 20 to 20 September 2024 and Future Plans
"Stony Hillside"	Area identified as "stony hillside" in Mark Free monitoring report August 2018. Not shown in the plan above.	<p>Mark Free Report identifies "Plantings on the stony hillside continue to develop slowly and there is some leaf litter buildup. Although there is little natural recruitment in these difficult conditions, a number of planted trees are very well established with Blackbutt, Turpentine, Coast banksia and Blackwood wattle forming an open canopy. Conditions will improve as leaf litter and organic material continues to build up.</p> <p>It has been decided to intervene to rehabilitate this area more quickly, and to introduce some topsoil, mulch and plant suitable species to complete the rehabilitation of area RE1 as identified in Mark Free's reports. This work was undertaken in November 2018. Work has been undertaken in a manner that preserves access to the spillway for inspection, water sampling and maintenance.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	

Annexure B Westside Sectors



AREA W2 - Final Plantings



AREA W3- Planting Inventory



PZW - Planting Zone (Westside)

Westside Rehabilitation Zones

Zone	Description	Status	Activity in October – November from 17 April 2019 20 to 20 September 2024 and Future Plans
PZW1	Northern batter of western top pad	Well vegetated and not requiring further work. To be monitored.	
PZW2	Western top pad	Topsoiled and hydromulched in January 2018. Contains topsoil store. Topsoil store removed works completed in September and October 2019. Shrub planting completed in April 2020.	Landslip and road repairs undertaken in June and July 2024. Cleared area hydromulched on 15 July 2024. Hydromulched grass sprayed in preparation for planting in early September 2024 Plantings expected to be undertaken in late September and early October 2024.
PZW3	South facing batter in lowland rainforest rehabilitation area. Contains Areas 6 and 7 in Rehabilitation Works Plans and Specifications	Topsoiled and successfully hydromulched in January 2018. Drain rehabilitation work undertaken in March 2019. Bare patches re-topsoiled and grass seeded in April 2019.	
PZW4	Upper south facing batter in blackbutt rehabilitation area. Contains Areas 9, 10 and part 11 in Rehabilitation Works Plans and Specifications	Topsoiled and successfully hydromulched in January 2018. Drain rehabilitation work undertaken in March 2019. Bare patches re-topsoiled and grass seeded in April 2019.	
PZW5	Upper south east facing batter and flat area in above Area W3	Hydromulched in January 2018. Grass establishment patchy. Minor road realignment and profiling to undertaken in March 2019 to eliminate need for eastern drain, followed by topsoil application and hydromulching. Drain works on western side of access road work undertaken in March 2019.	
PZW6	Lower south facing batter	Topsoiled and successfully hydromulched in January 2018. Drain rehabilitation work undertaken in 1 st Quarter 2019. Bare patches re-topsoiled and grass seeded in April 2019. Lower reaches comprising macrophyte planting zone and surrounding areas have been planted out in August 2019. Monitoring and maintenance are ongoing. Planting now completed and no further work considered to be required except for monitoring and maintenance. Infill planting undertaken in late April 2020.	
PZW7	Lower south east facing batter and drain location. Contains part Area 11 in Rehabilitation Works Plans and Specifications	Hydromulched in January 2018. Grass establishment patchy. Drain rehabilitation works undertaken in September 2018. Further topsoil application undertaken in March 2019. Drain works on western side of access road undertaken in March 2019, with additional rock emplacement in March 2019. Infill planting undertaken in late April 2020.	
PZW8	Flat area in lowland rainforest rehabilitation area	Grassed previously and well established. Cut-off drain cleared in December 2018. Shrub planting undertaken in March 2019. Planting of cleared cut off drain expected to be undertaken in August 2019. Monitoring and maintenance are ongoing. Planting now completed and no further work considered to be required except for monitoring and maintenance.	

Zone	Description	Status	Activity in October – November from 17 April 2019 20 to 20 September 2024 and Future Plans
PZW9	Upper wetland area	<p>Initial establishment of wetland form undertaken in September 2018 and October 2018.</p> <p>Gradual establishment of new landform and wetland basin being undertaken, with progress work undertaken in November 2018 and December 2018.</p> <p>Wetland basin formed and wall, spillway and drain created in January 2019. Final works completed in March 2019.</p> <p>Shrub planting and wetland planting undertaken in June, July and August of 2019.</p> <p>Monitoring and maintenance are ongoing.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZW10	Flatlands and Central Dam bypass batter	<p>Previously used for storage and drying of Central Dam desilting materials. Materials removed in November 2018 and December 2018.</p> <p>Shrub planting and wetland planting undertaken in July 2019.</p> <p>Area topsoiled, grassed and planted in November 2019</p>	Infill plantings to replace losses from original planting to be undertaken in late September and early October 2024.
PZW11	North west sloping batter	<p>Landformed and topsoiled in September 2018.</p> <p>Final landform works undertaken in 1st Quarter 2019.</p> <p>Further drain installation, topsoil and grass seed installed in April 2019.</p> <p>Shrub planting carried out in November 2019.</p>	
PZW12	Former cut off drain area	<p>Vegetation well established.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZW13	Lilypond batter area	<p>Landform finalised.</p> <p>Shrub planting undertaken in March 2019</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZW14	Lilypond pad west of bund	<p>Landform finalised.</p> <p>Topsoil application and shrub planting undertaken in March 2019</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZW15	Lilypond pad east of bund	<p>Landform finalised</p> <p>Cut-off drain cleared in December 2018.</p> <p>Topsoil application and shrub planting undertaken between April 2019 and September 2019. Cut off drain vegetated in July 2019.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	
PZW16	Lower wetland. Contains Area 14 in Rehabilitation Works Plans and Specifications	<p>Former location of topsoil store</p> <p>Wetland formation works partially undertaken in March 2019</p> <p>Final landform and planting undertaken between May and September 2019. Works now complete.</p> <p>Planting now completed and no further work considered to be required except for monitoring and maintenance.</p>	

Zone	Description	Status	Activity in October – November from 17 April 2019 20 to 20 September 2024 and Future Plans
PZW17	Flat pad west of Process Pond	Landform finalised. Previously grassed. Shrub planting undertaken in March 2019. Planting now completed and no further work considered to be required except for monitoring and maintenance.	
PZW18	Flat pad west of Central Dam. Contains Area 13 in Rehabilitation Works Plans and Specifications	Landform finalised. Previously grassed. Shrub planting undertaken in March 2019. Planting now completed and no further work considered to be required except for monitoring and maintenance.	
PZW19	North facing batter and dam bank south of Central Dam	Landformed in September 2018 and topsoiled in October 2018. Replacement drain for runoff from batter on PZW24 and PZW21 established across PZW19 in November 2018. Shrub planting east of rock-lined chute undertaken in March 2019. New rock lined chute to take waterflows from PZW21 and PZW22 into Central Dam constructed in March 2019. Shrub planting west of rock-lined chute undertaken in November 2019.	
PZW20	South bank of Central Dam. Contains Area 12 in Rehabilitation Works Plans and Specifications	Landformed in September 2018 and topsoiled in October 2018. Old drain into Central Dam diverted and rehabilitated in November 2018. Shrub planting undertaken in March 2019. Planting now completed and no further work considered to be required except for monitoring and maintenance.	
PZW21	Westside fill emplacement area	Water diversion bund established in October 2018. Batter at western end of PZW21 on border with PZW23 regraded in November 2018 with drainage bund partially established. Further fill and grading work undertaken in December 2018. Fill work completed in March 2019 except for removal of topsoil stockpiles, with final landform and drainage works established. Shrub planting partially completed in March 2019. Topsoil, grass and final drainage system established between April 2019 and August 2019. Topsoil stockpile removed and used on flat area of PZW21 during October 2019. Shrub be completed in November 2019.	
PZW22	Blue level pad	Landform finalised, currently occupied by fill and roadbase stockpiles Fill and roadbase stockpiles removed in March 2019 and landform completed. Topsoil partially placed in March 2019. Topsoil application completed progressively from May 2019 to September 2019. Grass seeding completed in September 2019. Shrub planting carried out in November 2019.	Infill plantings to replace losses from original planting to be undertaken in late September and early October 2024.
PZW23	Blue level batter	Landform finalised. Hydromulched in January 2018 but only upper areas were successfully grassed. Topsoil partially applied in March 2019. Shrub planting of upper half of batter carried out in March 2019. Topsoil completed in September 2019.	

