PENRICE QUARRY, ANGASTON (PM 86, PM 120, MPL 75, MPL 118 & ML 6233)

# Annual Compliance Report

**Prepared for:** Adelaide Brighton Cement Limited
**Date:** 28 February 2025
**Report period:** 01/01/2024 – 31/12/2024
**File Reference:** 1767.670.005

# DOCUMENT CONTROL

### PROJECT / DETAILS REPORT

| | |
|---|---|
| **Document Title:** | Penrice Quarry, Angaston (PM 86, PM 120, MPL 75, MPL 118 & ML 6233) Annual Compliance Report (01/01/2024 – 31/12/2024) |
| **Principal Author:** | Rachel Hall |
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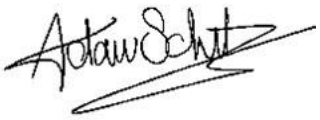
# Declaration of Accuracy

This report is prepared for the Department for Energy and Mining (DEM) to fulfil the annual mining compliance reporting requirements for the Tenements listed herein. I, **Adam Schutz**, the applicant, have taken reasonable steps to review the information to ensure its accuracy.



**Name:** Adam Schutz
**Position:** Manager – Quarry Operations
**Company:** Adelaide Brighton Cement Limited
**Dated:** 28 February 2025

**Summary of steps undertaken to review the compliance report to ensure its accuracy:** Adelaide Brighton Cement Limited (ABCL) have engaged Groundwork, part of SLR (Groundwork) to undertake a review of the compliance and monitoring data for the quarry against the required objectives and outcomes defined by the Mine Operations Plan and Program for Environment Protection Rehabilitation (MOP PEPR) for the quarry. The review included undertaking a site inspection and collection of field data along with internal reviews undertaken by ABCL.

# 1 Executive Summary

Penrice Quarry, Angaston (Penrice Quarry) is a South Australian (SA) limestone and marble quarry, which is located on Penrice Road, approximately two-and-a-half (2.5) kilometres (km) north of the township of Angaston. Penrice Quarry is comprised of Private Mines (PMs) 86 and 120, Mineral Lease (ML) 6233 and Miscellaneous Purpose Licences (MPLs) 75 and 118 (the Site). The Site, which has been operational since 1973, is owned by ABCL, and has been operated as Penrice Quarry and Mineral (PQM) since 2014.

This Compliance Report is for Penrice Quarry for the period 01/01/2024 to 31/12/2024 in accordance with the requirements of Regulation 77 of the *Mining Regulations 2020*, *Terms of Reference 009 Mining compliance reports* (TOR 009) and *Minerals Regulatory Guidelines (MG3) - Preparing a mining compliance report*.

The Site is subject to the conditions outlined within the ML documents and a MOP PEPR which was approved on 26 August 2024 as Program No. MPEPR 2023 / 020. The Site is licenced by the Environment Protection Authority (EPA) for activities of environmental significance (EPA Licence No. 45822).

# 2 Site Details

## 2.1 Tenement Details

An overview of the Tenement details is summarised in **Table 1 – Tenement Details Summary**.

**Table 1 – Tenement Details Summary**

| Tenement Number | PM 86 | PM 120 | MPL 75 | MPL 118 | ML 6233 |
|---|---|---|---|---|---|
| Registration Grant Date | 29/03/1973 | 31/05/1973 | 26/09/2005 | 31/12/2008 | 13/10/2006 |
| Expiry Date | Not applicable. | Not applicable. | 25/09/2033 | 25/09/2033 | 12/10/2034 |
| Status of Currency | Active | Active | Active | Active | Active |
| Tenement Holder / Operator | Adelaide Brighton Cement Limited | | | | |
| Commodities | Marble | Limestone | Not applicable. | Not applicable. | Limestone |
| Legal Area – hectares (ha) | 18.46 | 101.37 | 35.4 | 13.5 | 9.7 |
| Commodity Categories | Construction Materials; Industrial Minerals | Construction Materials | Not applicable. | Not applicable. | Industrial Minerals |

(Source: SARIG, 2025)

## 2.2 Site Contact

**Table 2 – Site Contact Details** summarises the Site contact details.

**Table 2 – Site Contact Details**

| | |
|---|---|
| **Contact Name / Position** | Adam Schutz – Manager - Quarry Operations |
| **Phone Number** | 0447 466 817 |
| **Postal Address** | 16 Phillips Street, Thebarton, SA, 5031 |
| **Quarry Manager Contact Details** | |
| **Contact Name / Position** | Rodd Welsh – Manager - Quarry Penrice |
| **Phone Number** | 0418 292 843 |
| **Postal Address** | PO Box 234, Angaston SA 5353 |

## 2.3 Identification

**Table 3 – Site Identification Details**

| | |
|---|---|
| **Mine Name(s)** | Penrice Quarry, Angaston |
| **Tenement Holder(s)** | Adelaide Brighton Cement Limited |
| **Operating Company(s)** | Adelaide Brighton Cement Limited |

| | | | |
|---|---|---|---|
| **Tenement Number(s)** | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | | |
| **MOP PEPR Document** | 1767_610_002_RPTO_Penrice Quarry MOP PEPR Review V8 | **MOP PEPR No.** | MPEPR 2023 / 020 |
| | | **MOP PEPR Approval Date** | 26 August 2024 |
| **Location Details** | Located approximately three (3) kms north of the township of Angaston, in Penrice SA. | | |
| **Reporting Period** | 01/01/2024 | 31/12/2024 | |
| **Compliance Report Submission Date** | 28 February 2025 | | |

## 2.4 Public Liability Insurance

Public liability insurance is current for the Site. A certificate demonstrating this is provided within **Attachment 1 – Certificate of Currency Public Liability Insurance**.

## 2.5 Other Approvals

The below **Table 4 – Other Approvals Summary**, provides a summary of the status of currency of any other approvals obtained to authorise the operation. The list includes authorisations that are relevant to the achievement of environmental outcomes within the approved MOP PEPR and Tenement conditions.

**Table 4 – Other Approvals Summary**

| Approval Document | Regulatory Authority | Relevant Approval or Tenement Condition | Status of Currency |
|---|---|---|---|
| EPA Licence No. 45822 | EPA | Refer to **Section 3.2 Compliance with Non-Outcome Based Conditions**. | Current until 30/11/2028. |
| MPL 75 & MPL 118 | DEM | Refer to **Section 3.2 Compliance with Non-Outcome Based Conditions**. | Current until 25/09/2033. |
| ML 6233 | DEM | Refer to **Section 3.2 Compliance with Non-Outcome Based Conditions**. | Current until 12/10/2034. |

## 2.6 Ore Reserves and Mineral Resources

An estimate of the remaining quarry life is shown in **Table 5 – Estimated Quarry Life**.

**Table 5 – Estimated Quarry Life**

| | |
|---|---|
| **Estimated Mine Life** | Approximately 69 years of quarry life remain. |
| **Notes** | Quarry life is dependent on market demand. The average sales production rate for the Site is 1,000,000 t per annum (t / a) (market dependant).<br><br>Based on the estimated production rate and total reserve calculation highlighted within **Table 6 – Reserve Estimate (Extracted from MOP PEPR MPEPR 2023 / 020)**, it was estimated at the time of MOP PEPR approval (26 August 2024), the Site had an extractable life of approximately 70 years. |

**Table 6 – Reserve Estimate (Extracted from MOP PEPR MPEPR 2023 / 020)**

| Pit Design | Volume | Fill | | Roadbase | | Aggregate | |
|---|---|---|---|---|---|---|---|
| | Total Volume (cubic metres ($m^3$)) | Volume ($m^3$) | Tonnes (t) | Volume ($m^3$) | t | Volume ($m^3$) | t* |
| QDP Long Term | 30,355,296 | 1,680,000 | 3,696,000 | 2,990,000 | 7,176,000 | 25,685,296 | 60,103,593 |
| Concept Pit 2 | 38,808,337 | 1,680,000 | 3,696,000 | 2,990,000 | 7,176,000 | 34,138,337 | 79,883,709 |

*Volumes estimated at 100 percent yield for fill and roadbase and a 90 percent yield for aggregates, using an Apparent Particle Density insitu of 2.2 t / $m^3$ for fill 2.4 t / $m^3$ for aggregates.

## 2.7 Mining, Processing, and Waste Storage Activities

**Table 7 – Ore Mining / Resource Extraction**

| Ore Mined – Mine Life (t) | Ore Mined – Reporting Period (t) | Expected quantity to be mined during next Reporting Period (t) | Quantity of ore stockpiled on the Tenement at the end of Reporting Period (t) |
|---|---|---|---|
| Not applicable. | 1,316,137 | 1,600,000 | 227,863.33 |
| **Production Notes**<br>Production rate is subject to market demand, and exceeded the estimated production rate of 1,000,000 t per annum as specified within the MOP PEPR, refer to **Table 5 – Estimated Quarry Life**.<br>The quantity of ore stockpiled on the Tenement is based on the stockpile volumes identified within a Unmanned Aerial Vehicle (UAV) survey conducted on 30 September 2024, which is outlined within **Drawing No. 1767.DRG.166 – Stockpile Location Plan (2024-09-30)**, refer to **Drawing No. 1767.DRG.166 – Stockpile Volumes (2024-09-30)**. | | | |

**Table 8 – Ore Processing**

| Ore Processed – Mine Life (t) | Ore Processed – Reporting Period (t) | Expected quantity of ore to be processed next Reporting Period (t) |
|---|---|---|
| Not applicable. | Not applicable. | Not applicable. |
| **Production Notes**<br>Extractive resources are crushed and screened prior to sale to market. No chemical or ore processing is undertaken onsite. | | |

**Table 9 – Concentrate or Other Product Exported**

| Concentrate or Other Product Exported – Mine Life (t) | Amount of Concentrate or Other Product Exported – Reporting Period (t) | Expected amount of concentrate or other product to be exported next Reporting Period (t) |
|---|---|---|
| Not applicable. | Not applicable. | Not applicable. |
| **Production Notes**<br>No chemical concentrate or other product export occurs onsite. | | |

**Table 10 – Overburden or Waste Mined**

| Overburden or Waste Mined – Mine Life (t) | Overburden or Waste Mined – Reporting Period (t) | Expected amount of overburden or waste to be mined next Reporting Period (t) |
|---|---|---|
| Not applicable. | 342,697.38 | 700,000 |
| **Production Notes**<br>The quantity of overburden mined is based on market demand and subject to resource availability. | | |
| **Volume of Potential Acid Forming (PAF) and Non-acid Forming (NAF) material mined during reporting period** | | |
| There has been no PAF or NAF material identified or mined at the Site. | | |
| **Remaining capacity of current waste facilities or planned future waste facilities as per approved MOP PEPR** | | |
| There are no current or future waste facilities at the Site as per the approved MOP PEPR. | | |
| **Is there sufficient capacity in the current or planned future waste facilities as per approved MOP PEPR? If not, include what future work is required** | | |
| Not applicable. | | |

# 3 Summary of Compliance

## 3.1 Compliance with Environmental Outcomes / Objectives and Leading Indicator Criteria

The below Environmental Outcomes / Objectives have been extracted from the approved MOP PEPR, as Program No. MPEPR 2023 / 020. The MOP PEPR details Environmental Outcomes / Objectives for both operational and closure Stages of the quarry. Due to the early life of the quarry, the Environmental Outcomes / Objectives related to mine closure are not relevant at this operational stage, therefore are not considered in this report.

**Table 11 – Surface Water (Erosion, Silt and Stormwater Management) (SW1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Surface Water (Erosion, Silt and Stormwater Management) (SW1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |
| **Environmental Outcome / Objective**<br>No contamination of watercourses offsite caused by quarry related sediment. | | |
| **Tenement Condition**<br>MPL 75 – Second Scheule, Condition 6<br>The Licensee must ensure that all water borne silt (or any other mining related contaminants) be contained on the area of the licence or the adjoining PMs 86 and 120.<br>MPL 118 – Second Schedule, Condition 11<br>The Licensee must, in constructing and operating the Licence ensure no water contaminated as a result of mining operations leaves the licence area or results in loss of or contamination of soil on or off the Licence.<br>ML 6223 – Second Schedule, Condition 9<br>The Lessee must ensure that all water borne silt (or any other mining related contaminants) be contained on the area of the MPL 75 or the adjoining PMs 86 and 120. | | |
| **Outcome / Objective Measurement Criteria**<br>1. **Objective / Outcome Achievement**<br>All stormwater leaving the sediment basin adjacent Jaeckeli Creek will be tested for turbidity and comply with ANZECC default trigger value of 50 NTU.<br>2. **What will be Measured and the Form of Measurement**<br>• Performance of sediment basin structures.<br>• Water quality (NTU) as per ANZECC guidelines.<br>3. **Location of Measurement**<br>Water quality measurement from the outlet of sediment basin adjacent Jaeckeli Creek Drawing No. 1767.DRG.075R1 – Site Layout Plan.<br>4. **Frequency**<br>When discharge occurs from sediment basin adjacent to Jaeckeli Creek.<br>5. **Control / Baseline Data**<br>ANZECC water quality guidelines. | | |
| **Outcome / Objective Measurement Criteria Summary** | | |

During the reporting period, no discharge events occurred from the sediment basin adjacent to Jaeckeli Creek.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include appropriately inducting and training staff on the prevention and control of erosion, diverting clean catchment runoff with appropriate prevention measures, and directing all water affected by disturbed land into the pit void and sediment basins for settlement and reuse. Additionally, settling dams are to be maintained when necessary, land disturbance shall be minimised to the extent practicable with progressive rehabilitation to occur, permanent bunds are to be stabilised, and rock catchment drainage shall be installed on overburden dumping areas to minimise water velocity and erosion.

An UAV survey undertaken on 30 September 2024 demonstrated all water is directed within the pit void and sediment basins within the Site, refer to **Drawing No. 1767.DRG.164A – Orthophoto and Topography (2024-09-30)**.

A General Site Inspection conducted on 21 November 2024 demonstrated all surface water is retained within the pit void, and adequate drainage measures (including rock catchment drainage, sediment dams and drainage channels) were in place and effectively retaining water within the Tenement, refer to **Attachment 2 – General Site Inspection Report**.

During the reporting period, no water was discharged from the sediment basin adjacent to Jaeckeli Creek.

As all water is observed to be retained within the Tenement, the existing control measures are effective at ensuring no contaminated watercourses offsite as a result of quarry operations.

**Supporting Report Reference**

**Drawing No. 1767.DRG.0164A – Orthophoto and Topography (2024-09-30)**

**Attachment 2 – General Site Inspection Report**.

**Table 12 – Noise (N1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Noise (N1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No public nuisance impacts from noise emanating from the Site.

**Tenement Condition**

MPL 118 – Second Schedule, Condition 2

The Licensee must in constructing and operating the Licence, ensure that there are no public nuisance impacts from noise emanating from the Licence.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   Quarry records shall demonstrate that all noise related complaints are acknowledged within 48 hours and closed out within seven (7) days to the satisfaction of the Mining Regulator.

   In the event that control measures do not resolve the complaint to the satisfaction of the Regulator, noise measurements will be undertaken in accordance with Part 3 of the *Environment Protection (Noise) Policy 2007* at locations agreed upon by the operator and Mining Regulator to verify compliance with Section 1 Part 5 — Indicative noise levels;

| **Zone** | **Noise Criteria (A - weighted decibels (dB(A))** | |
|---|---|---|
| | **Day (7 am – 10 pm)** | **Night (10 pm – 7 am)** |
| Residential | 61 | 53 |
| Rural Living | 59 | 50 |
| Primary Production | 64 | 55 |
| Primary Production (Barossa Valley Region) | 64 | 55 |

2. **What will be Measured and the Form of Measurement**

   Quarry management logbook noise related complaint records acknowledged within 48 hours and closed out within seven (7) days.

   Noise monitoring (dB) records in accordance with Part 3 of the *Environment Protection (Noise) Policy 2007*.

3. **Location of Measurement**

   At the sensitive receptor/s or alternative location as agreed with the Mining Regulator.

4. **Frequency**

   Records maintained following a complaint.

   Monitoring as required by the Mining Regulator.

5. **Control / Baseline data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, eight (8) noise-related complaints were received by the Site, all of which were investigated and responded to within a timely manner, refer to **Section 4 Complaints**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include adhering to the approved operating hours, scheduling particularly noisy activities to occur after 7:00 am and before 10:00 pm, and maintaining earthen noise abatement bunds. Additionally, equipment is to be adequately maintained, avoiding unnecessary operation or revving of plant engines (including shutting down when not in use), and fit with broadband reversing alarms rather than audible sirens. Within the Site, vehicle speeds shall be limited to 40 km per hour (hr), with HME movements along the eastern haul road only undertaken during daytime operations and not after 5:30 pm, and complaints shall be recorded, investigated and responded to within a timely manner.

During the reporting period, eight (8) noise complaints were received by the Site, of which all were recorded, investigated and responded to within a timely manner, refer to **Section 4 Complaints**.

Liaison with quarry management confirmed an earth mound was built at the western end of the aggregate plant and feed bench to reduce noise from the excavator rock breaker works, in consultation with the community. Further noise-reduction works are proposed for the following reporting period.

As all complaints have been responded to accordingly, the existing control measures are effective at ensuring no public nuisance impacts from nose emanating from the Site.

**Supporting Report Reference**

Not applicable.

**Table 13 – Dust (D1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Dust (D1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Non-compliant |

**Environmental Outcome / Objective**

No public health and / or nuisance impacts to local residents and adjacent land users from dust generated by quarrying operations.

**Tenement Condition**

MPL 118 – Second Schedule, Condition 3

The Licensee must in constructing and operating the Licence ensure that there are no nuisance impacts to local residents and adjacent land users from air emissions and dust generated by mining operations.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   Quarry Management Logbook demonstrates records of visual inspections and monitoring of wind and weather forecasts and response employed as per Trigger Action Response Plan (TARP) Section 4.1.4: Attachment 10 – Dust Management Plan Penrice Quarry & Mineral.

   Dust related complaints acknowledged within 48 hours and closed out within seven (7) days to the satisfaction of the complainant or as agreed by the Mining Regulator.

   Continuous air quality monitoring at three (3) locations demonstrate that $PM_{10}$ levels are less than 50 micrograms (µg) / ($m^3$), when measured over a 24-hour period as specified in the *Environment Protection (Air Quality) Policy 2016*, (midnight to midnight).

2. **What will be Measured and the Form of Measurement**

   Continuous air quality monitoring for $PM_{10}$ concentrations.

   Compliance with the TARP from quarry records.

   Complaints register as per information provided in quarry records.

3. **Location of Measurement**

   Dust monitoring locations outlined within **Drawing No. 1767.DRG.075R1 – Site Layout Plan**.

4. **Frequency**

   Continuous air quality monitoring and as required for complaints.

5. **Control / Baseline Data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, two (2) dust-related complaints were received by the Site, of which were acknowledged within 48 hours and closed out within seven (7) days, refer to **Section 4 Complaints**.

Site personnel continuously monitor wind and weather data, which includes undertaking visual inspections of the conditions within the Site. The Site monitors real time dust via three (3) Beta Attenuation Monitor (BAM) units, within the locations specified in **Drawing No. 1767.DRG.075R1 – Site Layout Plan**. The Site also undertakes monthly dust monitoring from four (4) locations around the Site, of which results are available upon request.

When necessary, the TARP responses are activated within the Dust Management Plan (DMP), of which the responses are recorded within internal systems.

During the reporting period, 11 exceedances of $PM_{10}$ with levels over 50 / $m^3$ occurred during the reporting period, with records demonstrating TARP actions were initiated (including implementation of two (2) water trucks, moving load and haul fleet to another area, ceasing load and haul movements, and ceasing manufacturing plant operations) during these events available upon request.

A non-conformance with the outcome / objective measurement criteria of ensuring $PM_{10}$ concentrations remain under 50 µg / $m^3$ at specified locations has occurred. The rectification and corrective actions associated with the $PM_{10}$ exceedances of 50 µg / $m^3$ over a 24-hour period have been discussed within **Table 29 – Instance of Non-Compliance – Dust**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include adhering to the DMP and TARP, including undertaking ongoing visual inspections of Site operations and monitoring wind and weather forecasts (using the Bureau of Meteorology (BoM)) to determine days when dust-generating activities should be avoided (including shut down when necessary). Additional control measures include tarping loads prior to exit of Site, use of the water truck, fixed sprinkler systems on entrance road to Site, encapsulation of transfer points, ongoing dust monitoring and regular street sweeping at the Site entrance.

A general Site inspection undertaken on 21 November 2024 demonstrated encapsulation of fixed plant, an operational mist canon in sales area and water truck onsite for dust suppression, refer to **Attachment 2 – General Site Inspection Report**.

During the reporting period, three (3) BAM units in the locations specified within **Drawing No. 1767.DRG.075R1 – Site Layout Plan** were operational to measure real time $PM_{10}$ levels. Additional monthly dust deposition monitoring was undertaken from four (4) locations within the Site during the reporting period, of which results are available upon request.

Site personnel continuously monitor wind and weather data, which includes undertaking visual inspections of the conditions within the Site. When necessary, the TARP responses are activated within the DMP, of which the responses are recorded within internal systems. As demonstrated within **Figure 1 – BAM Recordings 2024**, 11 exceedances of $PM_{10}$ levels over 50 µg / $m^3$ were recorded, by which TARP actions were initiated. Records of TARP actions are available upon request.

Two (2) dust-related complaints were received during the reporting period, of which were acknowledged and closed out in a timely manner, refer to **Section 4 Complaints**.

As dust suppression measures are implemented at the Site, and all dust-related complaints were closed out within a timely manner, the existing control strategies are effective at ensuring no public health and / or nuisance impacts are generated by quarrying operations.

**Supporting Report Reference**

**1767.DRG.075R1 – Site Layout Plan**

**Attachment 2 – General Site Inspection Report**

TARP response records, BAM recordings and monthly dust deposition summaries are available upon request.

**Table 14 – Visual Amenity (VA1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Visual Amenity (VA1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

- Integrate and harmonise final landforms with the natural landform of the adjacent foothills.
- Visually soften contrasting and reflective landforms which are temporarily 'idle'.
- Integrate and harmonise revegetation with existing tree cover on adjacent hills.
- Screen visually prominent built structures (including active product stockpiles) with vegetation screens where practicable.

**Tenement Condition**

MPL 75 – Second Schedule, Condition 2

The Licensee must ensure that effective screening measures are undertaken to effectively screen and vegetate the overburden dump, as part of mining, commencing on the establishment of the overburden dump and be maintained for the duration of the Tenement, and to the satisfaction of the Chief Inspector of Mines.

MPL 118 – Second Schedule, Condition 1

Landforms constructed as a result of mining operations and vegetation cover must integrate and harmonise with the surrounding landscape when viewed from the Barossa Valley floor and roads as specified in the Barossa Council development plan and other locations specified and agreed by the Penrice Community Consultative Group.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Visual impact assessment undertaken by a suitably qualified person approved by the Mining Regulator at sensitive receiver locations as shown in **Drawing No. 1767.DRG.091R1 – Visual Assessment Map** annually and at the end of each Stage of quarry development confirms that progressive rehabilitation strategies have been implemented to minimise visual amenity impacts and are aligned with the objectives of the original Strategic Visual Amenity Plan (SVAP).
   Implementation of progressive rehabilitation and landscaping in accordance with Drawing No. 1767.DRG.082R2 – Rehabilitation - Stage 1, Drawing No. 1767.DRG.089R1 – Rehabilitation - Stage 2, Drawing No. 1767.DRG.83R3 – Rehabilitation - Stage 3, Drawing No. 1767.DRG.084R3 – Rehabilitation - Stage 4, Drawing No. 1767.DRG.085R3 – Rehabilitation - Stage 5, Drawing No. 1767.DRG.090R1 – Rehabilitation - Stage 6.
2. **What will be Measured and the Form of Measurement**
   Visual assessment and photographic records of progressive rehabilitation.
   Outer and inner batter slopes are to be measured annually to demonstrate conformance with face slopes recommended within the SVAP (25 degrees for external slopes and 40 degrees for internal slopes).
3. **Location of Measurement**
   In accordance with locations outlined within **Drawing No. 1767.DRG.091R1 – Visual Assessment Map**.
4. **Frequency**
   Annually and at the completion of each Stage of quarry development.
5. **Control / Baseline Data**
   Landscape character and visual impact assessment within the historic SVAP.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, two (2) visual amenity inspections were undertaken at Penrice Quarry; one (1) comparative visual amenity assessment on 13 June 2024 to assess the achievement of rehabilitation works within MPL 75 (commenced on 12 March 2024), and one (1) routine visual amenity inspection from the locations specified **Drawing No. 1767.DRG.091R1 – Visual Assessment Map**, refer to **Attachment 3 – Comparative Visual Amenity Assessment** and **Attachment 4 – Visual Amenity Inspection Report**.

The visual amenity inspection undertaken on 6 December 2024 demonstrated minimal views of Site operations present from closer locations to the west of the Site, and some views present from the north of the Site, refer to **Attachment 4 – Visual Amenity Inspection Report**. No significant differences in visual impact were noted compared to previous assessments.

The comparative visual amenity assessment undertaken on 13 June 2024 demonstrated progressive rehabilitation strategies have been implemented within MPL 75 to soften the visual impact of the Site and ensure it blends in with the surrounding landscape, refer to **Attachment 3 – Comparative Visual Amenity Assessment**. Additionally, a general Site inspection undertaken on 21 November 2024 demonstrated re-seeding of the overburden dump has since occurred, to prevent erosion and further soften the visual impacts of MPL 75, refer to **Attachment 2 – General Site Inspection Report**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include undertaking progressive rehabilitation in accordance with the SVAP and the Site's rehabilitation plans, stripping topsoil in accordance with the Quarry Development Plans (QDP)s, visually softening the overburden mounds to better integrate with the surrounding landscape, and using trees and bunding to screen ancillary infrastructure where practicable.

A visual amenity inspection was undertaken on 6 December 2024, which identified minor views of Site operations and ancillary infrastructure present from the west and north of Site, refer to **Attachment 4 – Visual Amenity Inspection Report**. No significant changes to visual amenity were noted when compared to previous assessments.

During the reporting period, progressive rehabilitation was undertaken within MPL 75, which included creating a visually-softened landform which blends in with the surrounding environment. A comparison of the landform before and after rehabilitation works is present within **Attachment 3 – Comparative Visual Amenity Assessment**.

A general Site inspection undertaken on 21 November 2024 demonstrated the rehabilitated area within MPL 75 has since been shaped and re-seeded, and is beginning to harmonise with the surrounding hills, refer to **Attachment 2 – General Site Inspection Report**. Additionally, bunding and tree screening measures were found to be in place and effective, generally on the southern side of the Site, refer to **Attachment 2 – General Site Inspection Report**.

As progressive rehabilitation is occurring and no significant differences in visual impact have been noted when compared to previous assessments, the existing control measures are effective at ensuring the principles of the SVAP are followed to minimise the Site's visual impact.

**Supporting Report Reference**
**Drawing No. 1767.DRG.091R1 – Visual Assessment Map**
**Attachment 2 – General Site Inspection Report**
**Attachment 3 – Comparative Visual Assessment**
**Attachment 4 – Visual Amenity Inspection Report**.

**Table 15 – Visual Amenity (VA2)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Visual Amenity (VA2) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

Amenity of adjacent residents is not reduced by operational use of direct night time lighting.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   Quarry records shall demonstrate that all light spill related complaints are acknowledged within 48 hours and closed out within seven (7) days to the satisfaction of the complainant or as agreed with the Mining Regulator.

   In the event that control measures do not resolve the complaint to the satisfaction of the Mining Regulator, light spill measurements will be undertaken in accordance with AS 4282-1997 *Control of the obtrusive effects of outdoor lighting* and demonstrate that light spill measurements do not exceed two (2) Lux.

2. **What will be Measured and the Form of Measurement**

   Quarry Management Logbook regarding light spill related complaint records acknowledged within 48 hours and closed out within seven (7) days.

   Light spill Lux levels.

3. **Location of Measurement**

   At the sensitive receptor/s or alternative location as agreed with the Mining Regulator.

4. **Frequency**

   Records maintained following a complaint.

   Monitoring as required by the Mining Regulator.

5. **Control / Baseline Data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, no light spill related complaints have been received by the Site.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include maintaining visual screening as per **Table 14 – Visual Amenity (VA1)**, in addition to maintaining and directing security and operational lighting towards the operational areas of the Site, and away from adjacent land parcels where possible.

During the reporting period, no light spill related visual amenity complaints were received by the Site. The Site ensures that lighting is placed in such a manner that it is directed within the confines of the Site.

| |
|---|
| As no light spill related visual amenity complaints were received by the Site during the reporting period, the existing control measures are effective at ensuring amenity of adjacent residents is not reduced by night time lighting from the quarry. |
| **Supporting Report Reference**<br>Not applicable. |

**Table 16 – Native Vegetation and Habitat (NV1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Native Vegetation and Habitat (NV1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

- Maintain existing Penrice native revegetation plantings in MPL 75, MPL 118 and ML 6233.
- No clearance of native vegetation within the riparian zone of the Jaeckeli Creek.
- Clearance of any native vegetation complies with *Native Vegetation Act 1991*.

**Tenement Condition**

MPL 118 – Second Schedule, Condition 8

The Licensee must, in constructing and operating the Licence ensure no permanent loss of abundance or diversity on or off the Licence through:

a) clearance
b) other damage;

To native vegetation unless prior approval under the relevant legislation is obtained, except as specified for under Clause 9 below.

MPL 118 – Second Schedule, Condition 9

The Licensee must ensure that there is no clearance of native vegetation within the riparian zone of the Jaeckeli Creek.

MPL 118 – Second Schedule, Condition 13

The Licensee must within three (3) months of licence grant, develop and implement a management plan for the preservation and restoration of the Jaeckeli Creek riparian zone within the MPL to the satisfaction of the Director of Mines.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Quarry management records demonstrate that all vegetation clearance occurs in accordance with the approved QDPs, and no clearance has occurred outside of the approved areas or as a result of erosion and sedimentation of the batters adjacent to Jaeckeli Creek.
2. **What will be Measured and the Form of Measurement**
   Clearance and health of existing native vegetation.
   Annual photographic evidence (UAV) Imagery.
3. **Location of Measurement**
   Jaeckeli Creek.
4. **Frequency**
   Annually (anniversary of approval document).
5. **Control / Baseline Data**
   Drawing No. 1767.DRG.051R6 – Quarry Development Plan - Stage 1, Drawing No. 1767.DRG.053R6 – Quarry Development Plan - Stage 2, Drawing No. 1767.DRG.054R6 – Quarry Development Plan - Stage 3 and Drawing No. 1767.DRG.050R8 – Quarry Development Plan - Long Term.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, four (4) UAV surveys were undertaken at the Site, which provide evidence that no native vegetation clearance has occurred within the riparian zone of Jaeckeli Creek (Propeller, 2025).

A native vegetation inspection was undertaken on 21 November 2024 at three (3) photo locations along Jaeckeli Creek, which demonstrated the vegetation within the riparian zone is in good,

established condition, with no evidence of clearance, refer to **Attachment 5 – Jaeckeli Creek Vegetation Inspection Report**.

A general Site inspection conducted on 21 November 2024 demonstrated sediment basins are situated around the Site, which are effective at capturing sedimentation of disturbed areas to prevent degradation or loss of native vegetation, refer to **Attachment 2 – General Site Inspection**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include undertaking topsoil stripping and vegetation clearance in accordance with the QDPs, conducting progressive revegetation of the final landform batters with native vegetation, appropriately training operators to prevent unauthorised clearance, and restricting vehicle access to demarcated haul roads.

During the reporting period, no vegetation clearance or topsoil stripping has occurred at the Site. Recent UAV surveys undertaken during the reporting period and a vegetation inspection undertaken at Jaeckeli Creek on 21 November 2024 demonstrated no native vegetation clearance has occurred onsite, or within the riparian zone of Jaeckeli Creek, refer to **Attachment 5 – Jaeckeli Creek Vegetation Inspection Report**.

During the reporting period, native vegetation revegetation has occurred within the northern end of MPL 75, by which 600 tube stock have been planted. An annual flora and fauna survey conducted by Farmer Johns demonstrated historic revegetation is establishing well, and in good condition, refer **Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

As no vegetation clearance has occurred during the reporting period, the existing control strategies are effective at ensuring preservation of native vegetation onsite.

**Supporting Report Reference**

**Attachment 2 – General Site Inspection Report**

**Attachment 5 – Jaeckeli Creek Vegetation Inspection Report**

**Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

**Table 17 – Topsoil Management (T1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Topsoil Management (T1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

Ensure that existing topsoil quality and quantity is contained onsite and is maintained.

**Tenement Condition**

ML 6233 – Second Schedule, Condition 6

The Lessee must ensure that all affected topsoil is removed and stockpiled prior to carrying out any activity, and minimise the mixing and erosion of topsoil and overburden stockpiles.

MPL 75 – Second Schedule, Condition 3

The Licensee must ensure that all affected topsoil is removed and stockpiled prior to carrying out any activity, and minimise the mixing and erosion of topsoil and overburden stockpiles.

MPL 118 – Second Schedule, Condition 10

The Licensee must in constructing and operating the Licence ensure that the existing soil quality and quantity is maintained.

MPL 118 – Second Schedule, Condition 11

The Licensee must, in constructing and operating the Licence ensure no water contaminated as a result of mining operations leaves the licence area or results in loss of or contamination of soil on or off the Licence.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   Topsoil inventory demonstrates all available topsoil is conserved for reuse and is used for rehabilitation on the Site.

   Representative composite sampling of topsoil at point of removal and placement for pH, conductivity and nutrients (N, K, and P) demonstrates no decrease in nutrient levels at placement.

   Topsoil is to be analysed prior to placement and ameliorants added (if required) to ensure topsoil is suitable to sustain long term plant growth

2. **What will be Measured and the Form of Measurement**

   Composite topsoil soil tests for pH, Conductivity and Nutrients (N, K and P).

3. **Location of Measurement**

   Rehabilitation areas / topsoil stockpiles.

4. **Frequency**

   As required and prior to placement of topsoil on rehabilitated areas.

5. **Control / Baseline Data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

A topsoil stockpile inspection was undertaken on 21 November 2024, which demonstrated topsoil is onsite and stored appropriately (vegetated and free from significant weeds and erosion), refer to **Attachment 7 – Topsoil Stockpile Inspection Report**.

Liaison with quarry management confirms no new topsoil stripping has occurred during the reporting period.

**Leading Indicator Criteria**

Not applicable.

| |
|---|
| **Leading Indicator Summary**<br>Not applicable. |
| **Effectiveness of Existing Controls**<br>The existing control strategies include undertaking visual surveys prior to topsoil stripping, weed control to minimise weed infestation, stockpiling separate from overburden, and utilising topsoil directly on areas being rehabilitated where practicable.<br><br>During the reporting period, a topsoil stockpile inspection was undertaken on 21 November 2024, which demonstrated topsoil is in good condition and stored appropriately (free from significant weeds and erosion), refer to **Attachment 7 – Topsoil Stockpile Inspection Report**.<br>Additionally, liaison with quarry management confirms no new topsoil stripping has occurred during the reporting period.<br><br>As all topsoil is retained onsite and utilised directly in rehabilitation activities where practicable, the existing control measures are effective at maintaining the existing topsoil quality and quantity. |
| **Supporting Report Reference**<br>**Attachment 7 – Topsoil Stockpile Inspection Report**. |

**Table 18 – Weeds and Pests (W1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Weeds and Pests (W1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

Ensure no establishment of new weeds, pests or plant pathogens (including feral animals) nor increase in abundance or escape of existing weeds and pest species in the quarry area.