Zone	Description	Status	Activity in October – November from 17 April 2019 20 to 20 September 2024 and Future Plans
		Shrub planting on lower reaches adjoining PZW22 which were reprofiled and filled carried out in November 2019.	
PZW24	Upper level pad	Landform finalised. Hydromulched in January 2018. Bund and minor temporary drainage works established in March 2018 and have been adjusted occasionally. Shrub planting carried out in March 2019. Planting now completed and no further work considered to be required except for monitoring and maintenance.	Road repair
PZW25	Vegetation areas east of upper road	Landform finalised. Previously grassed Shrub planting undertaken in March 2019. Planting now completed and no further work considered to be required except for monitoring and maintenance.	Road repair
PZW26	Vegetation areas south of upper road	Landform finalised. Previously grassed. Shrub planting expected in March 2019. Possible road base application to road. Drain on southeast side of upper haul road upgraded and silt trap cleared and refurbished in April 2019. Planting now completed and no further work considered to be required except for monitoring and maintenance.	
Washplant	Not subject to Enforceable Undertaking provisions, but intended to be removed	Washplant removed, further infrastructure removal, safety work and works to be undertaken. Further infrastructure removal, safety work and works undertaken in November 2019.	
Weighbridge	Not subject to Enforceable Undertaking provisions, but weighbridge and weighbridge office intended to be removed. Other accommodation and toilet facilities and water tank to remain.	Weighbridge sold and deposit received. No removal works undertaken, weighbridge still operational. Weighbridge sale not proceeding. Works not required under the Enforceable Undertaking	

EPL 4860 WATER QUALITY STATEMENT OF COMPLIANCE – AUGUST 2024

Broken Head Quarry

Leadshine Pty Ltd t/a Broken Head Quarry

PO Box 165, Byron Bay, NSW 2481

August 2024

August 2024

Leadshine P/L
 Att: Stuart Dixon-Smith
 Broken Head Road
 Broken Head, NSW, 2481

Dear Stuart,

Re: EPL 4860 Water Quality Statement of Compliance (August 2024)

ENV Services Pty Ltd (ENV) was engaged by Leadshine Pty Ltd to prepare a *Statement of Compliance* in relation to the water quality of two (2) sediment basins located on the eastern side and three (3) sediment basins located on the western side of Broken Head Quarry (the 'site'). Located in Suffolk Park, NSW (Lot 1, DP184443 and Lot 1, DP123302), a plan outlining relative location is presented in Figure 1 (**Attachment 1**) where relative pond locations are presented in Figure 2 (**Attachment 1**).

Commencing the 4th of April 2019, monthly water samples have been collected, placed into an 'esky', 'iced' and sent to a NATA accredited laboratory (Eurofins) in Sydney NSW. Here, all samples have been analysed for pH and Total Suspended Solids (TSS) where the following statement looks to compare these results against EPL 'Concentration Limits' specified in section 'L2' of EPL 4860 (**Attachment 2**).

Most recent results were collected on the 5th of August by an ENV Environmental Scientist. Comparisons are presented in Table 1 & Table 2. A copy of the NATA accredited results for the monitoring period are presented as **Attachment 3**.

Table 1: Analytical Comparison (Eastern)

Analyte	Sampling Date	Units	Sediment Basin 1 (P1E)	Sediment Basin 2 (P2E)	EPL 4860 Criteria (Section L2)
pH	05/08/24	pH Units	6.6	7.6	6.5 - 8.5
Total Suspended Solids (TSS)	05/08/24	mg/L	<5	7.6	<50

Table 2: Analytical Comparison (Western)

Analyte	Sampling Date	Units	Process Pond (P1W)	Lily Pond (P2W)	Sediment Basin 3 (P3W)	EPL 4860 Criteria (Section L2)
pH	05/08/24	pH Units	6.6	6.3	6.8	6.5 - 8.5
Total Suspended Solids (TSS)	05/08/24	mg/L	6.4	11	8.4	<50

In summary:

All sample locations recorded pH within the specified criteria range (pH 6.5 – 8.5) when compared to water quality objectives set within Section L2 of the licence conditions (EPL 4860). All samples were shown to be compliant for TSS (<50) when compared against the EPL water quality objectives.

Rolling Summary

To further demonstrate fluctuations in water quality compliance across the site, a rolling pH & TSS summary for both the eastern and western sediment basins has been developed and is presented and discussed in the sections below.

Eastern Sediment Basins (P1E – P2E)

Presented in Figure 1 and Figure 2, sediment basin P1E has been pH compliant during all sampling events except for three sampling events occurring in February 2020 (pH 6.43), April 2022 (pH 6.38) and July 2023 (pH 6.20). The pH was found to be slightly below the threshold on all occasions (pH 6.50 - 8.50). Sediment Basin P1E has been TSS compliant on all sampling occasions.

Water quality (pH and TSS) within sediment basin P2E has been compliant on all occasions except for four sampling events carried out in November 2021 (pH 6.35), March 2022 (pH 6.41), May 2022 (pH 5.82) June 2022 (pH 6.49) and July 2023 (pH 6.40).

Figure 1: Eastern Sediment Basin Rolling Summary (pH)

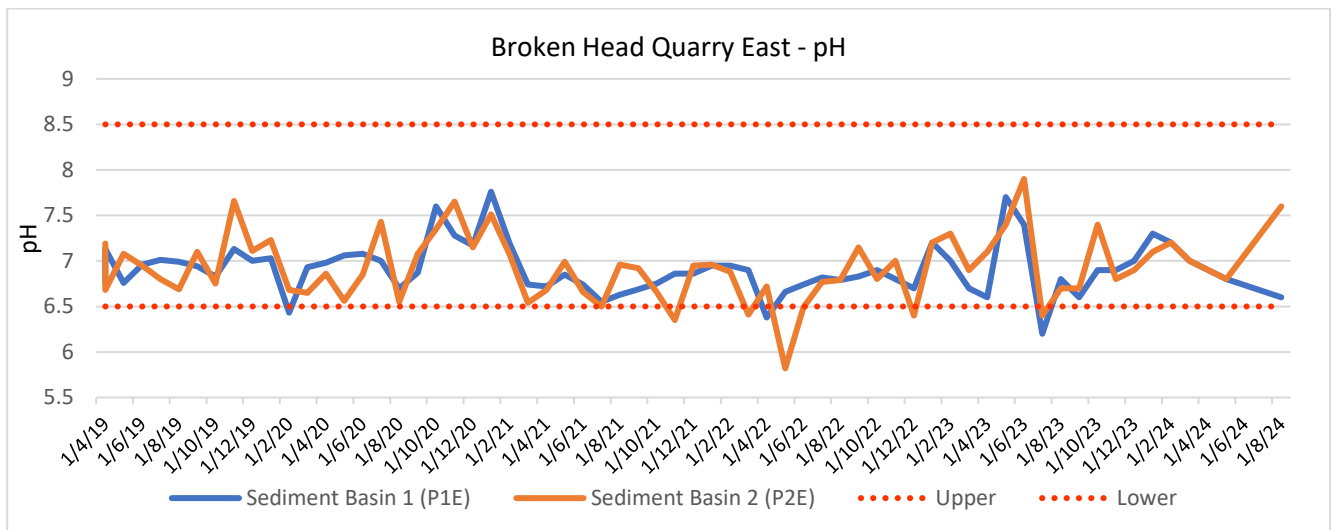
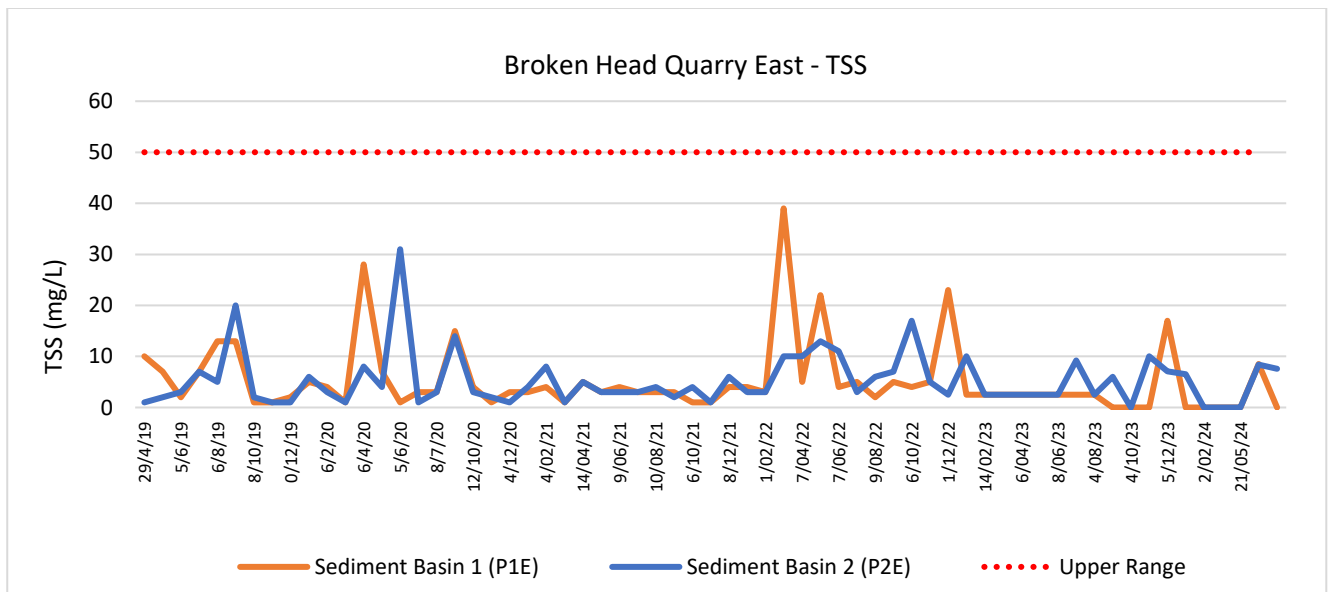


Figure 2: Eastern Pond Rolling Summary (TSS)



During this monitoring period (21/05/2024 – 05/08/034), 143 mm of rain was recorded in the area (Byron Bay, Cape Byron Lighthouse, Bureau of Meteorology).

Should you have any queries about this Statement of Compliance, please do not hesitate to contact me directly.

Kind regards,



Jemma Atkins
Environmental Scientist | **ENV Services**

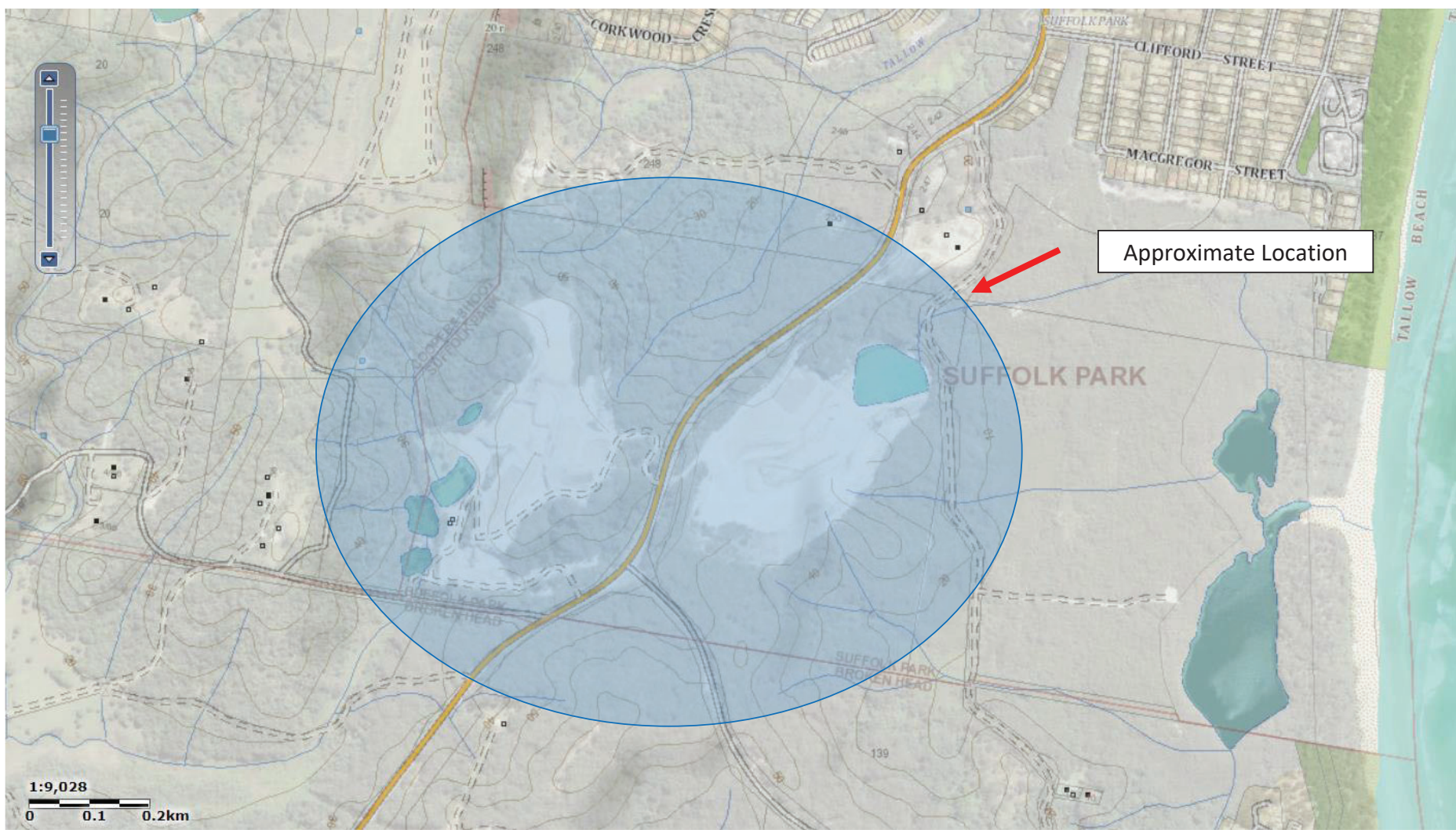
313 River St Ballina | M: 0492 847 949

PO Box 248 Ballina NSW 2478

ENV Services Pty Ltd



Attachment 1 – Locality





**Figure 2 (Attachment 1) –
Sample Locations**

Attachment 2 – EPL Conditions

Environment Protection Licence

Licence - 4860

<u>Licence Details</u>	
Number:	4860
Anniversary Date:	10-March

<u>Licensee</u>
LEADSHINE PTY. LIMITED
5 PUNCH STREET
BALMAIN NSW 2041

<u>Premises</u>
BROKEN HEAD QUARRY
BROKEN HEAD ROAD
SUFFOLK PARK NSW 2481

<u>Scheduled Activity</u>
Extractive activities

<u>Fee Based Activity</u>	<u>Scale</u>
Land-based extractive activity	0-30000 T annual capacity to extract, process or store

<u>Region</u>
North - North Coast
NSW Govt Offices, 49 Victoria Street
GRAFTON NSW 2460
Phone: (02) 6640 2500
Fax: (02) 6642 7743
PO Box 498 GRAFTON
NSW 2460

Environment Protection Licence

Licence - 4860



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Environment Protection Licence

Licence - 4860



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Environment Protection Licence

Licence - 4860



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

LEADSHINE PTY. LIMITED
5 PUNCH STREET
BALMAIN NSW 2041

subject to the conditions which follow.