**Tenement Condition**

ML 6233 – Second Schedule, Condition 6

The Lessee must ensure that all affected topsoil is removed and stockpiled prior to carrying out any activity, and minimise the mixing and erosion of topsoil and overburden stockpiles.

MPL 75 – Second Schedule, Condition 3

The Licensee must ensure that all affected topsoil is removed and stockpiled prior to carrying out any activity, and minimise the mixing and erosion of topsoil and overburden stockpiles.

MPL 118 – Second Schedule, Condition 10

The Licensee must in constructing and operating the Licence ensure that the existing soil quality and quantity is maintained.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Records of annual inspections undertaken in Spring by a suitably qualified person, are held by the operator to demonstrate no establishment of new weeds, pests or plant pathogens and no increased abundance of weed and pest species within the quarry area.
2. **What will be Measured and the Form of Measurement**
   Records of inspections demonstrate no introduction of new weeds, pests or plant pathogens onsite as compared to previous reporting year and no increased abundance of weeds when compared to adjoining land holdings.
3. **Location of Measurement**
   Within PM 120, PM 86, MPL 118, MPL 75 and ML 6233.
4. **Frequency**
   Annually.
5. **Control / Baseline Data**
   Previous inspection records.

**Outcome / Objective Measurement Criteria Summary**

A weeds and pests inspection was undertaken at Penrice Quarry on 21 November 2024, which demonstrated some isolated patches of tree tobacco (*Nicotiana glauca*) (environmental weed) scattered around the Site, particularly on walls above haul roads, refer to **Attachment 8 – Weeds and Pests Inspection Report**. The isolated patches looked to have established during previous reporting periods, in a similar abundance. No spread of the weed was observed onto adjacent land.

No increases in abundance or diversity were observed during the inspection.

Additionally, weed control has been undertaken periodically at the required time, as recommended within an annual flora and fauna survey undertaken by Farmer Johns during the reporting period, refer to **Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include undertaking implementing annual weed spraying campaigns (with additional campaigns when necessary), using the appropriate method of weed control within proximity to waterways, maintaining and adhering to demarcated haul roads and appropriately training Site personnel.

Weed control has been undertaken periodically at the required time, as recommended by Farmer Johns during the annual flora and fauna survey, refer to **Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

A weeds and pests inspection was undertaken on 21 November 2024, which demonstrated no significant increases in diversity and abundance of weeds and pests onsite. Environmental weed, tree tobacco (*Nicotiana glauca*) was noted throughout the Site, of which the individuals were observed to have been established during previous reporting periods, refer to **Attachment 8 – Weeds and Pests Inspection Report**. Removal / treatment by a suitably qualified third-party is recommended to prevent further spread.

A general Site inspection conducted on 21 November 2024 demonstrated internal haul roads are well maintained and in good condition, of which Site vehicles adhere to, to prevent the spread of weeds, refer to **Attachment 2 – General Site Inspection Report**.

As no significant increases in abundance or diversity of weeds and pests have been noted onsite, the existing control measures are effective.

**Supporting Report Reference**

**Attachment 2 – General Site Inspection Report**

**Attachment 6 – Annual Flora and Fauna Survey Report 2024**

**Attachment 8 – Weeds and Pests Inspection Report**.

**Table 19 – Waste Management (WM1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Waste Management (WM1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

All domestic and industrial waste disposed offsite.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   All waste tracking receipts are stored at the Site and will demonstrate that listed waste materials generated by quarry operations have been disposed of at an EPA licenced facility.
   Records show all chemicals and hydrocarbons are stored and handled in a bunded area, designed and installed in accordance with Australian Standard AS 1940 - *The storage and handling of flammable and combustible liquids* and EPA Guideline: EPA080/16 *Bunding and spill management, May 2016*.
2. **What will be Measured and the Form of Measurement**
   Quarry management records of waste removal.
3. **Location of Measurement**
   Within PM 120, PM 86, MPL 118, MPL 75 and ML 6233.
4. **Frequency**
   Annually.
5. **Control / Baseline Data**
   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, all waste was disposed of offsite at an EPA licenced facility, with waste tracking receipts available on request.

A general Site inspection conducted on 21 November 2024 demonstrated all hydrocarbons and chemicals are stored within an appropriately bunded area, with spill kits available, refer to **Attachment 2 – General Site Inspection Report**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include disposing of trackable wastes at an EPA licenced facility, storage of chemicals and hydrocarbons within an appropriately bunded area, and ensuring spill kits are available at all times for immediate clean up of potential contaminants.

A general Site inspection conducted on 21 November 2024 demonstrated hydrocarbons, chemicals and fuel are stored appropriately within a bunded area, with spill kits available onsite, refer to **Attachment 2 – General Site Inspection Report**. Additionally, all waste materials were disposed of onsite at an appropriately licensed facility, with waste tracking receipts available upon request.

As all wastes are appropriately stored and disposed of, the existing control measures are effective.

**Supporting Report Reference**

**Attachment 2 – General Site Inspection Report**.

**Table 20 – Waste Management (WM3)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Waste Management (WM3) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

All imported fill used in progressive rehabilitation satisfies Waste Derived Fill (WDF) 'Waste Soil' criteria.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Quarry management records demonstrate that WDF 'Waste Soil' materials imported to the Site are weighed, stockpiled, documented and re-used in accordance with the requirements of *EPA Standard for the production and use of Waste Derived Fill (2013)*.
2. **What will be Measured and the Form of Measurement**
   Quarry management records of WDF tracking receipts.
3. **Location of Measurement**
   Within PM 120, PM 86, MPL 118, MPL 75 and ML 6233.
4. **Frequency**
   Annually.
5. **Control / Baseline data**
   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, no WDF material was received by the Site.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include only accepting additional WDF material if it is accompanied by written, signed and dated certification from a suitably qualified person, stating that the WDF constitutes 'Waste Soil' when it exceeds 100 t from a single source site, unless otherwise approved by the EPA in writing.

During the reporting period, no WDF material was received by the Site. The Site has a WDF procedure in place (available upon request), should WDF material be imported and received, which therefore ensures the existing control measures are effective.

**Supporting Report Reference**

WDF procedure available upon request.

**Table 21 – Public Safety (PS1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Public Safety (PS1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No public injuries and / or deaths resulting from unauthorised public entry to the Site that could have been reasonably prevented.

**Tenement Condition**

MPL 118 – Second Schedule, Condition 4

The Licensee must in constructing and operating the Licence ensure that there are no public injuries and / or deaths resulting from unauthorised entry to the Site that could have been reasonably prevented.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   All incidents involving public injury and / or deaths resulting from unauthorised access to the quarry Site are to be recorded in a quarry management logbook and investigated by a suitably qualified third-party within one (1) calendar month (or other time as agreed with the Mining Regulator) and the results of the investigation show that the incident could not have been reasonably prevented by the Tenement Holder.
2. **What will be Measured and the Form of Measurement**
   Records of incidents in quarry management logbook and results of investigations by a suitably qualified third-party.
3. **Location of Measurement**
   Within PM 120, PM 86, MPL 118, MPL 75 and ML 6233.
4. **Frequency**
   Within one (1) month (or other time as agreed with Mining Regulation) after an incident.
5. **Control / Baseline Data**
   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, no public safety related incidents occurred at the Site.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include establishing and maintaining perimeter fencing (cyclone mesh and three (3) strand fence) and signage, and undertaking regular inspections of said public safety control measures to ensure they are adequately maintained, and the Site is locked when unattended to prohibit access.

A general Site inspection undertaken on 21 November 2024 demonstrated public safety measures, including safety berms, perimeter vegetation screening, fencing with cyclone mesh and signage throughout the Site and its perimeter, in good condition, refer to **Attachment 2 – General Site Inspection Report**.

| |
|---|
| During the reporting period, no public safety related incidents occurred at the Site.<br><br>As public safety measures are implemented and no public safety related incidents have occurred at the Site, the existing control measures are effective. |
| **Supporting Report Reference**<br>**Attachment 2 – General Site Inspection Report**. |

**Table 22 – Traffic (TM1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Traffic (TM1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No safety impacts caused by heavy vehicle traffic at point of entry or exit of the quarry Site that could have been reasonably prevented.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   All traffic accidents resulting in public injury and / or death at quarry access points will be investigated by a suitably qualified independent third-party within one (1) calendar month (or other time as agreed with the Mining Regulator) and the results of the investigation show that the incident could not have been reasonably prevented by the Tenement Holder.

   All product trucks leaving the Site will have their load secured.

2. **What will be Measured and the Form of Measurement**

   Quarry management logbook records, and traffic accident and investigation reports.

3. **Location of Measurement**

   Quarry access points.

4. **Frequency**

   Investigation within one (1) month of a traffic incident occurring.

5. **Control / Baseline Data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, no traffic related incidents occurred at the Site.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include ensuring the Site entrance / exit is free from obstructions, ensuring all vehicle operating personnel are appropriately licenced and inducted, ensuring vehicles are in a roadworthy condition containing two-way radios and flashing lights, tarping loads and travelling through the wheel wash upon exit, and undertaking street sweeping when necessary.

During the reporting period, no traffic related accidents occurred at the mine access point.

Additionally, a general Site inspection conducted on 21 November 2024 demonstrated traffic directives throughout the Site, the wheel wash upon exit (refer to **Attachment 2 – General Site Inspection Report**), as well as vehicles in roadworthy condition with flashing lights, tarping area, and street sweeper in operation when required.

As no traffic related incidents have occurred at the Site during the reporting period, the existing control measures are effective.

**Supporting Report Reference**

**Attachment 2 – General Site Inspection Report**.

**Table 23 – Traffic (TM2)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Traffic (TM2) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No drag out onto Penrice Road from the quarry Site.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Daily inspection at the Site entry and exit point will demonstrate that the roadway and gutters are free of excessive build-up of sediment and / or aggregate material from quarry i.e. road way visibly clear of drag-out / sediment accumulation on the roadway and sediment does not divert water flow from its normal course.
2. **What will be Measured and the Form of Measurement**
   Quarry management logbook records, and sediment accumulation on Penrice Road.
3. **Location of Measurement**
   Quarry access point.
4. **Frequency**
   Daily during winter months and after rainfall >10 millimetres (mm) within a 24 hour period.
5. **Control / Baseline Data**
   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, four (4) complaints regarding drag out of sediment from the quarry onto Penrice Road were received by the Site, all of which were investigated and responded to within a timely manner, refer to **Section 4 Complaints**.

The Site entrance point is inspected daily by Site management, to ensure it remains free of drag out accumulation. The contracted street sweeper (EnviroSweep) operates six (6) days per week from 7:00 am to 12:00 pm, with the option to extend to the afternoon as required to maintain the Site entrance point along Penrice Road free of drag out.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include tarping loads, travelling through the wheel wash upon exit, and undertaking street sweeping when necessary.

During the reporting period, four (4) complaints regarding drag out were received, all of which were investigated and closed out within a timely manner, refer to **Section 4 Complaints**.

Site management confirmed the Site entrance point is inspected for drag out on a daily basis. The contracted street sweeper (EnviroSweep) was operational on a regular basis during the reporting period; six (6) days per week, from 7:00 am to 12:00 pm, and additional hours as required.

| |
|---|
| A general Site inspection conducted on 21 November 2024 demonstrated drag out prevention measures including the wheel wash, tarping area and street sweeper (as necessary) at the Site, refer to **Attachment 2 – General Site Inspection Report**.<br><br>As all drag out complaints have been investigated and actioned within a timely manner, the existing control measures are effective at ensuring no drag out onto Penrice Road from the quarry Site. |
| **Supporting Report Reference**<br>**Attachment 2 – General Site Inspection Report**. |

**Table 24 – Heritage (H1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Heritage (H1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No disturbance to Aboriginal artefacts unless prior approval under the relevant legislation is obtained.

**Tenement Condition**

MPL 75 – First Schedule, Condition 3

The Licensee must ensure that all employees and contractors onsite are properly advised of the significance of Aboriginal heritage and culture and are to take due care to preserve all Aboriginal sites and objects as defined by the *Aboriginal Heritage Act 1988*.

MPL 118 – Second Schedule, Condition 7

The Licensee must in constructing and operating the Licence, ensure that there is no disturbance to Aboriginal or European artefacts or sites of significance unless prior approval under the relevant legislation is obtained.

ML 6233 – First Schedule, Condition 3

The Lessee must ensure that all employees and contractors onsite are properly advised of the significance of Aboriginal heritage and culture and are to take due care to preserve all Aboriginal sites and objects as defined by the *Aboriginal Heritage Act 1988*.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Quarry management logbook records demonstrate that, upon discovery within the Site of any possible Aboriginal or European heritage sites; and / or objects or remains; work ceased until the relevant authorities were notified and only recommenced once authorisation was received.
2. **What will be Measured and the Form of Measurement**
   Quarry management logbook records of discovery and evidence of procedures followed upon discovery.
3. **Location of Measurement**
   Within PM 120, PM 86, MPL 118, MPL 75 and ML 6233.
4. **Frequency**
   Upon discovery.
5. **Control / Baseline Data**
   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, no Aboriginal and / or European heritage sites, objects or remains were discovered at the Site.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include inducting and training all personnel on associated legislative responsibilities regarding listed features. In the event that any cultural heritage sites or objects are identified, the following is to occur:

- Immediately stop work in the vicinity of find.

- Notify the relevant authority and the local Aboriginal Heritage group / SA Heritage Council of the find / potential find at the Site.
- No activities are to recommence in the vicinity of the find until such time that liaison with the relevant authority and authority to proceed has been granted.

During the reporting period, no Aboriginal and / or European heritage sites, objects or remains were discovered. The existing control strategies are effective, should any heritage sites be encountered.

**Supporting Report Reference**

Not applicable.

**Table 25 – Protection of Third-Party Property (PT1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Protection of Third-Party Property (PT1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No landslide events that cause any injury to the public or damage offsite assets and / or public infrastructure.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**
   Audit by an independent geotechnical engineer at the completion of each Stage of quarry development and overburden dump construction confirms that the quarry landform is stable and overburden dumps are built to design parameters.
2. **What will be Measured and the Form of Measurement**
   Inspection undertaken by a suitably qualified person will demonstrate that the progressive establishment of the final landform is geotechnically stable.
3. **Location of Measurement**
   Within PM 120, PM 86, MPL 118, MPL 75 and ML 6233.
4. **Frequency**
   Annually and at the completion of each Stage of quarry development.
5. **Control / Baseline data**
   Previous geotechnical assessments.

**Outcome / Objective Measurement Criteria Summary**

Annual geotechnical audit was undertaken by SLR Consulting Australia Pty Ltd (SLR) on 14 October 2024, which confirmed the quarry's overall geotechnical performance is stable, though some specific areas require ongoing monitoring due to the highly jointed and fractured rock mass and the high susceptibility to wedge formations, refer to **Attachment 9 – Annual Geotechnical Audit October 2024**.

Additionally, the annual geotechnical audit identified the Eastern Rehabilitation Mound demonstrated sound stability with no visible signs of material movement, while the Western Overburden Dump showed minor surface erosion but maintained structural integrity, refer to **Attachment 9 – Annual Geotechnical Audit October 2024**.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include adhering to the Site QDPs and inspecting the overburden mound monthly to ensure adequate and appropriate landform drainage.

Annual geotechnical audit was undertaken by SLR on 14 October 2024, which demonstrated the quarry's overall geotechnical performance is stable, though some specific areas require ongoing monitoring due to the nature of the Site and material, refer to **Attachment 9 – Annual Geotechnical Audit October 2024**. The Eastern Rehabilitation Mound and Western Overburden Dump presented structural integrity during the geotechnical audit, refer to **Attachment 89– Annual Geotechnical Audit October 2024**.

During the reporting period, the eastern overburden mound was rehabilitated, which included the implementation of drainage controls through implementing lower gradient batters than the remainder of the Site, and re-seeding of up to 350 kilograms (kg) of rye corn and oats to promote prompt groundcover and soil structure, refer to **Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

As the Site was found to be generally geotechnically stable, and recommendations (including ongoing monitoring have been made within **Attachment 9 – Annual Geotechnical Audit October 2024**), the existing control strategies are effective at ensuring no landslide events occur.

**Supporting Report Reference**

**Attachment 6 – Annual Flora and Fauna Survey Report 2024**

**Attachment 9 – Annual Geotechnical Audit October 2024**.

**Table 26 – Blasting (B1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Blasting (B1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No impact on public safety, nuisance or damage to third-party structures as a result of blasting activities.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   All blasts to comply with *AS2187.2 (2006)* limits for human comfort at any sensitive site external to the quarry. The peak sound pressure limits are currently 115 decibels Lin Peak (dBL) for 95 percent of blasts per year. 120 dBL maximum for any blast. The ground vibration limits are five (5) mm / second (sec) for 95 percent of blasts per year, with a maximum vibration of 10 mm / sec for any blast.

   No evidence of flyrock outside the quarry due to blasting.

   No Blasting outside Monday to Friday 10:00 am to 5:00 pm, unless authorised by the Director of Mining Regulation (or delegate).

2. **What will be Measured and the Form of Measurement**

   dBL and Peak Particle Velocity (PPV).

3. **Location of Measurement**

   Blast monitoring locations refer **Drawing No. 1767.DRG.075R1 – Site Layout Plan**.

4. **Frequency**

   Every blasting event.

5. **Control / Baseline Data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, 63 blasting events have occurred at the Site, of which no exceedances of vibration or air overpressure have been recorded. Blasting records are available upon request.

Additionally, no blasting-related complaints have been received during the reporting period.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies comprise of adhering to the blast management plan, including designing blasts in consideration of neighbouring properties, consideration of Maximum Instantaneous Charge (MIC) and drill hole diameter to ensure no exceedances of maximum ground vibration and overpressure (shall be signed off prior to blast by Quarry Manager), and monitoring of blast events.

During the reporting period, 63 blasting events occurred, of which no exceedances in ground vibration or air overpressure were recorded. Blasting results are available upon request.

Additionally, no blasting related complaints were received during the reporting period.

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| As no blasting exceedances were recorded during the reporting period, the existing control strategies are effective at ensuring no impact to public safety, nuisance or damage to third-party property as a result of blasting. |
| **Supporting Report Reference**<br>Blasting results available upon request. |

**Table 27 – Groundwater (GW1)**

| **Aspect** | **Tenement(s)** | **Compliance Status** |
|---|---|---|
| Groundwater (GW1) | PM 86, PM 120, MPL 75, MPL 118 & ML 6233 | Compliant |

**Environmental Outcome / Objective**

No adverse impact to the quality or quantity of groundwater to existing uses caused by quarry operations.

**Tenement Condition**

Not applicable.

**Outcome / Objective Measurement Criteria**

1. **Objective / Outcome Achievement**

   Annual review of groundwater extraction volumes (at licenced bores or extraction points) confirms that annual groundwater extraction is undertaken in accordance with licenced water allocations.

   Annual review of seasonal monitoring of groundwater quality (EC and pH) at locations outlined within Attachment 3 – Penrice Groundwater Monitoring Plan demonstrates that there have not been any adverse changes to groundwater quality (EC and pH) as a result of quarry activities.

2. **What will be Measured and the Form of Measurement**

   Annual groundwater extraction volumes

   Groundwater quality (EC and pH).

3. **Location of Measurement**

   Licenced bores and groundwater extraction points (pit sump)

   Groundwater wells identified within Attachment 3 – Penrice Groundwater Monitoring Plan.

4. **Frequency**

   Annual groundwater meter readings

   Quarterly groundwater monitoring.

5. **Control / Baseline Data**

   Not applicable.

**Outcome / Objective Measurement Criteria Summary**

During the reporting period, quarterly groundwater monitoring has occurred, from the locations specified within **Attachment 10 – Penrice Groundwater Monitoring Plan**. Quarterly groundwater data within **Attachment 11 – Groundwater Monitoring Summary Report** demonstrated no significant changes in seasonal groundwater depths, EC and pH trends when compared to previous assessments.

During the reporting period, all groundwater extraction occurred in accordance with the groundwater licences (Licence No. 3724 and 3778); water usage data is available upon request.

**Leading Indicator Criteria**

Not applicable.

**Leading Indicator Summary**

Not applicable.

**Effectiveness of Existing Controls**

The existing control strategies include ensuring groundwater extraction occurs in accordance with the QDPs and groundwater licences (Licence No. 3724 and 3778), undertaking regular monitoring of surrounding groundwater wells for depth and quality (EC and pH) in accordance with the Penrice Groundwater Monitoring Plan.

| |
|---|
| During the reporting period, quarterly groundwater monitoring was undertaken at Penrice Quarry and the locations specified within **Attachment 10 – Penrice Groundwater Monitoring Plan**, which identified no significant changes to groundwater depth, EC and pH in comparison to previous assessments, refer to **Attachment 11 – Groundwater Monitoring Summary Report**.<br><br>During the reporting period, all groundwater extraction occurred in accordance with the groundwater licences (Licence No. 3724 and 3778); water usage data is available upon request.<br><br>As groundwater extraction has occurred in occurrence with the Site's licences and no significant changes to groundwater quantity or quality have been identified, the existing control strategies are effective. |
| **Supporting Report Reference**<br>**Attachment 10 – Penrice Groundwater Monitoring Plan**<br>**Attachment 11 – Groundwater Monitoring Summary Report**. |

## 3.2 Compliance with Non-Outcome Based Conditions

The Site is subject to compliance with other approvals relevant to environmental outcomes within the approved MOP PEPR. **Table 4 – Other Approvals Summary** provides a summary of the status of currency of any other approvals obtained to authorise the operation. Compliance with the relevant conditions outlined within the below approvals is demonstrated within **Table 28 – Compliance with Non-Outcome Based Conditions**.

**Table 28 – Compliance with Non-Outcome Based Conditions**

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| **EPA Licence No. 45822** | | |
| 1 CONTROL OF EMISSIONS | | |
| 1.1 DRAG OUT MINIMISATION (S – 239)<br>The Licensee:<br>1.1.1 must take all reasonable and practicable measures to prevent drag out from leaving the Premises. | Compliant. | Refer to **Table 23 – Traffic (TM2)**. |
| 1.2 DUST PREVENTION (S – 8)<br>The Licensee must take all reasonable and practicable measures, including development of an appropriate DMP, to prevent dust from leaving the Premises. | Compliant. | A DMP is in place for the Site and available upon request. Refer to **Table 13 – Dust (D1)** for further information. |
| 1.3 MINIMISATION OF STORMWATER CONTAMINATION (S – 77)<br>The Licensee must take appropriate measures, including use of an effective slit retention device, to minimise the contamination of stormwater by suspended material. | Compliant. | Refer to **Table 11 – Surface Water (Erosion, Silt and Stormwater Management) (SW1)**. |
| 2 OPERATIONAL MANAGEMENT | | |
| 2.1 BUNDING (S – 5)<br>The licensee must ensure that all chemicals or chemical products are stored, loaded or unloaded in an appropriately bunded area.<br>NOTES<br>The EPA will assess the appropriateness of any bund against the EPA's 'Bunding and Spill Management Guidelines'. | Complaint. | Refer to **Table 19 – Waste Management (WM1)**. |
| 2.2 COMPLAINTS REGISTER<br>The Licensee must:<br>2.2.1 prepare and maintain a register of all complaints concerning environmental issues.<br>2.2.2 Ensure the register includes: | Compliant. | All complaints received by the Site are recording using Cintellate, an internal system. A summary of all complaints is available within **Section 4 Complaints**. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| a) The date and time that the complaint was made;<br>b) Details of the complaint including the likely cause of events giving rise to the complaint;<br>c) The contact details of the complainant (if permitted by the complainant); and<br>d) Details of any action taken is response to the complaint by the licensee. | | |
| 2.3 EMERGENCY SPILL KIT<br>The Licensee must ensure that an appropriate emergency spill kit is kept on the Premises at all times in locations where listed wastes are stored, loaded or unloaded and is appropriately used in the event of a spill. | Compliant. | Refer to **Table 19 – Waste Management (WM1)**. |
| 2.4 POLLUTION CONTROL EQUIPMENT REGISTER<br>The Licensee must:<br>2.4.1 maintain all Pollution Control Equipment to ensure that pollution is minimised; and<br>2.4.2 Keep a written record of all inspections of Pollution Control Equipment, which includes:<br>A) The name of the recording officer;<br>B) The date of each inspection of the equipment;<br>C) Details of the equipment that was inspected;<br>D) An assessment of whether the equipment was working effectively; and<br>E) The action taken (if required) to rectify any faults of failures. | Compliant. | All pollution control equipment is maintained in accordance with the original manufacturer's specifications, and occurs as part of the maintenance schedule. Records of all maintenance are maintained onsite. |
| 2.5 VEHICLE WASHING (S – 260)<br>The Licensee must:<br>2.5.1 Only wash vehicles at the Premises within an area that directs all water to a wastewater management system;<br>2.5.2 Direct vehicles loaded on the Premises to exit the Premises | Compliant. | Refer to **Table 22 – Traffic (TM1)** and **Table 23 – Traffic (TM2)**. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| through an operating vehicle wash; and<br>2.5.3 Ensure that drag out from all vehicles leaving the Premises is minimised. | | |
| 2.6 WASTEWATER MANAGEMENT SYSTEM<br>The Licensee must ensure that:<br>2.6.1 the Premises incorporates a wastewater management system; and<br>2.6.2 the system is effectively operating in respect of any wastewater generated at the Premises while the Premises are being used for the licensed activity. | Compliant. | Liaison with quarry management confirms a wastewater management system is in place. |
| **MPL 75** | | |
| First Schedule, Condition 1<br>Mining operations must be carried out for the management of overburden / waste materials. | Compliant. | MPL 75 is utilised for the purposes of overburden / waste material management as demonstrated within **Drawing No. 1767.DRG.075R1 – Site Layout Plan**. |
| First Schedule, Condition 2<br>The Licensee must ensure that as part of mine closure, the land disturbed by mining is rehabilitated to a post mining land use as specified in the program for mining and rehabilitation. | Not relevant. | This condition is not yet relevant, as the Site is still operational. This condition will be explored as the Site approaches closure. |
| First Schedule, Condition 3<br>The Licensee must ensure that all employees and contractors onsite are properly advised of the significance of Aboriginal heritage and culture and are to take due care to preserve all Aboriginal sites and objects as defined by the *Aboriginal Heritage Act 1988*. | Compliant. | Refer to **Table 24 – Heritage (H1)**. |
| Second Schedule, Condition 1<br>The Licensee must ensure that mining operations on the land are carried out in an orderly and skilful manner in accordance with a program for mining and rehabilitation of the land approved, from time to time, by the Minister. | Compliant. | The Site operates in accordance with the MOP PEPR, which was approved on 26 August 2024 as Program No. 2023 / 020. |
| Second Schedule, Condition 2<br>The Licensee must ensure that effective screening measures are undertaken to | Compliant. | Refer to **Table 14 – Visual Amenity (VA1)**. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| effectively screen and vegetate the overburden dump, as part of mining, commencing on the establishment of the overburden dump and be maintained for the duration of the Tenement, and to the satisfaction of the Chief inspector of Mines. | | |
| Second Schedule, Condition 3<br>The Licensee must ensure that all affected topsoil is removed and stockpiled prior to carrying out any activity and minimise the mixing and erosion of topsoil and overburden stockpiles. | Compliant. | Refer to **Table 17 – Topsoil Management (T1)**. |
| Second Schedule, Condition 4<br>The Licensee must ensure that all land disturbed by the overburden dump is progressively rehabilitated when practicable to do so and, in accordance with appropriate seasonal conditions, progressively re-spread with topsoil and re-vegetated to prevent soil erosion to the satisfaction of the Chief Inspector of Mines. | Compliant. | Rehabilitation of the overburden dump has occurred during the reporting period. Refer to **Table 14 – Visual Amenity (VA1)**, **Table 17 – Topsoil Management (T1)** and **Section 3.4 Disturbance and Rehabilitation Activities** for further information. |
| Second Schedule, Condition 5<br>The Licensee must ensure that dust from the operation be effectively controlled and managed. | Compliant. | Refer to **Table 13 – Dust (D1)**. |
| Second Schedule, Condition 6<br>The Licensee must ensure that all water borne silt (or any other mining related contaminants) be contained on the area of the license or the adjoining PMs 86 and 120. | Compliant. | Refer to **Table 11 – Surface Water (Erosion, Silt and Stormwater Management) (SW1)**. |
| **MPL 118** | | |
| Second Schedule, Condition 1<br>Landforms constructed as a result of mining operations and vegetation cover must integrate and harmonise with the surrounding landscape when viewed from the Barossa Valley floor and roads as specified in the Barossa Council development plan and other locations specified and agreed by the Penrice Community Consultative Group (PCCG). | Compliant. | Refer to **Table 14 – Visual Amenity (VA1)**. |
| Second Schedule, Condition 2 | Compliant. | Refer to **Table 12 – Noise (N1)**. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| The Licensee must in constructing and operating the Licence, ensure that there are no public nuisance impacts from noise emanating from the Licence. | | |
| Second Schedule, Condition 3<br>The Licensee must in constructing and operating the Licence ensure that there are no nuisance impacts to local residents and adjacent land users from air emissions and dust generated by mining operations. | Non-compliant. | Refer to **Table 13 – Dust (D1)** and **Table 29 – Instance of Non-Compliance – Dust**. |
| Second Schedule, Condition 4<br>The Licensee must in constructing and operating the Licence ensure that there are no public injuries and or deaths resulting from unauthorised entry to the Site that could have been reasonably prevented. | Compliant. | Refer to **Table 21 – Public Safety (PS1)**. |
| Second Schedule, Condition 5<br>The Licensee must take responsibility for resourcing, participating and maintaining to the satisfaction of the Director of Mines, a Community Consultative Committee for the term of the Licence, with terms of reference as endorsed from time to time by the Director of Mines. | Compliant. | During the reporting period, the Site has participated in two (2) PCCG meetings, and one (1) meeting with an adjacent landowner to the west of the Site. |
| Second Schedule, Condition 6<br>The Licensee will be responsible for recording and addressing complaints received from the public with respect to the mining operations by:<br>• Providing a dedicated and publicly advertised telephone line, available during mine working hours;<br>• Record details of complaints and the Licensee's response in a register, which will be made available to authorised officers under the *Mining Act, 1971*;<br>• Ensuring that a response is provided to the complainant as early as possible and within two (2) working days; and<br>• Reporting the complaint details and the Licensee's response at the next relevant PCCG meeting. | Compliant. | All complaints received by the Site are recorded on internal system, Cintellate. A summary of the complaints received by the Site during the reporting period is available within **Section 4 Complaints**. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| Second Schedule, Condition 7<br>The Licensee must in constructing and operating the Licence, ensure that there is no disturbance to Aboriginal or European artefacts or sites of significance unless prior approval under the relevant legislation is obtained. | Compliant. | Refer to **Table 24 – Heritage (H1)**. |
| Second Schedule, Condition 8<br>The Licensee must, in constructing and operating the Licence, ensure no permanent loss of abundance or diversity on or off the Licence through;<br>• clearance; or<br>• other damage<br>to native vegetation unless prior approval under the relevant legislation is obtained, except as specified for under *Clause 9* below. | Compliant. | Refer to **Table 16 – Native Vegetation and Habitat (NV1)**. |
| Second Schedule, Condition 9<br>The Licensee must ensure that there is no clearance of native vegetation within the riparian zone of the Jaeckeli Creek. | Compliant. | Refer to **Table 16 – Native Vegetation and Habitat (NV1)**. |
| Second Schedule, Condition 10<br>The Licensee must in constructing and operating the Licence ensure that the existing soil quality and quantity is maintained. | Compliant. | Refer to **Table 17 – Topsoil Management (T1)**. |
| Second Schedule, Condition 11<br>The Licensee must, in constructing and operating the Licence ensure no water contaminated as a result of mining operations leaves the licence area or results in loss of or contamination of soil on or off the Licence. | Compliant. | Refer to **Table 11 – Surface Water (Erosion, Silt and Stormwater Management) (SW1)**. |
| Second Schedule, Condition 12<br>The Licensee must demonstrate prior to licence expiry or surrender that the following outcomes will be achieved indefinitely post mine closure to the satisfaction of the Director of Mines:<br>• Landforms constructed as a result of mining operations and vegetation cover must integrate and harmonise with the surrounding landscape when viewed from the Barossa Valley floor and roads as specified in the Barossa Council development | Compliant. | While the Site is within the operational phase, far from relinquishment of the Licence, visual amenity screening and rehabilitation measures have been implemented. Refer to **Table 14 – Visual Amenity (VA1)** for further information. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| plan and Other locations specified and agreed by the PCCG;<br>• The risks to the health and safety of the public and fauna are as low as reasonably practical;<br>• Constructed landforms and ecosystems are resilient and self-sustaining;<br>• The Site is physically stable. | | |
| Second Schedule, Condition 13<br>The licensee must within three (3) months of licence grant, develop and implement a management plan for the preservation and restoration of the Jaeckeli Creek riparian zone within the MPL to the satisfaction of the Director of Mines. | Compliant. | Refer to **Table 16 – Native Vegetation and Habitat (NV1)**. |
| Second Schedule, Condition 14<br>The Licensee must, within four (4) months of licence grant, submit a report containing an analysis of options and a justified conclusion for overburden storage and / or disposal associated with the Penrice Angaston Quarry until 2033 to the satisfaction of the Director of Mines. | Not relevant. | This condition was completed prior to the reporting period, and is no longer relevant. |
| Second Schedule, Condition 15<br>The Licensee must not place more than two (2) MT of overburden and any additional material necessary to achieve rounding to meet the approved landscape design to a maximum height of 349 metres (m) Relative Level (RL) Australian Height Datum (AHD). | Compliant. | A UAV survey undertaken on 30 September 2024 demonstrates the overburden within MPL 118 reaches a maximum height of mAHD, refer to **Drawing No. 1767.DRG.164A – Orthophoto and Topography (2024-09-30)**. |
| **ML 6233** | | |
| First Schedule, Condition 3<br>The Lessee must ensure that all employees and contractors onsite are properly advised of the significance of Aboriginal heritage and culture and are to take due care to preserve all Aboriginal sites and objects as defined by the *Aboriginal Heritage Act 1988*. | Compliant. | Refer to **Table 24 – Heritage (H1)**. |
| Second Schedule, Condition 1<br>The Lessee must ensure that mining operations on the land are carried out in an orderly and skilful manner in | Compliant. | The Site operates in accordance with the MOP PEPR, which was approved on 26 August 2024 as Program No. MPEPR 2023 / 020. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| accordance with a program for mining and rehabilitation of the land approved, from time to time, by the Minister. | | |
| Second Schedule, Condition 2<br>The Lessee must keep accurate records of the quantity, value and manner of disposition of all minerals mined and, whenever required to do so, submit the records for inspection by any person authorised by the Minister. | Compliant. | All relevant records are maintained and available upon request. |
| Second Schedule, Condition 3<br>The MARP [now MOP PEPR] must comply with the requirements of guidelines approved by the Chief Inspector of Mines and include environmental objectives and criteria that are developed in consultation with relevant stakeholders. | Compliant. | The Site operates in accordance with the MOP PEPR, which was approved on 26 August 2024 as Program No. MPEPR 2023 / 020. |
| Second Schedule, Condition 4<br>The MARP [now MOP PEPR] will at all times be a public document. | Compliant. | The Site operates in accordance with the MOP PEPR, which was approved on 26 August 2024 as Program No. MPEPR 2023 / 020. The approved MOP PEPR is a publicly available document. |
| Second Schedule, Condition 5<br>The Lessee will provide to PIRSA an Annual Compliance Report on operations carried out on the lease and compliance with the MARP [MOP PEPR] within two (2) months of the anniversary of the notification of commencement of operations, in accordance with guidelines approved by the Chief Inspector of Mines. The report will be a public document. | Compliant. | This document has been prepared for DEM, to demonstrate compliance with the approved MOP PEPR (Program No. MPEPR 2023 / 020). |
| Second Schedule, Condition 6<br>The Lessee must ensure that all affected topsoil is removed and stockpiled prior to carrying out any activity and minimise the mixing and erosion of topsoil and overburden stockpiles. | Compliant. | Refer to **Table 17 – Topsoil Management (T1)**. |
| Second Schedule, Condition 7<br>The Lessee must ensure that any land disturbed by the overburden dump is progressively rehabilitated when practicable to do so and, in accordance with appropriate seasonal conditions, progressively re-spread with topsoil | Not relevant. | As the Site is still within the operational phase, this condition is not yet relevant and will be explored as mine closure approaches. |

| Tenement Condition and Number | Compliance Status | Evidence |
|---|---|---|
| and re-vegetated to prevent soil erosion to the satisfaction of the Chief Inspector of Mines. | | |
| Second Schedule, Condition 8<br>The Lessee must ensure that dust from the operation be effectively controlled and managed. | Compliant. | Refer to **Table 13 – Dust (D1)**. |
| Second Schedule, Condition 9<br>The Lessee must ensure that all water borne silt (or any other mining related contaminants) be contained on the area of the MPL 75 or the adjoining PMs 86 and 120. | Compliant. | Refer to **Table 11 – Surface Water (Erosion, Silt and Stormwater Management) (SW1)**. |

## 3.3 Rectification of Non-Compliances

**Table 29 – Instance of Non-Compliance – Dust** outlines the details of the non-compliance with the dust outcome / objective measurement criteria which has occurred during the reporting period, and the subsequent actions taken.