Environment Protection Licence

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1 Administrative Conditions

A1 What the licence authorises and regulates

- A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Extractive activities	Land-based extractive activity	0 - 30000 T annual capacity to extract, process or store

A2 Premises or plant to which this licence applies

- A2.1 The licence applies to the following premises:

Premises Details
BROKEN HEAD QUARRY
BROKEN HEAD ROAD
SUFFOLK PARK
NSW 2481
LOT 1 DP 123302, LOT 1 DP 184443, LOT 2 DP 700806

A3 Information supplied to the EPA

- A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

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P1 Location of monitoring/discharge points and areas

- P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.
- P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
4	The overflow from the Process Pond in the in the western quarry area	The overflow from the Process Pond in the in the western quarry area	The overflow from the Process Pond in the in the western quarry area
5	The overflow from the "Sediment basin number two " in the Eastern quarry area	The overflow from the "Sediment basin number two " in the Eastern quarry area	The overflow from the "Sediment basin number two " in the Eastern quarry area

3 Limit Conditions

L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.
- L1.2 Rainfall runoff from all disturbed areas of the premises arising from up to 82.5mm (up to five day event duration) must, prior to discharge from the premises, be captured and treated to the standard set out in condition L2 below.

L2 Concentration limits

- L2.1 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.
- L2.4 Water and/or Land Concentration Limits

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POINT 4,5

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	Visible				nil
pH	pH				6.5 to 8.5
Total suspended solids	milligrams per litre				50

- L2.5 The concentration limits in the above table do not apply to any discharge from the sediment ponds solely arising from rainfall exceeding 82.5 mm in total falling over any consecutive five day period.
- L2.6 If the licensee uses turbidity (NTU) in place of TSS to determine compliance with Condition L2.4, the licensee must develop a statistical correlation which identifies the relationship between NTU and TSS for water quality in the sediment basin/s in order to determine the NTU equivalent of 50 mg/L TSS before its use.
- L2.7 The licensee must provide the EPA with a copy of the statistical correlation assessment methodology and results before using NTU in place of TSS.
- L2.8 The licensee must develop and implement a method to enable the ongoing verification of the relationship between NTU and TSS.
- L2.9 The licensee must provide the EPA with any amendments the licensee makes to the statistical correlation as a result of the ongoing verification required by Condition L2.8 before using the revised statistical correlation.

L3 Waste

- L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L4 Hours of operation

- L4.1 Hours of operation are to be confined to 7:00am to 5:00pm Monday to Friday, and 8:00am and 1:00pm Saturday inclusive. No operations or deliveries are to be undertaken on Sundays or Public Holidays.

This condition does not apply if written permission from sensitive receivers within 1 kilometre of the quarry for extended hours of operation has been provided to the EPA.

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4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O4 Emergency response

Note: The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. Details of the requirements can be found on the EPA website via the following link <http://www.epa.nsw.gov.au/legislation/poefaqspirmps.htm>

O5 Processes and management

O5.1 Sediment Basins shall be treated, if required, to reduce the Total Suspended Solids level to the licenced concentration limit before being discharged to the environment. Treatment can be with gypsum or any other material that has been approved by the EPA.

O5.2 Each sedimentation basin must have a marker (the "sedimentation basin marker") that identifies the upper level of the sediment storage zone.

O5.3 Whenever the level of liquid and other material in any sedimentation basin exceeds the level indicated by the sedimentation basin marker, the licensee must take all practical measures as soon as possible to reduce the level of liquid and other material in the sedimentation basin.

O5.4 The licensee must ensure the design storage capacity of the sediment basins installed on the premises is reinstated within 5 days of the cessation of a rainfall event that causes runoff to occur on or from the

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premises.

- O5.5 The licensee must maximise the diversion of stormwater runoff containing suspended solids to sediment basins installed on the premises.
- O5.6 The licensee must ensure that sampling point(s) for water discharged from the sediment basin(s) are provided and maintained in an appropriate condition to permit:
 - a) the clear identification of each sediment basin and discharge point;
 - b) the collection of representative samples of the water discharged from the sediment basin(s); and
 - c) access to the sampling point(s) at all times by an authorised officer of the EPA.
- O5.7 The licensee must maximise the diversion of run-on waters from lands upslope and around the site whilst land disturbance activities are being undertaken.
- O5.8 The sediment basins must meet the design and operational standards of *Managing Urban Stormwater Soils and Construction: Volume 1 and Volume 2 E. Mines and quarries*. This document requires that at a minimum 90 percentile five-day rainfall event be used to determine basin sizing for quarries.
- O5.9 The site's sediment basin/s must be maintained and operated to ensure that:
 - 1. All 5-day rainfall events up to 82.5 mm (the 90th percentile 5 day rain event) are captured.
 - 2. Any discharge from the sediment basin/s that occurs as a result of rainfall below the 5-day total of 82.5 mm (including managed discharges to restore basin capacity) must meet the limit conditions specified in condition L2.4.

5 Monitoring and Recording Conditions

M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
 - a) in a legible form, or in a form that can readily be reduced to a legible form;
 - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
 - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
 - a) the date(s) on which the sample was taken;
 - b) the time(s) at which the sample was collected;
 - c) the point at which the sample was taken; and
 - d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

- M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee

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must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

POINT 4,5

Pollutant	Units of measure	Frequency	Sampling Method
pH	pH	Special Frequency 1	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample

M2.3 Special Frequency 1 means sampling once <24 hours prior to actively emptying the ponds and during each discharge event arising from rainfall less than 82.5 mm falling in total over a period of up to five days duration.

M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Environmental monitoring

M4.1 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

M4.2 The rainfall monitoring data collected in compliance with Condition M4.1 can be used to determine compliance with L2.4 and L2.5.

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:

- the date and time of the complaint;
- the method by which the complaint was made;
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- the nature of the complaint;

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- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

- M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
 - 1. a Statement of Compliance,
 - 2. a Monitoring and Complaints Summary,
 - 3. a Statement of Compliance - Licence Conditions,
 - 4. a Statement of Compliance - Load based Fee,
 - 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
 - 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
 - 7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.
- R1.3 Where this licence is transferred from the licensee to a new licensee:
 - a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
 - b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.
- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must

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prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

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- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
 - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
 - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
 - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
 - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 PRP 4 Urgent remedial works (Western section of premises)

- U1.1 Urgent works are required to be designed and installed to ensure that all runoff from disturbed areas of the premises is treated in accordance with *Managing Urban Stormwater: Soils and Construction: Volume 1 March 2004. Landcom and Managing Urban Stormwater Volume 2 E. Mines and Quarries. (the Blue Book)*.

This includes the following:

All works necessary to ensure that all flow from disturbed areas within the premises are directed to the *Process Pond* or otherwise treated in accordance with the Blue Book.

All 'clean water' diversion works are designed, constructed and stabilised in accordance with the Blue Book.

All treatment measures in accordance with the Blue Book must be designed and installed to treat any discharge leaving the premises that is not treated by a sediment basin designed and constructed in accordance with the Blue Book.

A report must be prepared detailing the calculation and design of all works set out in this PRP including

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points 1 to 3 and provided to the EPA by email to north.coast@epa.nsw.gov.au

U2 PRP 5 Operation brief for quarry staff to monitor pH and suspended solid loads

- U2.1 Leadshine is required to provide an operational brief for quarry staff to monitor pH and suspended solid loads prior to any discharge to ensure any discharge is in accordance with licence limits. The operational brief is to be provided to the EPA by email to: north.coast@epa.nsw.gov.au

Compliance date: 18 August 2017.

U3 PRP 6 Sediment Basin capacity and pond markers

- U3.1 The area of the two catchments currently directed to the *Process Pond* and *Sediment basin number two* must be calculated and the markers installed in/on these ponds that show the level representing 100% capacity, the upper level of the sediment storage zone, the sampling point and the discharge point (including the name or number) to comply with condition 5.2.

All details including delineation of the relevant catchment and calculations to inform the respective depths on pond markers must be documented and provided to the EPA by email to:

north.coast@epa.nsw.gov.au

Compliance date: 18 August 2017

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Bernie Weir

Environment Protection Authority

(By Delegation)

Date of this edition: 27-April-2000

Environment Protection Licence

Licence - 4860



End Notes

- 1 Licence varied by notice V/M upgrade, issued on 08-Jul-2000, which came into effect on 08-Jul-2000.
- 2 Licence varied by notice 1012746, issued on 20-Dec-2001, which came into effect on 14-Jan-2002.
- 3 Licence transferred through application 141740, approved on 07-Feb-2003, which came into effect on 07-Feb-2003.
- 4 Licence varied by notice 1043166, issued on 01-Apr-2005, which came into effect on 26-Apr-2005.
- 5 Licence varied by Change to Schedule 1 , issued on 02-May-2008, which came into effect on 02-May-2008.
- 6 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 7 Licence transferred through application 146220, approved on 01-Jul-2010, which came into effect on 01-Jul-2010.
- 8 Licence varied by notice 1503432 issued on 16-Dec-2011
- 9 Licence varied by notice 1505888 issued on 07-May-2012
- 10 Licence varied by notice 1533202 issued on 06-Oct-2015
- 11 Licence varied by notice 1542890 issued on 29-Jul-2016
- 12 Licence varied by notice 1543324 issued on 05-Aug-2016
- 13 Licence varied by notice 1546292 issued on 02-Nov-2016
- 14 Licence varied by notice 1547125 issued on 09-Dec-2016
- 15 Licence varied by notice 1554147 issued on 26-Jul-2017

Attachment 3 – Certificate of Analytical Results



CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☒ Sydney Laboratory
179 Magowar Road, Girraween, NSW 2145
+61 2 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1/21 Smallwood Place, Murame, QLD 4172
+61 7 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
46-48 Banksia Road, Welshpool, WA 6106
+61 8 6253 4444 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
+61 3 8564 5000 EnviroSampleVic@eurofins.com

Company	ENV Sercies Pty Ltd	Project No	216427	Project Manager	Jemma Atkins	Sampler(s)	JA				
Address	313 River St Ballina PO Box 248 Ballina NSW 2478	Project Name	BHQ Water quality	EDD Format	Esdat	Handed over by	JA				
Contact Name	Jemma Atkins	Analyses (Where multiple are requested, please specify "1" for a "1" result S.U.R.E. code must be used to identify S.U.R.E. pricing)	Ph	TSS		Email for Invoice	accounts@envsolutions.com.au				
Phone No	0492847949					Email for Results	labresults@envsolutions.com.au				
Special Directions	Also send results to jemma.atkins@envsolutions.com.au					Containers Change container type & size if necessary.		Required Turnaround Time (TAT) Default will be 5 days if not noted			
Purchase Order						500mL Plastic 250mL Plastic 125mL Plastic 200mL Amber Glass 40mL VOA vial 500mL PFAS Bottle Jar (Glass or HDPE) Other (Asbestos AS4984, WA Guidelines)		*Surcharge will apply <input type="checkbox"/> Overnight (reporting by 9am) <input type="checkbox"/> Same day <input type="checkbox"/> 1 day <input type="checkbox"/> 2 days <input type="checkbox"/> 3 days <input type="checkbox"/> 5 days (Standard) <input type="checkbox"/> Other()			
Quote ID No	220829ESON										
No	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Solid (S) Water (W)			Sample Comments / Dangerous Goods Hazard Warning					
1	P1 W	5/08/24	w	X	X	1					
2	P2 W	5/8/24	w	X	X	1					
3	P3 W	5/8/24	w	X	X	1					
4	P1 E	5/8/24	w	X	X	1					
5	P2 E	5/8/24	w	X	X	1					
6						1					
7											
8											
9											
10											
Total Counts				5	5	6					
Method of Shipment	<input checked="" type="checkbox"/> Courier (#) <input type="checkbox"/> Hand Delivered <input type="checkbox"/> Postal		Name		Signature	CC	Date	05.08.24	Time		
Laboratory Use Only	Received By	Branburn		SYD BNE MEL PER ADL NTL DRW	Signature	Date	6/8	Time	10:00	Temperature	13.8°C
	Received By			SYD BNE MEL PER ADL NTL DRW	Signature	Date		Time		Report No	

1125231



web: www.eurofins.com.au
email: EnviroSales@eurofins.com

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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ABN: 91 05 0159 898

Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370

ABN: 47 009 120 549

Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554
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NZBN: 9429046024954

Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
---	--	--	--

Company Name: ENV Services Pty Ltd
Address: 313 River Street
Ballina
NSW 2478

Project Name: BHQ WATER QUALITY
Project ID: 216427

Order No.:
Report #: 1125231
Phone: 1300 861 325
Fax:

Received: Aug 6, 2024 10:00 AM
Due: Aug 9, 2024
Priority: 3 Day
Contact Name: Jemma Attkins

Eurofins Analytical Services Manager : Bonnie Pu

Sample Detail						pH (at 25 °C)	Total Suspended Solids Dried at 103 °C to 105 °C
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	P1 W	Aug 05, 2024		Water	S24-Au0012398	X	X
2	P2 W	Aug 05, 2024		Water	S24-Au0012399	X	X
3	P3 W	Aug 05, 2024		Water	S24-Au0012400	X	X
4	P1 E	Aug 05, 2024		Water	S24-Au0012401	X	X
5	P2 E	Aug 05, 2024		Water	S24-Au0012402	X	X
Test Counts						5	5

ENV Services Pty Ltd
313 River Street
Ballina
NSW 2478



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Jemma Attkins**

Report **1125231-W**
 Project name **BHQ WATER QUALITY**
 Project ID **216427**
 Received Date **Aug 06, 2024**

Client Sample ID			P1 W	P2 W	P3 W	P1 E
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S24- Au0012398	S24- Au0012399	S24- Au0012400	S24- Au0012401
Date Sampled			Aug 05, 2024	Aug 05, 2024	Aug 05, 2024	Aug 05, 2024
Test/Reference	LOR	Unit				
pH (at 25 °C)	0.1	pH Units	6.6	6.3	6.8	6.6
Total Suspended Solids Dried at 103°C to 105°C	5	mg/L	6.4	11	8.4	< 5