**Table 29 – Instance of Non-Compliance – Dust**

| **Date(s) of the incident** 13 February 2024, 14 February 2024, 28 May 2024, 29 May 2024, 29 August 2024, 5 September 2024, 10 September 2024, 11 September 2024, 7 October 2024, 21 November 2024 and 23 December 2024. | **Date the incident was reported** 28 February 2025 |
|---|---|
| **What environmental outcome / objective or Tenement condition was breached?** Dust (D1) | |
| **Environmental Outcome / Objective**<br>No public health and / or nuisance impacts to local residents and adjacent land users from dust generated by quarrying operations.<br><br>**Outcome / Objective Measurement Criteria**<br>1. **Objective / Outcome Achievement**<br>Quarry Management Logbook demonstrates records of visual inspections and monitoring of wind and weather forecasts and response employed as per TARP Section 4.1.4: Attachment 10 – Dust Management Plan Penrice Quarry & Mineral.<br>Dust related complaints acknowledged within 48 hours and closed out within seven (7) days to the satisfaction of the complainant or as agreed by the Mining Regulator.<br>Continuous air quality monitoring at three (3) locations demonstrate that $PM_{10}$ levels are less than 50 µg / $m^3$, when measured over a 24-hour period as specified in the *Environment Protection (Air Quality) Policy 2016*, (midnight to midnight).<br>2. **What will be Measured and the Form of Measurement**<br>Continuous air quality monitoring for $PM_{10}$ concentrations.<br>Compliance with the TARP from quarry records.<br>Complaints register as per information provided in quarry records.<br>3. **Location of Measurement** | |

| |
|---|
| Dust monitoring locations outlined within **Drawing No. 1767.DRG.075R1 – Site Layout Plan**.<br>4. **Frequency**<br>Continuous air quality monitoring and as required for complaints.<br>5. **Control / Baseline Data**<br>Not applicable. |
| **State the cause of the non-compliance** |
| 11 $PM_{10}$ air quality exceedances (over 50 µg / $m^3$ over a 24-hour period), were recorded on the BAM units from the locations specified within **Drawing No. 1767.DRG.075R1 – Site Layout Plan** over the course of the reporting period. |
| **Detail any actions taken or yet to be taken to rectify the non-compliance and to prevent the recurrence of any such non-compliance.** |
| Actions outlined within the TARP (attachment within the DMP) have occurred during incidents of dust exceedances, which include ensuring two (2) water trucks are operational, moving load and haul fleet to another area, and if required, ceasing load and haul movements and manufacturing plant operations.<br><br>During the reporting period, the Site adjusted a combination of different designs of dust suppressant on internal haul roads to minimise public nuisance and / or public health impacts to sensitive receptors. During exceedances, quarry records demonstrate the TARP was followed and control measures to mitigate / minimise dust generation were implemented onsite.<br><br>The initial incident report provided to DEM on 28 February 2025 details the actions taken during the days of exceedance, and the follow-up actions implemented to prevent reoccurrence. A subsequent comprehensive incident report will be provided to DEM by 30 March 2025. The incident reports are available upon request. |

## 3.4 Disturbance and Rehabilitation Activities

As per the Rehabilitation Plans, the Site has progressed and completed rehabilitation of the eastern overburden mound within MPL 75 to significantly reduce the visual impacts of sensitive receptors, following the principles of the SVAP, refer to **Drawing No. 1767.DRG.083 – Rehabilitation Stage – Year Two – 2020** and **Drawing No. 1767.DRG.083R3 – Rehabilitation – Stage 3**. The rehabilitation works included movement of approximately 34,000 t of overburden material and 482 hours of bulldozing work to achieve the rounded and softened landform, as seen within **Attachment 3 – Comparative Visual Amenity Assessment**. Additionally, the landform has been re-seeded with rye grass and oats to prevent erosion, by which the annual geotechnical assessment identified the landform was structurally stable with no signs of erosion, refer to **Attachment 9 – Annual Geotechnical Audit October 2024**.

Additional rehabilitation which has occurred during the reporting period includes revegetation efforts within MPL 75, which consists of the plantation of 600 native tube stock trees to replace previous failed plantings, and to further promote the area's revegetation development, as stated within **Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

**Table 30 – Disturbance Activity Summary** outlines disturbance activities which have occurred during the reporting period. During the reporting period, no new disturbance activities occurred at the Site. Approximately 147.14 ha of previous disturbance has occurred at the Site for quarry development and ancillary activities, as demonstrated within **Attachment 12 – Measurement Report**.

**Table 30 – Disturbance Activity Summary**

| Area | Disturbance Activity | Amount of land disturbed during the reporting period (ha) | Total area disturbed (ha) |
|---|---|---|---|
| Site | Quarry development and activities ancillary to quarrying (i.e. pit development, haul roads, infrastructure). | 0.00 | 147.14 |

**Table 31 – Rehabilitation Activity Summary** demonstrates rehabilitation activities which have occurred during the reporting period, as mentioned above. Approximately 3.82 ha of rehabilitation has occurred for rehabilitation of the eastern overburden mound, while 17.51 ha of previous rehabilitation has occurred, which includes tree plantings. A total of 21.79 ha of land has been rehabilitated at the Site.

**Table 31 – Rehabilitation Activity Summary**

| Area | Rehabilitation Activity | Amount of land rehabilitated during the reporting period (ha) | Estimated amount of land to be rehabilitated next reporting period (ha) | Total amount of land where rehabilitation works are completed (ha) |
|---|---|---|---|---|
| MPL 75 | Eastern overburden mound rehabilitation. | 3.82 | 0.00 | 3.82 |
| Site | Progressive rehabilitation (including tree plantings within MPL 75). | 1.01 | 1.01 | 5.11 |
| Site | Screening bunds and vegetation. | 0.00 | 0.00 | 12.87 |
| **Site** | **Total rehabilitation** | | | **21.79** |

## 3.5 Reconciliation of Native Vegetation

The Site is not subject to a Native Vegetation Management Plan (NVMP) for the clearance of native vegetation under the *Native Vegetation Act 1991*.

## 3.6 Environment Protection and Biodiversity Conservation Act Reporting

The Site is not subject to an approval under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

## 3.7 Exempt Land

**Table 32 – Exempt Land Statement** provides a statement on the status of exempt land on the Site. A drawing showing exempt land is available.

**Table 32 – Exempt Land Statement**

| | |
|---|---|
| All waivers for land relevant to the mining operation are in place, and compliant with exempt land provisions, in accordance with Section 9 of the *Mining Act 1971* | Yes |
| Notice has been given to the Mining Registrar that an exempt land agreement has been entered into | Yes |

The MOP PEPR was approved on 26 August 2024 whereby all exempt land for the land currently disturbed by mining operations was addressed within previous approvals. A drawing demonstrating exempt land at the Site that is not covered under a waiver of exemption is available as Drawing No. **1767.DRG.076 – Land Access Map**. All waivers of exemption lodged within the DEM can be found via the South Australian Resources Industry Gateway (SARIG) website and are listed within **Table 33 – Exempt Land Status**.

**Table 33 – Exempt Land Status**

| Name of Person Entitled to Exemption | Certificate of Title or Crown Land Details | Reason for Exemption | Area of Exemption | Date Waiver Registered / Obtained | Any Relevant Conditions |
|---|---|---|---|---|---|
| Herbert Franz Schwarz and How Meng Chan-Schwarz | Section 55 Hd Moorooroo | Unknown. | Refer to **Drawing No. 1767.DRG.076 – Land Access Map**. | 21/09/2006 | Not applicable. |
| Charles Joseph Cifala, Angela Lorraine Cifala | Lot 92 FP 174520, CT 5788/456 | Land situated within 400 m of a residence. | | 21/11/2006 | Not applicable. |
| Haydens Wines Pty Ltd | Lot 462 Stockwell Road, Light Pass, SA 5355 | Land situated within 150 m of a spring, well reservoir or dam. | | 09/10/2012 | Not applicable. |
| Carol Ann Bray | Lot 93, Filed Plan 174521, Hd Moorooroo | Land situated within 400 m of a residence. | | 15/06/2007 | Not applicable. |

# 4 Complaints

Community complaints are managed as per the MOP PEPR. A summary of the community complaints during the reporting period if shown in **Table 34 – Complaints Summary**.

**Table 34 – Complaints Summary**

| Complaint Date / Time | Nature of complaint | Related to non-compliance (yes / no) | Action taken (or to be taken) to address the complaint | Date complaint resolved | Notes / comments |
|---|---|---|---|---|---|
| 30/01/2024, 11:07 pm | Noise | Yes | Quarry Manager (QM) spoke with Site Team Leader at 11:20 pm, aggregate plant was shut down and maintenance was undertaken on the aggregate plant the following day. | 30/01/2024 | |
| 08/02/2024 | Dust | Yes | QM liaised with complainant, and was not onsite at the time of complaint. QM liaised with the team onsite to minimise dust emissions. | 08/02/2024 | |
| 05/03/2024, 3:40 pm | Rocks spilling off truck (hazard) | No | QM liaised with complainant and advised that weighbridge records show no matching vehicle registration number left the Site on the day of the complaint. | 05/03/2024 | Complaint was made after a road truck was observed spilling rocks on the Sturt Highway near Nuriootpa, driving towards Adelaide. The registration number was provided to the QM. |
| 06/03/2024, 7:10 am | Noise emanating from rock breaker | Yes | QM explained to the complainant that no rock breaking has occurred at the aggregate plant for some time, but is being undertaken at this time to prevent rock breaking occurring closer to upcoming public holidays.<br>QM stopped the rock breaker operation and resumed after lunch. | 06/03/2024 | |

| Complaint Date / Time | Nature of complaint | Related to non-compliance (yes / no) | Action taken (or to be taken) to address the complaint | Date complaint resolved | Notes / comments |
|---|---|---|---|---|---|
| | | | Rock breaker asked to be placed on the south / eastern side of the pit to reduce noise emissions. Large rocks are broken in the pit and this area is not used often; where possible activity will be minimised in this area but impossible to eliminate. | | |
| 17/04/2024 | Drag Out | Yes | Quarry Supervisor to investigate and rectify. Street Sweeper was operational.<br>QM liaised with complainant to follow up and advise them of the actions taken. | 17/04/2024 | Complainant was pleased with the team's response and observed drag out had been cleaned up effectively. |
| 20/05/2024 (complaint regarding midnight previous night) | Noise (emanating from suspected truck noise) | Yes | QM followed up with Site Team Leader. Site has not been running load and haul most nights surrounding the time of complaint. QM liaised with complainants to identify if any noise difference had occurred since complaint as team had been trying to minimise / avoid running load and haul during the afternoon shift. | 20/05/2024 | Complainants stated the noise following the complaint was not as loud, or for as long since control measures implemented onsite. |
| 15/07/2024 | Drag Out | Yes | QM liaised with Adbri truck drivers delivering material to the Adbri C & L Angaston Plant, instructing them to slow down when travelling through the wheel wash upon exit of the Site.<br>QM also liaised with contracted street sweeper, EnviroSweep operator to increase operations. | 15/07/2024 | |
| 16/07/2024 | Drag Out | Yes | QM advised complainant of what had been investigated, and the actions taken the day prior. QM liaised with complainant to identify whether any noticeable differences were observed regarding the drag out. | 16/07/2024 | The same complainant made the initial drag out complain on 15/07/2024. Complainant advised the road was free from drag out, however, dry sand was falling from |

| Complaint Date / Time | Nature of complaint | Related to non-compliance (yes / no) | Action taken (or to be taken) to address the complaint | Date complaint resolved | Notes / comments |
|---|---|---|---|---|---|
| | | | | | between the wheels of the truck. The QM ensure truck drivers are inspecting the rear of the trailer / live bottom area and cleaning prior to exiting Angaston and Penrice sites.<br>The following week (23/07/2024), the complainant provided positive feedback to the quarry regarding drag out. |
| 23/07/2024 (complaint regarding previous night) | Noise | Yes | QM visited the Angaston Oval area (in the vicinity of the complainant's address) a couple of times the following night (24/07/2024) around 10:00 pm. | 23/07/2024 | The complainant reported the noise was much better following investigation. |
| 19/08/2024 | Noise | Yes | QM investigated the noise incident. The Site was shut down from a lightning procedure initiated from 6:30 pm to 10:00 pm. | 19/08/2024 | The complainant stated the noise started at around 9:00 pm and stopped at around 10:30 pm; 30 minutes after the Site restarted. |
| 22/08/2024 | Noise | Yes | QM visited the Angaston Oval area (in the vicinity of the complainant's residence) at 9:40 pm, by which there was a slight north easterly wind. The QM struggled to hear noise emanating from the Site, but assured the complainant, he would investigate. | 22/08/2024 | |
| 27/08/2024 | Noise | Yes | QM advised complainant he would visit the Angaston Oval area (within proximity to the complainant's residence), but noted the wind had changed direction since the complaint. | 27/08/2024 | The complainant had advised the truck had stopped since the QM's response. |

| Complaint Date / Time | Nature of complaint | Related to non-compliance (yes / no) | Action taken (or to be taken) to address the complaint | Date complaint resolved | Notes / comments |
|---|---|---|---|---|---|
| | | | The QM liaised with the Team Leader regarding the complaint. One (1) machine was parked due to a breakdown, so no noise would have emanated from this machine at the time specified by the complainant. | | |
| 20/11/2024 | Noise | Yes | QM replied to the text message received by the complainant, and apologised for the late response as he was absent. The QM advised he liaised with the Team Leader and no unusual activities occurred at the Site our of the QM's absence. The QM suggested the complainant to call him to discuss if required. | 22/11/2024 | |
| 26/11/2025 | Drag Out | Yes | QM inspected the road, had weighbridge staff liaise with truck drivers, and arranged street sweeper to clean the affected area. The area was inspected later in the day and the area was confirmed to be cleaned. | 26/11/2024 | |
| 10/12/2024 | Dust | Yes | QM liaised with complainant to identify the location of the dust plume. QM visited complainant's farm to verify the dust emanating from the Site. The QM suspected the possible cause was Natrio (Orora) pneumatic truck unloading a small amount of product inside the sand shed, due to being overloaded. This is a self-loading process via the overhead silo. | 10/12/2024 | |

# 5 Management System Reviews

No management system reviews have occurred during the reporting period.

# 6 Verification of Uncertainty

Uncertainties surrounding the achievement of environmental objectives / outcomes were identified within the approved MOP PEPR, as Program No. MPEPR 2023 / 020. No additional uncertainties, or changes to the uncertainties identified within the MOP PEPR have been identified during the reporting period.

# 7 Changes to Authorised Operations and Emerging Environmental Hazards

## 7.1 Changes to Authorised Operations

**Table 35 – Changes to Authorised Operations** outlines any changes to authorised operations the Site has been subject to during the reporting period. During the reporting period, the Site submitted version eight (8) of the MOP PEPR Review during May 2024, which was subsequently approved on 26 August 2024 as Program No. MPEPR 20203 / 020. The Site now adherences to the updates MOP PEPR.

No other changes to authorised operations have occurred during the reporting period.

**Table 35 – Changes to Authorised Operations**

| Description of change to existing mining operation | Date submitted to the department | | Department response | Current status at the end of the reporting period |
|---|---|---|---|---|
| MOP PEPR Review | May 2024 | Approved. | 26 August 2024 | Approved. |

# 8 Technical Reports

No technical reports have been generated for the Site during the reporting period.

# 9 Voluntary Information

The following section outlines community engagement and sustainability initiatives the Site has participated in / contributed to during the reporting period.

## 9.1 Community Engagement

During the reporting period, the Site has been actively engaged with the community. The Site financially supports local sporting clubs including Angaston Netball Club and Barossa Valley Little Athletics, as well as a range of community events such as the Hardi 24-Hour Trial, Angaston Show and Angaston Christmas Parade.

During the reporting period, material was donated by the Site to Nuriootpa Primary School and the Barossa Farmer's Market.

Additionally, community consultation was participated in by the Site. Representatives from the Site attended two (2) PCCG meetings, and one (1) meeting with an adjacent landowner.

## 9.2 Sustainability

The Site has been committed to progressively rehabilitating areas of the Site where practicable. During the reporting period, extensive rehabilitation occurred within MPL 75, which included the plantation of 600 native trees to promote further revegetation development, as outlined within **Attachment 6 – Annual Flora and Fauna Survey Report 2024**.

# 10 Exploration on Mining Leases

During the reporting period, the Exploration Program for Environment Protection and Rehabilitation (EPEPR) for Retention Lease (RL) 109 was submitted on 25 June 2024, to conduct reverse circulation drilling at the Site. The EPEPR was approved on 18 July 2024.

Exploration has occurred on RL 109 following the approval of the EPEPR, which will be covered under an EPEPR Annual Compliance Report due in September 2025.

# DRAWINGS


FILE NAME: F:\Jobs\1700\1767 Penrice Quarry Mineral...Penrice\Drawings\Drawing\1767.DRG.166 Stockpile Location Plan (2024-09-30).dwg

CREATED: 23 October 2024 JOB SUB #:

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**Data Sources:**
Photography: Groundwork part of SLR Pty Ltd UAV Survey, Captured 2024-09-30
Topography:
Cadastre: © The Government of South Australia (DIT) 2022
Ecosystem:
Other: © 2024 Microsoft Corporation; © 2024 Maxar; © CNES (2024) Distribution Airbus DS

Legend:
- Stockpile Boundary
- Mineral Lease
- Miscellaneous Purposes Licence
- Private Mine
- Retention Lease

PROJECT: Penrice Quarry

CLIENT: Adbri Quarries

TITLE: Stockpile Location Plan (2024-09-30)

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| | | | |
|---|---|---|---|
| SCALE: 1:4,000 When Printed On A3 | 0 80m | DRAWING NUMBER: 1767.DRG.166 | REVISION: |
| DATE: 23 October 2024 | DRAWN: CP | DATUM: HORIZONTAL / VERTICAL / ZONE | |
| PRINTED: 23 October 2024 | CHECKED: MP | GDA94 / MGA / AHD / 54 | |

| ADBRI Quarries | | | | | | |
|---|---|---|---|---|---|---|
| Penrice Quarry and Mineral Stockpile Volumes as of 2024/09/30 | | | | | | |
| As per Drawing 1767.DRG.166 Stockpile Location Plan (2024/09/30) | | | | | | |
| **Stockpile** | **Stockpile Name** | **Stockpile Base Area ($m^2$)** | **Volume ($m^3$)** | **Density ($t/m^3$)** | **Tonnes (t)** | **Comments** |
| SP01 | | 222.35 | 324.60 | 1.0 | 324.60 | Modelled Base / Against Face |
| SP02 | | 97.59 | 44.01 | 1.0 | 44.01 | |
| SP03 | | 1,743.90 | 7,685.05 | 1.0 | 7,685.05 | Modelled Base / Against Face & Buffers |
| SP04 | | 850.83 | 2,318.72 | 1.0 | 2,318.72 | Modelled Base / Against Buffers |
| SP05 | | 1,539.60 | 3,802.53 | 1.0 | 3,802.53 | |
| SP06 | | 613.53 | 984.50 | 1.0 | 984.50 | |
| SP07 | | 315.90 | 501.00 | 1.0 | 501.00 | Modelled Base / Against Buffers |
| SP08 | | 126.36 | 88.83 | 1.0 | 88.83 | |
| SP09 | | 1,322.00 | 3,799.75 | 1.0 | 3,799.75 | Modelled Base / Against Buffer |
| SP10 | | 98.63 | 83.71 | 1.0 | 83.71 | Modelled Base / Against Buffer |
| SP11 | | 56.43 | 32.58 | 1.0 | 32.58 | |
| SP12 | | 71.76 | 32.91 | 1.0 | 32.91 | |
| SP13 | | 50.90 | 21.58 | 1.0 | 21.58 | |
| SP14 | | 207.53 | 287.36 | 1.0 | 287.36 | Modelled Base / Against Buffer |
| SP15 | | 177.92 | 234.46 | 1.0 | 234.46 | Modelled Base / Against Buffer |
| SP16 | | 2,464.60 | 9,269.74 | 1.0 | 9,269.74 | Modelled Base / Againsnt Face |
| SP17 | | 500.99 | 1,365.62 | 1.0 | 1,365.62 | Modelled Base / Againsnt Wall |
| SP18 | | 572.32 | 1,518.85 | 1.0 | 1,518.85 | Modelled Base / Againsnt Wall |
| SP19 | | 352.41 | 665.80 | 1.0 | 665.80 | Modelled Base / Againsnt Wall |
| SP20 | | 489.39 | 1,222.21 | 1.0 | 1,222.21 | Modelled Base / Againsnt Wall |
| SP21 | | 651.24 | 1,307.60 | 1.0 | 1,307.60 | |
| SP22 | | 1,918.50 | 7,051.61 | 1.0 | 7,051.61 | Modelled Base / Against Buffer |
| SP23 | | 29.34 | 17.60 | 1.0 | 17.60 | |
| SP24 | | 2,325.10 | 7,525.33 | 1.0 | 7,525.33 | Modelled Base / Western Dump Surface |
| SP25 | | 2,293.40 | 10,735.37 | 1.0 | 10,735.37 | Modelled Base / Western Dump Surface |
| SP26 | | 393.32 | 906.84 | 1.0 | 906.84 | Modelled Base / Againsnt Wall |
| SP27 | | 771.68 | 1,930.94 | 1.0 | 1,930.94 | Modelled Base / Againsnt Wall |
| SP28 | | 197.98 | 296.23 | 1.0 | 296.23 | Modelled Base / Againsnt Wall |
| SP29 | | 39.94 | 23.14 | 1.0 | 23.14 | Modelled Base / Againsnt Wall |
| SP30 | | 432.86 | 1,037.31 | 1.0 | 1,037.31 | Modelled Base / Againsnt Wall |
| SP31 | | 51.22 | 33.65 | 1.0 | 33.65 | Modelled Base / Against Buffer |
| SP32 | | 183.68 | 281.17 | 1.0 | 281.17 | Modelled Base / Against Buffer |
| SP33 | | 919.18 | 3,278.22 | 1.0 | 3,278.22 | Modelled Base / Against Buffer |
| SP34 | | 1,184.90 | 4,604.16 | 1.0 | 4,604.16 | Modelled Base / Againsnt Wall |
| SP35 | | 666.25 | 1,343.22 | 1.0 | 1,343.22 | Modelled Base / Pugmill Surface |
| SP36 | | 1,728.00 | 7,054.19 | 1.0 | 7,054.19 | Modelled Base / Pugmill Surface |
| SP37 | | 607.64 | 920.60 | 1.0 | 920.60 | |
| SP38 | | 2,641.80 | 14,246.92 | 1.0 | 14,246.92 | Modelled Base / Pugmill Surface |
| SP39 | | 151.77 | 141.20 | 1.0 | 141.20 | Modelled Base / Againsnt Wall |
| SP40 | | 227.20 | 434.33 | 1.0 | 434.33 | Modelled Base / Againsnt Wall |
| SP41 | | 969.16 | 2,281.21 | 1.0 | 2,281.21 | Modelled Base / Againsnt Wall |
| SP42 | | 488.88 | 850.54 | 1.0 | 850.54 | |
| SP43 | | 164.57 | 139.89 | 1.0 | 139.89 | |
| SP44 | | 106.81 | 97.16 | 1.0 | 97.16 | Modelled Base / Againsnt Face |
| SP45 | | 134.46 | 189.29 | 1.0 | 189.29 | Modelled Base / Againsnt Wall |
| SP46 | | 45.44 | 22.06 | 1.0 | 22.06 | Modelled Base / Againsnt Wall |
| SP47 | | 245.06 | 529.33 | 1.0 | 529.33 | Modelled Base / Againsnt Wall |
| SP48 | | 572.48 | 1,245.34 | 1.0 | 1,245.34 | |
| SP49 | | 71.84 | 59.79 | 1.0 | 59.79 | Modelled Base / Againsnt Wall |
| SP50 | | 848.80 | 2,761.81 | 1.0 | 2,761.81 | Modelled Base / Againsnt Wall |
| SP51 | | 101.29 | 66.96 | 1.0 | 66.96 | Modelled Base / Againsnt Wall |
| SP52 | | 2,836.80 | 13,472.37 | 1.0 | 13,472.37 | Modelled Base / Against Face |
| SP53 | | 98.00 | 46.90 | 1.0 | 46.90 | |
| SP54 | | 144.06 | 351.39 | 1.0 | 351.39 | Modelled Base / Againsnt Wall |
| SP55 | | 97.46 | 64.35 | 1.0 | 64.35 | Modelled Base / Againsnt Wall |
| SP56 | | 98.46 | 113.73 | 1.0 | 113.73 | Modelled Base / Againsnt Wall |
| SP57 | | 457.45 | 1,098.97 | 1.0 | 1,098.97 | Modelled Base / Againsnt Wall |
| SP58 | | 922.72 | 2,680.39 | 1.0 | 2,680.39 | Modelled Base / Againsnt Wall |
| SP59 | | 34.14 | 33.35 | 1.0 | 33.35 | Modelled Base / Againsnt Wall |

| ADBRI Quarries | | | | | | |
|---|---|---|---|---|---|---|
| Penrice Quarry and Mineral Stockpile Volumes as of 2024/09/30 | | | | | | |
| As per Drawing 1767.DRG.166 Stockpile Location Plan (2024/09/30) | | | | | | |
| **Stockpile** | **Stockpile Name** | **Stockpile Base Area ($m^2$)** | **Volume ($m^3$)** | **Density ($t/m^3$)** | **Tonnes (t)** | **Comments** |
| SP60 | | 480.43 | 737.33 | 1.0 | 737.33 | |
| SP61 | | 73.15 | 42.56 | 1.0 | 42.56 | |
| SP62 | | 64.08 | 25.46 | 1.0 | 25.46 | |
| SP63 | | 242.61 | 389.15 | 1.0 | 389.15 | Modelled Base / Against Face |
| SP64 | | 70.88 | 58.48 | 1.0 | 58.48 | Modelled Base / Agaisnt Wall |
| SP65 | | 52.34 | 23.50 | 1.0 | 23.50 | |
| SP66 | | 83.19 | 74.06 | 1.0 | 74.06 | |
| SP67 | | 65.79 | 38.86 | 1.0 | 38.86 | |
| SP68 | | 35.57 | 10.71 | 1.0 | 10.71 | |
| SP69 | | 43.11 | 5.59 | 1.0 | 5.59 | |
| SP70 | | 1,291.00 | 3,892.26 | 1.0 | 3,892.26 | Modelled Base / Against Buffer |
| SP71 | | 264.48 | 422.63 | 1.0 | 422.63 | Modelled Base / Against Buffer |
| SP72 | | 2,374.60 | 6,410.79 | 1.0 | 6,446.18 | Modelled Base / Against Buffer |
| SP73 | | 3,492.10 | 11,892.18 | 1.0 | 11,892.18 | |
| SP74 | | 3,997.30 | 11,256.90 | 1.0 | 11,256.90 | |
| SP75 | | 204.19 | 160.90 | 1.0 | 160.90 | Modelled Base / Against Buffer |
| SP76 | | 134.83 | 115.97 | 1.0 | 115.97 | Modelled Base / Against Buffer-Face |
| SP77 | | 1,364.40 | 1,612.38 | 1.0 | 1,612.38 | Modelled Base / Against Buffer-Face |
| SP78 | | 526.68 | 1,051.58 | 1.0 | 1,051.58 | Modelled Base / Against Buffer-Face |
| SP79 | | 1,284.90 | 4,506.19 | 1.0 | 4,506.19 | Modelled Base / Against Buffer-Face |
| SP80 | | 2,825.40 | 9,144.61 | 1.0 | 9,144.61 | Modelled Base / Against Buffer-Face |
| SP81 | | 5,264.90 | 31,488.72 | 1.0 | 31,488.72 | Modelled Base / Against Buffer-Face |
| SP82 | | 2,900.20 | 12,600.81 | 1.0 | 12,600.81 | Modelled Base / Against Buffer-Face |
| SP83 | | 1,285.30 | 3,309.32 | 1.0 | 3,309.32 | Modelled Base / Against Buffer-Face |
| SP84 | | 866.34 | 1,911.33 | 1.0 | 1,911.33 | Modelled Base / Against Buffer-Face |
| SP85 | | 81.51 | 56.06 | 1.0 | 56.06 | Modelled Base / Against Buffer-Face |
| SP86 | | 196.86 | 242.58 | 1.0 | 242.58 | Modelled Base / Against Buffer-Face |
| SP87 | | 402.71 | 639.31 | 1.0 | 639.31 | Modelled Base / Against Buffer-Face |
| SP88 | | 503.88 | 776.45 | 1.0 | 776.45 | Modelled Base / Against Buffer-Face |
| SP89 | | 744.77 | 1,373.02 | 1.0 | 1,373.02 | Modelled Base / Against Buffer-Face |


FILE NAME: F:\Jobs\1700\1767 Penrice Quarry Mineral Penrice\Drawings\Drawing\1767.DRG.164 Orthophoto And Topography (2024-09-30).dwg
JOB SUB #:
CREATED: 4 October 2024

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| | | | |

**Data Sources:**
Photography: Groundwork part of SLR Pty Ltd UAV Survey, Captured 2024-09-30
Topography: Groundwork part of SLR Pty Ltd UAV Survey, Captured 2024-09-30, DSM 1m
Cadastre: © The Government of South Australia (DIT) 2022
Ecosystem:
Other: © 2023 Microsoft Corporation; © 2023 Maxar; © CNES (2023) Distribution Airbus DS

Legend:
- Cadastral Boundary
- Mineral Lease
- Miscellaneous Purposes Licence
- Private Mine
- Retention Lease

PROJECT: Penrice Quarry

CLIENT: Adbri Quarries

TITLE: Orthophoto and Topography (2024-09-30)

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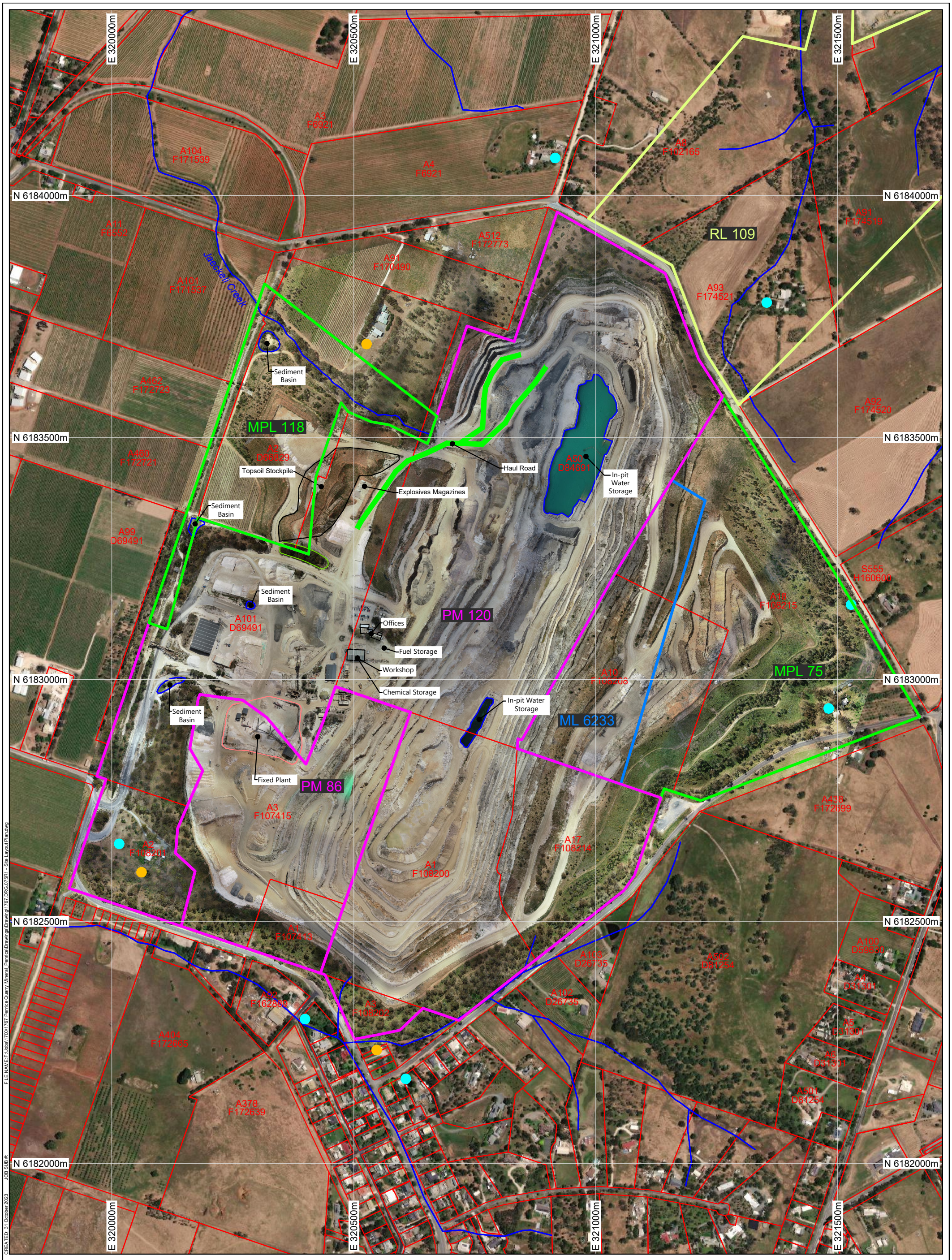
SCALE: 1:6,000 When Printed On A3 — 0 — 120m
DRAWING NUMBER: 1767.DRG.164A
REVISION:
DATE: 4 October 2024
DRAWN: TR
PRINTED: 4 October 2024
CHECKED: TT
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54