Client Sample ID			P2 E
Sample Matrix			Water
Eurofins Sample No.			S24- Au0012402
Date Sampled			Aug 05, 2024
Test/Reference	LOR	Unit	
pH (at 25 °C)	0.1	pH Units	7.6
Total Suspended Solids Dried at 103°C to 105°C	5	mg/L	7.6

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
pH (at 25 °C) - Method: LTM-GEN-7090 pH in water by ISE	Sydney	Aug 08, 2024	6 Hours
Total Suspended Solids Dried at 103°C to 105°C - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry	Sydney	Aug 08, 2024	7 Days



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email: EnviroSales@eurofins.com

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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---	--	--	--

Company Name: ENV Services Pty Ltd
Address: 313 River Street
Ballina
NSW 2478

Project Name: BHQ WATER QUALITY
Project ID: 216427

Order No.:
Report #: 1125231
Phone: 1300 861 325
Fax:

Received: Aug 6, 2024 10:00 AM
Due: Aug 9, 2024
Priority: 3 Day
Contact Name: Jemma Atkins

Eurofins Analytical Services Manager : Bonnie Pu

Sample Detail						pH (at 25 °C)	Total Suspended Solids Dried at 103 °C to 105 °C
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	P1 W	Aug 05, 2024		Water	S24-Au0012398	X	X
2	P2 W	Aug 05, 2024		Water	S24-Au0012399	X	X
3	P3 W	Aug 05, 2024		Water	S24-Au0012400	X	X
4	P1 E	Aug 05, 2024		Water	S24-Au0012401	X	X
5	P2 E	Aug 05, 2024		Water	S24-Au0012402	X	X
Test Counts						5	5

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Total Suspended Solids Dried at 103°C to 105°C			mg/L	< 5			5	Pass	
LCS - % Recovery									
Total Suspended Solids Dried at 103°C to 105°C			%	81			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Total Suspended Solids Dried at 103°C to 105°C	S24-Au0012398	CP	mg/L	6.4	6.6	3.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Bonnie Pu	Analytical Services Manager
Dilani Samarakoon	Senior Analyst-Inorganic
Ryan Phillips	Senior Analyst-Inorganic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Annexure D GeoLINK inspection report

Westside



Photo 1 – Recommend infill planting for areas of poor survival rates.



Photo 2 – Recommend infill planting for areas of poor survival rates.



Photo 3 – Recommend infill planting if survival rates drop.



Photo 4 – This area requires repair. Significant mass movement needs to be reshaped and stabilised. Upslope water needs to be diverted or directed downslope.

Eastside

Photo 5 – This internal road is acting as a informal drainage line and is experiencing scour. It needs to be repaired and stabilised.



Photo 6 – Please install occasional whoa-boys to prevent scour along fire trail.

Attendees: Stuart Dixon-Smith (Site Owner) and Patrick Sloan (GeoLINK)



Photo 7 – Please install occasional whoa-boys to prevent scour along fire trail. Please clean up excess treeguards.



Photo 8 – Please install occasional whoa-boys to prevent scour along fire trail.

Annexure E EPL 4860 Surrender

Approval of the Surrender of a Licence



Licence - 4860

LEADSHINE PTY. LIMITED
5 PUNCH STREET
BALMAIN NSW 2041

Attention: Stuart Dixon-Smith

Notice Number 1637805
File Number EF13/4226
Date 01-May-2024

APPROVAL OF THE SURRENDER OF LICENCE NO. 4860

BACKGROUND

The following licensee(s):

LEADSHINE PTY. LIMITED

applied to the Environment Protection Authority ("EPA") to surrender Environment Protection Licence No. 4860 ("the licence") issued under the Protection of the Environment Operations Act 1997 ("the Act"). The licence authorises the carrying out of activities at BROKEN HEAD ROAD, SUFFOLK PARK, NSW, 2481.

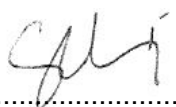
- A. The EPA received the application on 15-Mar-2024.
- B. On 18 March 2024 EPA Officers inspected the premises. The premises was well rehabilitated. Three issues were observed during the inspection and will require actions to remediate the site. The issues observed were;
 - 1. The storage of diesel and chemical drums unbanded and unsecured adjacent to the machinery shed.
 - 2. Several old 200L drums and spilt oil within the bund presenting a risk of hydrocarbon seepage occurring.
 - 3. Diesel pump adjacent to Basin 1 with potential for seepage of legacy hydrocarbon materials from the pump system.

APPROVAL OF THE SURRENDER OF A LICENCE

Approval of the Surrender of a Licence



1. The surrender of the licence is approved.
2. The approval of the surrender is subject to the following conditions:
 - A. The licensee must provide the EPA with an Annual Return in relation to compliance with the conditions of the licence during the period beginning on the last licence anniversary date and ending on the date that the surrender of the licence takes effect as set out in point 3 below.
 - B. The Annual Return must be supplied to the EPA within 60 days of the date from which this notice operates (see note at the end of this notice).
 - C. The content and form of the Annual Return must be in accordance with the applicable reporting conditions in the licence before it was surrendered.
 - D. The Annual Return must be signed in accordance with the applicable reporting conditions in the licence before it was surrendered.
 - E. The discharge point from Basin 2 (eastern side of quarry) must continue to allow downstream flow to Basin 1 to maximise sediment retention time.
 - F. All unsecured bunded and unbunded diesel and chemical containers are to be removed and disposed of at a place that can lawfully receive the waste containers.
 - G. Diesel pump adjacent to Basin 1 is to be removed and stored undercover within a bunded area or taken offsite.
 - H. Provide photos of the completed works outlined in 2(F) and 2(G) to info@epa.nsw.gov.au by 30 June 2024.
3. Except as provided by section 84(2) of the Act, the approval of the surrender of the licence by this notice operates from the date of this notice.


.....
Stan Viney
Operations Officer
Environment Protection Authority
(by Delegation)

INFORMATION ABOUT THIS NOTICE

Approval of the Surrender of a Licence



- On the date that the surrender of your licence takes effect the current licence fee period comes to an end. However, the surrender of your licence does not affect your liability to pay fees owing to the EPA for that licence fee period or for any earlier licence fee period.
- If you have not already paid the administrative fee for the licence fee period which has just come to an end on the surrender of your licence you must still do so. The administrative fee for a licence fee period must be paid no later than 60 days after the beginning of that licence fee period (clause 36(1) of the *Protection of the Environment Operations (General) Regulation 2009*).
- Any load-based fees payable in relation to the licence fee period ending on the surrender of the licence must be paid no later than 90 days after the surrender of the licence takes effect (clause 37(1) of the *Protection of the Environment Operations (General) Regulation 2009*).
- Details provided in this notice will be available on the EPA's Public Register in accordance with section 308 of the Act.
- The reporting period on your Annual Return must be filled in to reflect the appropriate dates beginning on the last licence anniversary date and ending on the date that the surrender of the licence takes effect.
- The completed Annual Return must be sent by Registered Post no later than 60 days from the end of the reporting period to:

Regulatory and Compliance Support Unit
Environment Protection Authority (EPA)
Locked Bag 5022
PARRAMATTA NSW 2124

- This notice is issued under section 80(1) of the Act.

Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The surrender of the licence specified in this notice begins to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to approve the surrender of the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

17th May 2023

EPA NSW
EPA Operations – North Coast
PO BOX 498
Grafton NSW 2460

EPL4860 – Request to Cease Monitoring Requirements: P1.2 and M4

PROJECT NAME: Broken Head Quarry

SITE ADDRESS: Broken Head Road, Suffolk Park, NSW 2481

Dear Sir/Madam,

This letter is to seek approval from EPA NSW to cease monitoring requirements stipulated within conditions (P1.2, M4) of EPL4860. Water quality monitoring at the frequency stipulated within M2.3 along with monthly monitoring additional to the EPL requirements has been carried out at the sediment basins (Clause M2.2 Point 4 and Point 5) over a period of five (5) years (Attachment A, Figure 1). Monitoring results confirm that stabilization works (Clause U1.1) carried out over the site have progressively improved water quality within the sediment basins (Attachment B, Table 1 & 2). These stabilization works included the construction of erosion and sediment control features to direct sediment laden run-off into onsite sediment basins; the redirection of clean water around the site and the progressive revegetation of disturbed areas (Attachment C).

Water quality has been continuously met at both monitoring sites. Water treatment was required at monitoring point P4 (Process Pond) on several occasions (2/3/20, 3/8/20, 17/12/20, 24/2/21 and 30/3/21) coinciding with significant rainfall, with water validated and discharged offsite within five days as specified within Clause L2.5. Stabilization works completed in early 2021 significantly improved water quality (Attachment B, Table 1) in the western portion of the quarry. Subsequently water quality objectives have been continuously met (Clause L2.4) at this site thereafter.

Water quality objectives stipulated within Clause L2.4 have been met continuously at monitoring site P5 (Sediment Basin number 2) over the duration of the programme with the exception of some minor irregularities in pH likely associated with humic acid derived from tannins (Attachment B, Table 2).

Laboratory results and sediment pond treatment reports can be provided on request.

Aerial imagery of the site prior to revegetation and the site currently (Attachment A, Figure 2 & 3) provide further evidence of the rehabilitation carried out and the subsequent stabilization of the site.



Based on the information provided, the site has been fully stabilized and no longer requires ongoing monitoring as per the conditions within the EPL (4860).

Should you have any queries with regards to the items addressed within this letter then please do not hesitate to contact me.

Yours Faithfully

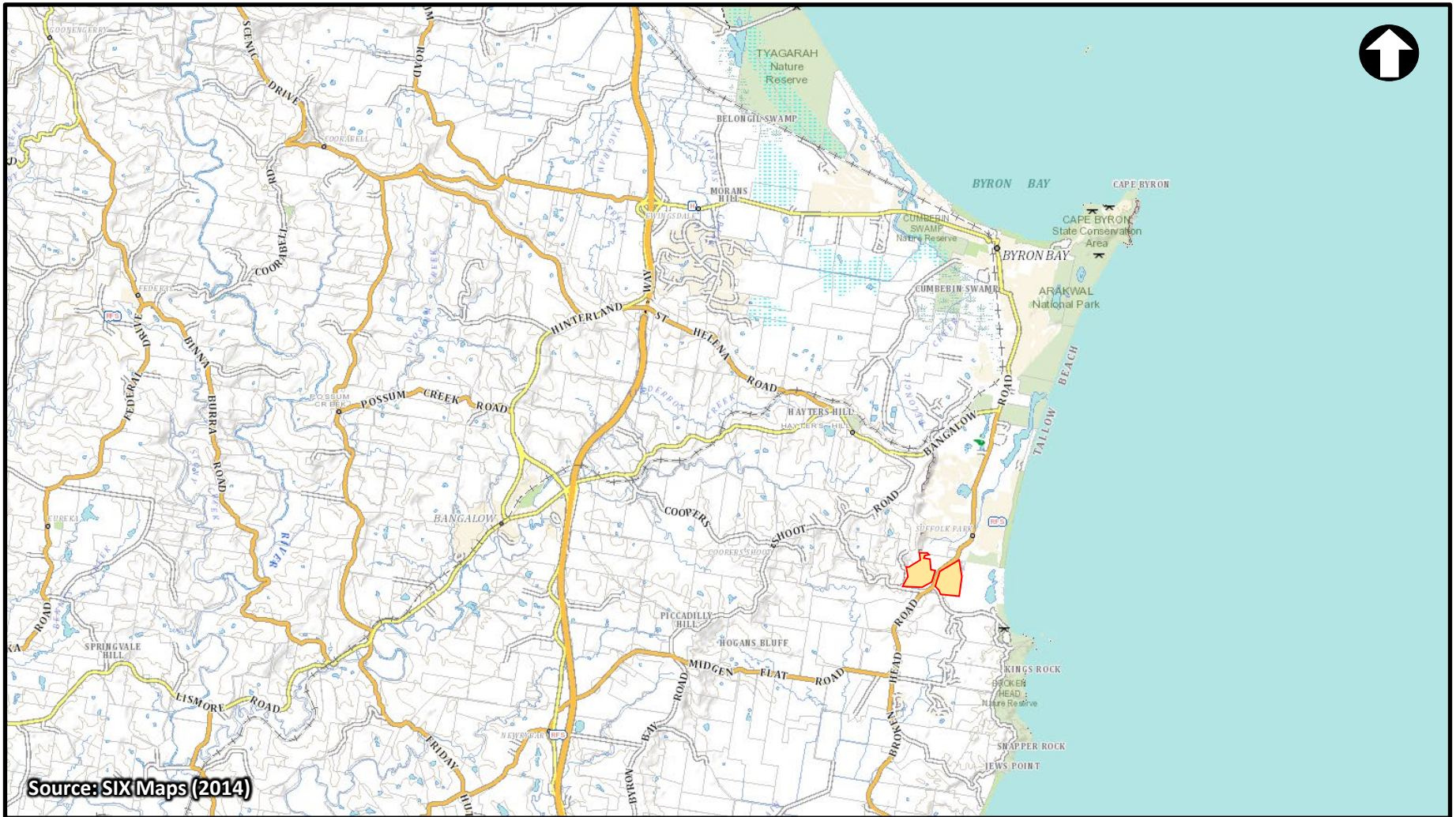
Kingsley Baldwin

Senior Environmental Scientist

M: 0490 060 912

E: Kingsley@envsolutions.com.au

Attachment A Site Figures



 Site Location



Figure 1 – Site Location
 Broken Head Quarry
 Suffolk Park NSW 2481



Source: IntraMaps 2023



Sediment Basin Water Quality Monitoring Points

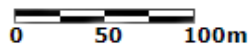


Figure 2 Historical Aerial Image of Quarry (2014)
Broken Head Quarry
Suffolk Park NSW 2481



Sediment Basin Water Quality Monitoring Points

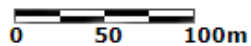


Figure 3: Aerial Image of Quarry (Current)

Broken Head Quarry
Suffolk Park NSW 2481

Attachment B Sediment Basin Water Quality Monitoring Results

Table 1: Monitoring Location P4 (Sediment Basin) Process Pond

Sample Date	Monitoring Results		Discharge Criteria			Comments
	pH	TSS mg/L	TSS Limit mg/L	pH Lower Threshold	pH Upper Threshold	
5/6/19	6.63	28	50	6.5	8.5	
8/7/19	6.78	49	50	6.5	8.5	
6/8/19	6.97	21	50	6.5	8.5	
6/9/19	7.15	10	50	6.5	8.5	
8/10/19	6.85	11	50	6.5	8.5	
6/11/19	6.96	10	50	6.5	8.5	
4/12/19	7.02	33	50	6.5	8.5	
6/1/20	7.31	2	50	6.5	8.5	
6/2/20	6.78	12	50	6.5	8.5	
2/3/20	5.77	350	50	6.5	8.5	
3/3/20	7.30	11	50	6.5	8.5	Validated and discharged
4/3/20	7.03	8	50	6.5	8.5	
6/4/20	7.05	5	50	6.5	8.5	
5/5/20	7.02	9	50	6.5	8.5	
5/6/20	7.08	32	50	6.5	8.5	
7/7/20	7.04	6	50	6.5	8.5	
3/8/20	6.14	300	50	6.5	8.5	
5/8/20	7.01	31	50	6.5	8.5	Validated and discharged
4/9/20	6.87	15	50	6.5	8.5	
12/10/20	7.32	3	50	6.5	8.5	
5/11/20	7.23	7	50	6.5	8.5	
4/12/20	6.77	9	50	6.5	8.5	
17/12/20	6.07	74	50	6.5	8.5	
20/12/20	7.30	5	50	6.5	8.5	Validated and discharged
4/01/21	7.20	20	50	6.5	8.5	
4/02/21	6.82	5	50	6.5	8.5	
24/02/21	6.07	120	50	6.5	8.5	
28/02/21	6.55	5	50	6.5	8.5	Validated and discharged
5/03/21	6.44	9	50	6.5	8.5	
24/03/21	6.11	150	50	6.5	8.5	
30/03/21	6.55	28	50	6.5	8.5	Validated and discharged
14/04/21	6.74	7	50	6.5	8.5	
11/05/21	6.83	6	50	6.5	8.5	
9/06/21	6.93	8	50	6.5	8.5	
8/07/21	6.58	6	50	6.5	8.5	
10/08/21	6.86	6	50	6.5	8.5	
6/09/21	6.89	5	50	6.5	8.5	

Sample Date	Monitoring Results		Discharge Criteria			Comments
	pH	TSS mg/L	TSS Limit mg/L	pH Lower Threshold	pH Upper Threshold	
6/10/21	6.63	13	50	6.5	8.5	
3/11/21	6.82	5	50	6.5	8.5	
8/12/21	6.81	6	50	6.5	8.5	
18/01/22	6.76	4	50	6.5	8.5	
1/02/22	6.70	8	50	6.5	8.5	
10/03/22	6.67	10	50	6.5	8.5	
7/04/22	6.56	8	50	6.5	8.5	
23/05/22	6.58	6	50	6.5	8.5	
7/06/22	6.68	5	50	6.5	8.5	
12/07/22	6.72	8	50	6.5	8.5	
9/08/22	6.67	2	50	6.5	8.5	
7/09/22	6.58	4	50	6.5	8.5	
6/10/22	6.70	5.3	50	6.5	8.5	
3/11/22	7.00	2.5	50	6.5	8.5	
1/12/22	6.80	2.5	50	6.5	8.5	
16/01/23	7.20	2.5	50	6.5	8.5	
14/02/23	7.50	6.5	50	6.5	8.5	
13/03/23	6.40	22	50	6.5	8.5	
6/04/23	7.00	2.5	50	6.5	8.5	
2/05/23	8.40	2.5	50	6.5	8.5	

Table 2 Monitoring Location P5 (Sediment Basin) Eastern Quarry

Sample Date	Monitoring Results		Discharge Criteria			Comments
	pH	TSS mg/L	TSS Limit mg/L	pH Lower Threshold	pH Upper Threshold	
9/4/18	7.27	6	50	6.5	8.5	
4/5/18	6.50	12	50	6.5	8.5	
11/5/18	7.02	32	50	6.5	8.5	
11/6/18	7.08	10	50	6.5	8.5	
12/9/18	6.93	7	50	6.5	8.5	
4/4/19	7.19	1	50	6.5	8.5	
29/4/19	6.68	2	50	6.5	8.5	
8/5/19	7.08	3	50	6.5	8.5	
5/6/19	6.95	7	50	6.5	8.5	
8/7/19	6.80	5	50	6.5	8.5	
6/8/19	6.69	20	50	6.5	8.5	
6/9/19	7.10	2	50	6.5	8.5	
8/10/19	6.75	1	50	6.5	8.5	
6/11/19	7.66	1	50	6.5	8.5	
4/12/19	7.11	6	50	6.5	8.5	
6/1/20	7.23	3	50	6.5	8.5	
6/2/20	6.68	1	50	6.5	8.5	
4/3/20	6.65	8	50	6.5	8.5	
6/4/20	6.86	4	50	6.5	8.5	
5/5/20	6.56	31	50	6.5	8.5	
5/6/20	6.85	1	50	6.5	8.5	
7/7/20	7.43	3	50	6.5	8.5	
5/8/20	6.55	14	50	6.5	8.5	
4/9/20	7.08	3	50	6.5	8.5	
12/10/20	7.35	2	50	6.5	8.5	
5/11/20	7.65	1	50	6.5	8.5	
4/12/20	7.15	4	50	6.5	8.5	
20/12/20	7.49	3	50	6.5	8.5	
4/01/21	7.51	8	50	6.5	8.5	
4/02/21	7.07	1	50	6.5	8.5	
5/03/21	6.54	5	50	6.5	8.5	
14/04/21	6.68	3	50	6.5	8.5	
11/05/21	6.99	3	50	6.5	8.5	
9/06/21	6.66	3	50	6.5	8.5	
8/07/21	6.50	4	50	6.5	8.5	
10/08/21	6.96	2	50	6.5	8.5	
6/09/21	6.92	4	50	6.5	8.5	
6/10/21	6.66	1	50	6.5	8.5	
3/11/21	6.35	6	50	6.5	8.5	


Sample Date	Monitoring Results		Discharge Criteria			Comments
	pH	TSS mg/L	TSS Limit mg/L	pH Lower Threshold	pH Upper Threshold	
8/12/21	6.95	3	50	6.5	8.5	
18/01/22	6.96	3	50	6.5	8.5	
1/02/22	6.88	10	50	6.5	8.5	
10/03/22	6.41	10	50	6.5	8.5	
7/04/22	6.72	13	50	6.5	8.5	
23/05/22	5.82	11	50	6.5	8.5	
7/06/22	6.49	3	50	6.5	8.5	
12/07/22	6.77	6	50	6.5	8.5	
9/08/22	6.79	7	50	6.5	8.5	
7/09/22	7.15	17	50	6.5	8.5	
6/10/22	6.80	5	50	6.5	8.5	
3/11/22	7.00	2.5	50	6.5	8.5	
1/12/22	6.40	10	50	6.5	8.5	
16/01/23	7.20	2.5	50	6.5	8.5	
14/02/23	7.30	2.5	50	6.5	8.5	
13/03/23	6.90	2.5	50	6.5	8.5	
6/04/23	7.10	2.5	50	6.5	8.5	
2/05/23	7.40	2.5	50	6.5	8.5	

Attachment C Current Site Photos

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Leadshine P/L	Broken Head Quarry	EPL Monitoring

Photo No.	Date	
1	13/03/2023	
Description Image showing site stabilization in the western portion of the quarry including a riprap lined clean water diversion drain in the foreground		

Photo No.	Date	
2	13/03/2023	
Description Image showing site stabilization and revegetation area in western portion of quarry		

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Leadshine P/L	Broken Head Quarry	EPL Monitoring



Photo No.	Date	
3	13/03/2023	
Description Image showing site stabilization and revegetation area in western portion of quarry		

Photo No.	Date	
4	13/03/2023	
Description Image showing Sediment Basin (P4). All embankments are stable, inlets and outlets are stabilized with riprap as per Blue Book requirements. Water quality results in Table 1.		

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Leadshine P/L	Broken Head Quarry	EPL Monitoring



Photo No.	Date	
5	13/03/2023	
Description Image showing stabilized batter located within the eastern portion of the quarry		

Photo No.	Date	
6	13/03/2023	
Description Additional image showing stabilization of the batters and basin wall within the eastern portion of the quarry		

PHOTOGRAPHIC LOG

Client Name	Site Location	Project
Leadshine P/L	Broken Head Quarry	EPL Monitoring

Photo No.	Date	
7	13/03/2023	
Description Image showing stabilized (vegetated) sediment basin (P5)		