FILE NAME: F:\Jobs\1700\1767 Penrice Quarry Mineral Permice\Drawings\Drawing\1767.DRG.075R1 - Site Layout Plan.dwg
JOB SUB #:
CREATED: 31 October 2023

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| 1 | Updated Imagery, Updated Tenement Colours | 2023/10/31 | CP |
| | | | |
| | | | |

**Data Sources:**
Photography: Groundwork Plus Pty Ltd UAV Survey, Captured 2023-10-04
Topography:
Cadastre: © The Government of South Australia (DIT) 2021
Ecosystem:
Other: © 2023 Microsoft Corporation; © 2023 Maxar; © CNES (2023) Distribution Airbus DS



**Legend:**
- Cadastral Boundary
- Mineral Lease
- Private Mine
- Miscellaneous Purpose Licence
- Retention Lease
- Dust Monitor Location
- Blast Monitor Location

PROJECT: Penrice Quarry

CLIENT: Adbri Quarries

TITLE: Site Layout Plan

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PH: +61 7 3871 0411
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SCALE: 1:7,000 When Printed On A3 (0 – 140)
DRAWING NUMBER: 1767.DRG.075
REVISION: 1
DATE: 31 October 2023
DRAWN: MR
DATUM: HORIZONTAL / VERTICAL / ZONE
PRINTED: 31 October 2023
CHECKED: JR
GDA94 / MGA / AHD / 54


FILE NAME:P:\Jobs\1700s\1767 Penrice Quarry Mineral_Penrice\Drawings\Drawings\1767.DRG.091R1- Visual Assessment.dwg
JOB SUB #:
CREATED: 3 August 2021

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| 1 | General update | 2020-08-03 | MM |

**Data Sources:**
Photography: Google Satellite Image 2021
Topography:
Cadastre: Data.sa.gov
Ecosystem:
Other: Sarig.sa.gov.au



Legend:
Site Boundary

PROJECT: Penrice
CLIENT: Penrice Quarry and Mineral
TITLE: Visual Assessment Map

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PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:50000 When Printed On A3 (0 — 0m)
DRAWING NUMBER: 1767.DRG.091
REVISION: 1
DATE: 3 August 2021
DRAWN:
PRINTED: 3 August 2021
CHECKED:
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54


Legend:

- Cadastral Boundary
- Mineral Lease
- Private Mine
- Retention Lease
- Miscellaneous Purpose Licence
- Rehabilitation - Trees
- Rehabilitation - Seeded
- Conceptual Earthworks

FILE NAME: F:\Jobs\1700\1767 Penrice Quarry Mineral Penrice\Drawings\Drawing\1767.DRG.083 - Rehabilitation – Year Two – 2020.dwg
CREATED: 8 March 2019 JOB SUB #:

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| | | | |

**Data Sources:**
Photography: Aerial Survey 2018-10-18
Topography: Aerial Survey 2018-10-18 (GNSS)
Cadastre: SA PLB
Ecosystem:
Other:



PROJECT: Penrice

CLIENT: Penrice Quarry & Mineral

TITLE: Rehabilitation Stage - Year Two - 2020

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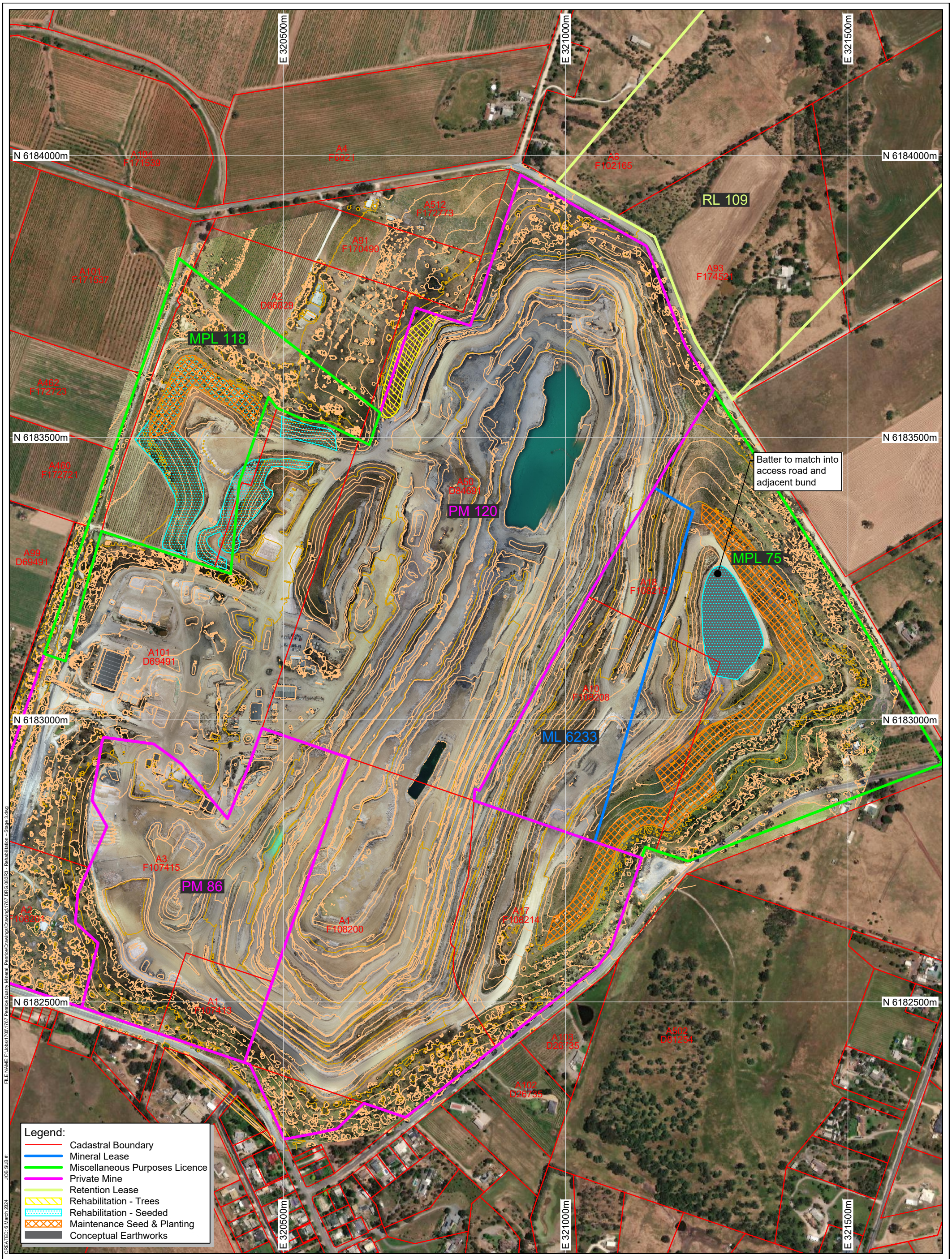
SCALE: 1:6,000 When Printed On A3 (0 – 120)
DRAWING NUMBER: 1767.DRG.083
REVISION:
DATE: 8 March 2019 DRAWN: DP
PRINTED: 8 March 2019 CHECKED:
DATUM: HORIZONTAL / VERTICAL / ZONE MGA / AHD / 54




FILE NAME:F:\Jobs\1700\1767 Penrice Quarry Mineral Penrice\Drawings\Drawing\1767.DRG.083R3 - Rehabilitation - Stage 3.dwg
JOB SUB #:
CREATED: 6 March 2024

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| 1 | General Modifications, Added Notes & Highlighted Areas | 01/08/2019 | JHV |
| 2 | Updated Imagery, Added Northeast Rehabilitation Design | 14/11/2023 | CP |
| 3 | Removed Northeast Rehabilitation Design | 06/03/2024 | CP |

**Data Sources:**
Photography: Groundwork Plus Pty Ltd UAV Survey, Captured 2023-10-04
Topography: Groundwork Plus Pty Ltd UAV Survey, Captured 2023-10-04
Cadastre: © The Government of South Australia (DIT) 2021
Ecosystem:
Other: © 2023 Microsoft Corporation; © 2023 Maxar; © CNES (2023) Distribution Airbus DS



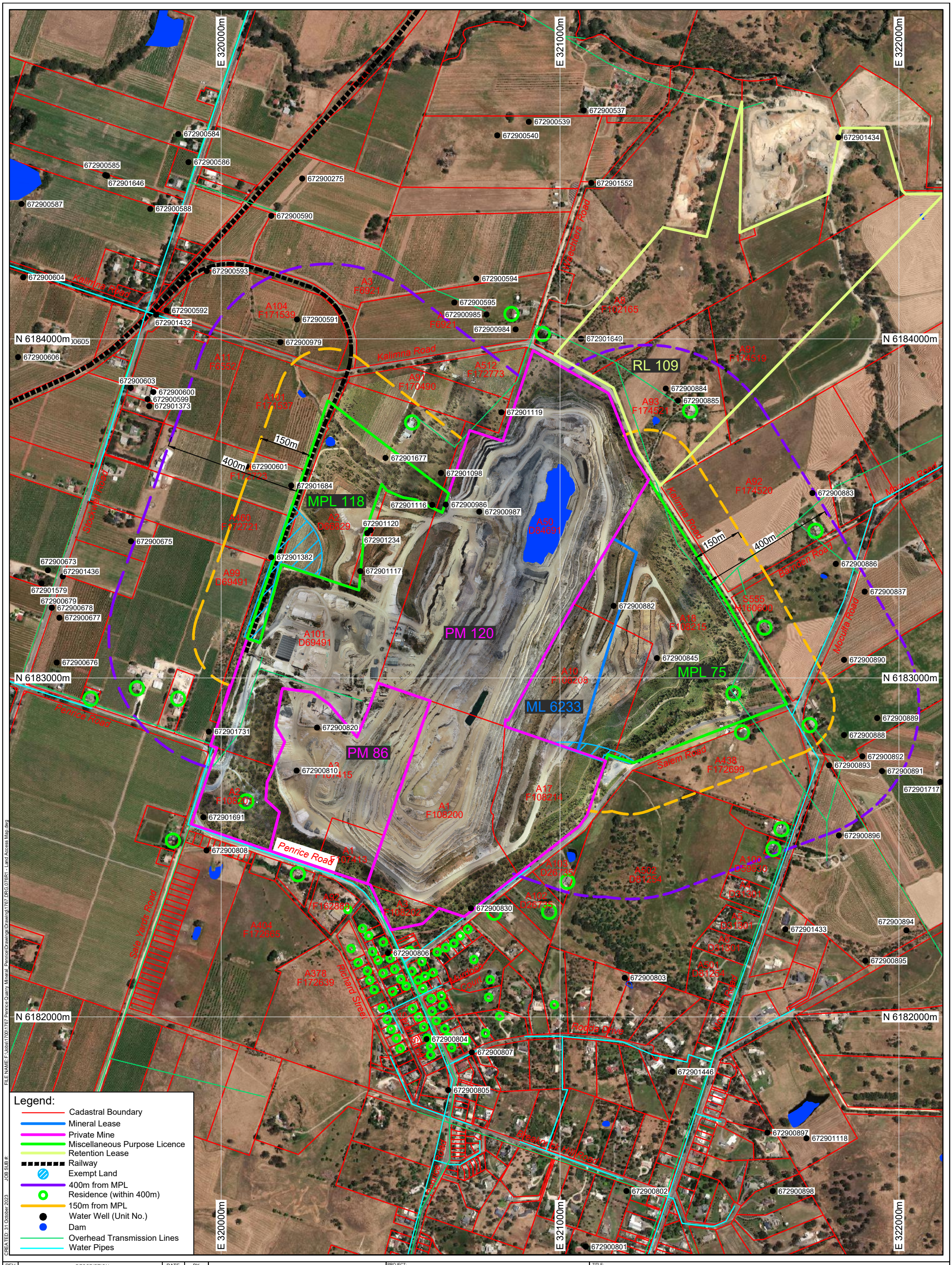
PROJECT: Penrice Quarry

CLIENT: Adbri Quarries

TITLE: Rehabilitation - Stage 3

GROUNDWORK plus
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:6,000 When Printed On A3 — 0 — 120m
DRAWING NUMBER: 1767.DRG.083
REVISION: 3
DATE: 6 March 2024
DRAWN: JHV
PRINTED: 6 March 2024
CHECKED:
DATUM: HORIZONTAL / VERTICAL / ZONE
MGA / AHD / 54




FILE NAME: F:\Jobs\1700\1767 Penrice Quarry Mineral Permits\Drawings\Drawings\1767.DRG.076R1 - Land Access Map.dwg

CREATED: 31 October 2023 JOB SUB #:

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| 1 | Updated Imagery, Updated Tenement Colours | 2023/10/31 | CP |

**Data Sources:**
Photography: Groundwork Plus Pty Ltd UAV Survey, Captured 2023-10-04
Topography:
Cadastre: © The Government of South Australia (DIT) 2021
Ecosystem:
Other: © 2023 Microsoft Corporation; © 2023 Maxar; © CNES (2023) Distribution Airbus DS



PROJECT: Penrice Quarry

CLIENT: Adbri Quarries

TITLE: Land Access Map

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SCALE: 1:10,000 When Printed On A3 — 0 — 200m

DATE: 31 October 2023 | DRAWN: MR

PRINTED: 31 October 2023 | CHECKED:

DRAWING NUMBER: 1767.DRG.076 | REVISION: 1

DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54

# ATTACHMENTS

# Attachment 1

Certificate of Currency Public Liability Insurance

**Vijay Gandhi | Principal**
Marsh Pty Ltd
ABN 86 004 651 512
148 Frome Street
ADELAIDE SA 5000
PH: 61 8 8385 3561
Vijay.gandhi@marsh.com
marsh.com.au

30/04/2024

# CERTIFICATE OF CURRENCY
# COMBINED GENERAL LIABILITY INSURANCE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE HOLDER. IT DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY. IT IS PROVIDED AS A SUMMARY ONLY OF THE COVER PROVIDED AND IS CURRENT ONLY AT THE DATE OF ISSUE. FOR FULL PARTICULARS, REFERENCE MUST BE MADE TO THE CURRENT POLICY WORDING

## INSURED
Adbri Limited and Adbri Concrete and Quarries SA Pty Ltd and Subsidiary Companies

## PERIOD OF INSURANCE
From 4:00pm local standard time on 30/04/2024 to 4:00pm local standard time on 30/04/2025.
Any subsequent period for which the Insured has requested and the Insurer has accepted.

## INSURER

| NAME | PARTICIPATION | POLICY NUMBER |
|---|---|---|
| Liberty Mutual Insurance Company | 100% | ADCAS23419546 |

## COVERING
### PUBLIC AND PRODUCTS LIABILITY
All sums which the insured shall become legally liable to pay for Compensation in accordance with the law of any country or assumed under contract or agreement in respect of:

a) Personal Injury
b) Property Damage

As a result of an Occurrence and happening in connection with the Insured's Business or Products.

## GEOGRAPHICAL LIMITS
Worldwide except in respect of:

Section A – General, Products and Advertising Liability whereby coverage in respect of United States of America and Canada is limited to:

(a) travelling employees within the countries

(b) products exported in the countries

## LIMIT(S) OF LIABILITY
$20,000,000 any one occurrence in respect to General Liability; $20,000,000 any one occurrence and in the aggregate in respect to Products Liability

INTERESTED PARTY

N/A

Indemnity is subject to the terms and conditions of the Policy, including any applicable Sub-Limit of Liability and Deductible.

In accordance with the ongoing commitment by Marsh to quality management philosophies, this certificate has been verified for accuracy of content by:

Yours faithfully,

**Vijay Gandhi**
Principal

# Attachment 2

General Site Inspection Report

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | General Annual Compliance Site Inspection |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 21 November 2024 | **Monitored by:** | Rachel Hall |
| **Report Requested by:** | Rachel Hall | | |

**Purpose:** General Site Inspection to provide photographic evidence of compliance with the control and management strategies in the MOP PEPR

**Event Discussion**

A General Site Inspection was undertaken at Penrice Quarry on 21 November 2024. Public safety measures including safety berms, chain link mesh fencing and signage were present around the perimeter, and throughout the Site. Haul roads were found to be in good condition, free from significant weeds and erosion. Sediment traps were observed to be effective and present throughout the Site, to prevent discharge from the Tenement.

Environmental weed, tree tobacco, was observed throughout the Site. Observations of the weed were made during previous reporting periods, and no significant increases in abundance or spread onto adjoining land were observed during the reporting period. Removal by a suitably qualified third-party is recommended to prevent further spread.

No immediate non-compliances were noted during the Site Inspection.

**Photographs Points**

21/11/2024

**Weeds and Pests:** Some tree tobacco present on quarry walls.

21/11/2024

**Weeds and Pests:** General views of weeds along safety berm. Generally limited to annual grasses. Planted vegetation within southern portion of PM 120 present.

21/11/2024

**Public Safety:** Public safety fencing with mesh on safety berms along perimeter of Site.


21/11/2024

**Public Safety:** HME equipment equipped with fire extinguishers.

21/11/2024

**Public Safety:** Site office and light vehicle parking area.


21/11/2024

**Public Safety:** Public safety signage for blasting. Weighbridge and sales area in background.


21/11/2024

**Public Safety:** Public safety signage and device within pit area.

21/11/2024

**Public Safety:** Entrance to Site with public safety signage.

21/11/2024

**Topsoil:** View of topsoil within MPL 118 and PM 120 - vegetated and free from significant weeds and and erosion.

21/11/2024

**Topsoil:** Topsoil stockpiles within PM 120.

21/11/2024

**Native Vegetation:** Established vegetation within south eastern portion of Site, within PM 120.

21/11/2024

**Native Vegetation:** Established native vegetation along southern portion of Site near light vehicle track.

21/11/2024

**Traffic:** Main haul road though pit to Ironstone Road in good condition, free from significant erosion and weeds.

21/11/2024

**Traffic:** Traffic directives within Site. Free from significant weeds and erosion.


21/11/2024

**Hydrocarbons:** Mobile diesel truck.

21/11/2024

**Hydrocarbons:** General views of chemical storage area.

21/11/2024

**Hydrocarbons:** Workshop area with fire extinguisher and spill kit.

21/11/2024

**Hydrocarbons:** Self bunded diesel tank.

21/11/2024

**Hydrocarbons:** Views of within workshop area.


21/11/2024

**Hydrocarbons:** Oil tank onsite.


21/11/2024

**Hydrocarbons:** Waste bins near workshop area with lids.

21/11/2024

**Hydrocarbons:** Public safety fencing and video surveillance around explosives magazine area.

21/11/2024

**General Observations / Other:** General views of sales / product stockpiling area within PM 86.

21/11/2024

**General Observations / Other:** Mist canon within sales area for dust suppression.

21/11/2024

**General Observations / Other:** Sheltered plant for dust and noise suppression.

21/11/2024

**General Observations / Other:** General views of fixed plant area.

21/11/2024

**General Observations / Other:** Water truck in operation for dust suppression.

21/11/2024

**General Observations / Other:** Explosives magazine area with public safety signage and fencing.

21/11/2024

**General Observations / Other:** General view of sales and weighbridge area.

21/11/2024

**General Observations / Other:** Truck wash area with water tanks.

21/11/2024

**Surface Water:** Water tanks and water cart onsite. Water tanks utilises groundwater from adjacent property.

21/11/2024

**Surface Water:** General views of pit area with surface water / groundwater reservoir at bottom of pit.

21/11/2024

**Surface Water:** Rock catchment drainage on quarry walls to prevent erosion.

21/11/2024

**Surface Water:** Drainage channel for surface water.

21/11/2024

**Surface Water:** Sediment trap within MPL 118.

21/11/2024

**Surface Water:** View of sediment trap adjacent to Jaeckeli Creek in MPL 118.

21/11/2024

**Surface Water:** Surface water discharge area within MPL 118.


21/11/2024

**Surface Water:** Sediment trap with public safety signage.

21/11/2024

**Rehabilitation:** Overburden mound within PM 120 to screen views of operations and working faces.

21/11/2024

**Rehabilitation:** View of recent rehabilitation - eastern overburden dump. Recent re-seeding efforts preventing dust generation.

21/11/2024

**Rehabilitation:** Planted vegetation within north-western boundary of Site (MPL 118).

21/11/2024

**Rehabilitation:** Established planted vegetation within MPL 118.

# Attachment 3

Comparative Visual Amenity Assessment

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | Topsoil Stockpile Inspection |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 21 November 2024 | **Monitored by:** | Rachel Hall |
| **Report Requested by:** | Rachel Hall | | |

**Purpose:** Inspection of Site topsoil stockpiles to ensure that existing topsoil quality and quantity is contained and appropriately maintained.

**Event Discussion**

A Topsoil Stockpile Inspection was undertaken at Penrice Quarry on 21 November 2024. Topsoil stockpiles onsite were found to be in good condition, with some vegetation cover, and free from significant weeds and erosion. Topsoil has been observed to have been used directly on rehabilitation, which have been re-seeded and are progressing well.

**Photographs Points**

21/11/2024

**Stockpile 1:** View of rehabilitation area with recently spread topsoil and re-seeding. Well maintained with adequate vegetation cover, with no evidence of erosion or serious weeds.

21/11/2024

**Stockpile 2:** Stockpile 2 located in the north-west corner. Some vegetation growth with no significant evidence of erosion or weeds.

# Attachment 4

Visual Amenity Inspection Report

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | Visual Amenity Assessment |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 13 June 2024 | **Monitored by:** | |
| **Report Requested by:** | Liam Opitz | | |

**Purpose:** Annual Visual Amenity Assessment to satisfy the requirements of the Visual Amenity Outcome for the Site, as per the MOP PEPR.

**Event Discussion**

A comparative visual amenity inspection has been completed to assess the achievement of the extensive rehabilitation works undertaken on MPL 75. The works commenced on 12 March 2024 and concluded on 24 May 2024.

**Photographs Points**

13/06/2024

**Station 1:** View from Light Pass Road prior to commencement of rehabilitation activities (4 March 2024).

13/06/2024

**Station 2:** View from Light Pass Road following completion of rehabilitation activities (13 June 2024).

13/06/2024

**Station 3:** View from Research Road prior to commencement of rehabilitation activities (4 March 2024).

13/06/2024

**Station 4:** View from Research Road following completion of rehabilitation activities (13 June 2024).

# Attachment 5

Jaeckeli Creek Vegetation Inspection Report

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | Jaeckeli Creek Vegetation Inspection |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 21 November 2024 | **Monitored by:** | Rachel Hall |
| **Report Requested by:** | Rachel Hall | | |

**Purpose:** To ensure no vegetation clearance occurs within the riparian zone of Jaeckeli Creek within MPL 118.

**Event Discussion**

A Vegetation Inspection was conducted at Penrice Quarry on 21 November 2024 to ensure no clearance has occurred within the riparian zone of MPL 118, as per the PEPR. Native vegetation along Jaeckeli Creek is established, in good condition, with no clearance evident. No non-compliances were noted during the inspection.

**Photographs Points**

21/11/2024

**Photo Point 1:** Facing east along Jaeckeli Creek. No vegetation clearance evident.

21/11/2024

**Photo Point 1:** Facing west along Jaeckeli Creek from Photo Point 1. No evidence of vegetation clearance.

21/11/2024

**Photo Point 2:** Facing east along Jaeckeli Creek from Photo Point 2. New growth evident. No vegetation clearance.

21/11/2024

**Photo Point 2:** Facing west along Jaeckeli Creek. No vegetation clearance.

21/11/2024

**Photo Point 2:** Photo of perimeter track and plantings south of Jaeckeli Creek. Vegetation in good condition with no evidence of clearance.

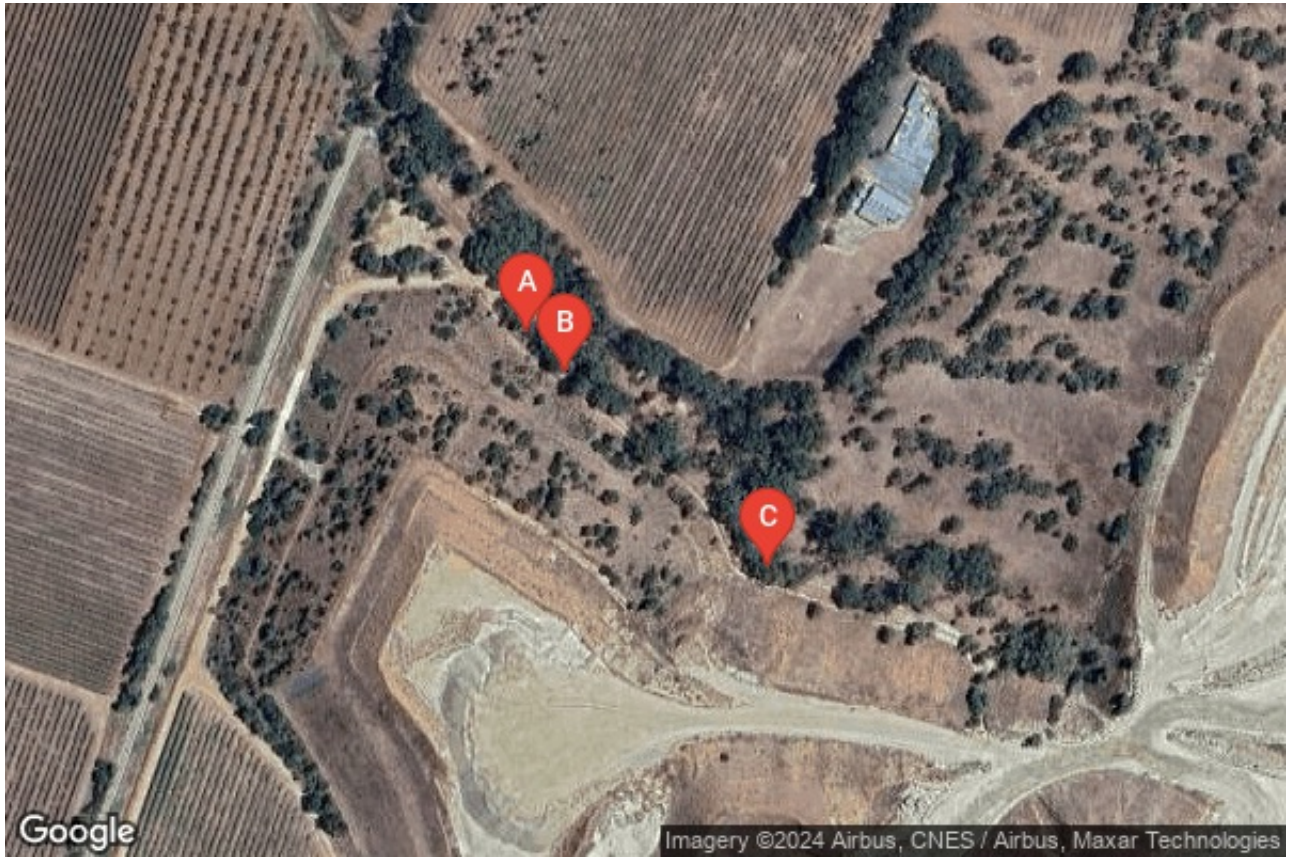
21/11/2024

**Photo Point 3:** Views along Jaeckeli Creek facing west. No vegetation clearance.

21/11/2024

**Photo Point 3:** Facing east along Jaeckeli Creek. No clearance evident.

**Monitoring Location Map**




A Photo Point 1
B Photo Point 2
C Photo Point 3

# Attachment 6

Annual Flora and Fauna Survey Report 2024

2024

# Annual Flora and Fauna Survey Report 2024

SURVEY REPORT DETAILING THE ENVIRONMENTAL PROGRESS FOR PENRICE QUARRY AND MINERAL/ADBRI

PREPARED BY: KURTIS WARD – FARMER JOHNS AGRONOMIC CONSULTANT

ADBRI
Building Australia since 1882

Penrice Quarry & Mineral

Farmer Johns

# Contents

# Flora & Fauna Survey Report 2024

**Client**: Mr R. Welsh, Penrice Quarry & Mineral
**Location:** 256 Penrice Road, Penrice, SA

## 1. Introduction

The progressive development, conservation and management of ecosystems at the Penrice Quarry and Mineral site is a fundamental practise to ensure ADBRI continues to build a sustainable future. In order to make this happen, management plans are formulated on an annual basis to outline key targets that must be addressed for the health of not only the surrounding environment, but the health and safety of the neighbouring community of Penrice. Areas of interest within this plan include, but are not limited to; weed control, pest control, tree planting, seeding/erosion mitigation, and fire risk reduction.
The purpose of this report is to outline how Penrice Quarry and mineral/ADBRI are tracking with regards to these targets.

Tracking the state of the surrounding environment is continuous given factors such as weed distribution, climate, and topography at the site is constantly changing. The monitoring is conducted by Farmer Johns, a local agricultural business that offers agronomic consultancy for the control of invasive weeds and the planting of native species. For efficiency in management, the site is split into 7 key management sectors to better facilitate the required management procedures as indicated in *appendix 1.*

## 2. Weed Management Plan

The control and management of invasive weed species is a labour-intensive exercising involving continuous monitoring, consultancy, and mitigation practices across what is approximately a 175ha area at the Penrice Quarry. All weeds exhibit different growth patterns, dormancy periods, reproductive rates, and herbicide susceptibility. This means that the control of an individual plant, may differ entirely to that of another with regards to timing of control and herbicide selection. It also means that some species are capable of reproducing at a far higher rate than others making them extremely invasive. Consequently, a weed management plan is formulated considering these factors to prioritise the importance and impact that each particular species has on the surrounding ecosystem. The weeds of highest significance are those listed as 'Declared Weeds of South Australia' according to the department of Primary Industries and Regions. These are identified as weeds that pose a significant threat to agriculture, the natural environment, and public health.

When conducting chemical control of weeds at the site, a number of environmental factors need to be considered. The first is off target drift which can be caused by either direct physical drift (e.g. droplets travelling via wind) or as a result of atmospheric inversions drifting herbicides extensive distances. The drift via inversion is particularly a risk when applying volatile herbicides such as those belonging to the phenoxy family (e.g. estercide/dicamba). Another environmental risk is applying herbicides in close proximity to waterways where there is the possibility of contamination. Furthermore, a number of herbicides used at the site possess soil residual activity, meaning care needs to be taken when applying around the root systems of non-target species. The aforementioned environmental considerations can restrict what chemical control can be undertaken

and alternative options needs to be considered such as physical control and less commonly biological control.

The reproduction and distribution of weeds is constantly changing depending on factors such as climate, plant dormancy, and level of control conducted annually. Regular monitoring and agronomic consultancy is required to ensure numbers are managed effectively as spikes in populations can happen readily if not acted upon. The weed management plan is designed to ensure that weeds located on the site are then pencilled in for appropriate control according to consultancy provided by Farmer Johns. Weeds listed for control are prioritised based on whether they are 'Declared weeds of South Australia," in addition to characteristics such as size, reproduction rate, and overall invasiveness. Herbicide recommendations are provided for the control of significant weeds are highlighted in *appendix 1* in addition to flagging their locations at the site.

## 3. Updates for 2022

### Fauna

The Penrice Site is home to a number of native and non-native fauna including Foxes (*Vulpes Vulpes*), Kangaroos (Macropus Fuliginosus), Rabbits (*Oryctolagus Cuniculus*), Hares (*Oryctolagus cuniculus)*, and a range of avian and reptile species. Generally, non-native fauna such as rabbits, hares, and foxes have not been a significant issue to the surrounding ecosystem, however ongoing monitoring is carried out to ensure populations don't increase beyond threshold levels.

The Western Grey Kangaroo has been problematic in the past with a cull conducted in 2021 under permit number D38962. Their intervention with the rehabilitation program has created issues with tree planting programs where they either feed or rub against newly planted trees and or shrubs causing poor establishment of plantations. It is currently identified that numbers are verging beyond threshold levels again and consequently, there is work being done to create a new permit in the case that a cull is required before the next stage of tree planting. This will be done in accordance with the Department for Environment and Water guidelines.

Snails can and have become problematic in the past when undergoing rehab on site through tree planting programs (*see figure 1*). Snails are in abundance at the Quarry as they favour the lime deposits which provide them with the calcium that they need for shell strength. In addition, the excessively dry season has resulted in them chasing the water that is supplied via irrigation making these an even further attractive target. Baiting with the use of metaldehyde will likely be required at planting time to help with plant survival as they generally target the moisture around each tree following irrigation and proceed to feed on plant foliage leading to poor establishment.

***Figure 1 - Snails feeding on adolescent trees***

## Flora

The health and existence of native Flora is a critical component to the ecosystem that surrounds Penrice Quarry. Its distribution serves a number of beneficial purposes including:

- Providing wildlife with a habitat and food source
- Increasing soil structure and health including microbial promotion
- Reduced rainfall and wind erosion
- Regulating various biogeochemical cycles
- Reduced soil salinity
- Carbon storage helping reduce the effects of climate change
- Improving ground water quality

Following major re-structuring of the pit, the topography has undergone significant changes at the eastern end of the site. This creates potential issues including water and wind erosion. This has been mitigated to an extent by creating a lower gradient than other batters at the site. In 2024 hand seeding of up to 350kg of ryecorn and oats was undertaken to promote prompt ground cover and increase soil structure to help combat erosion potential (*see figure 2*). Ryecorn is commonly utilised in the Mallee regions of agricultural South Australia to help prevent wind erosion on sandhills. This area is pencilled in for future rehabilitation via additional hand seeding and tree planting with an expectation of 1000-2000 plantings. Hydroseeding is another potential pathway of increasing vegetation, organic matter, and soil surface stability and will be looked at.

***Figure 2 – highlighting the excellent vegetative groundcover achieved by seeding oats and ryecorn***

Extensive maintenance and repair of irrigation line across MPL75 has resulted in considerable improvement in the overall health and growth of the juvenile shrubs and trees that populate the area. The trees were mostly planted throughout the 2020 to 2021 period and due to poor irrigation establishment, they had exhibited poor growth rates and, in some cases, death. In 2024, 600 native trees were planted across the MPL75 area to replace previous failed plantings and to further promote the areas revegetation development.

***Figure 3 – establishment of trees planted at MPL75 over the past four years***

While maintaining a strong emphasis on increasing vegetation density during rehabilitation, Penrice Quarry and Mineral have a responsibility of reducing levels in situation that pose a fire risk to neighbouring households and communities. Fenceline Spraying, whipper snipping, and slashing is all undertaken along site boundaries to reduce fuel loads. Mostly, it is invasive wild oats or brome grass that is sprayed and or knocked down while avoiding desirable natives. Similarly, a significant level of fallen trees and limbs have been cleared from the site to reduce the fuel levels that pose a significant fire risk to the Penrice community. This also helps with improving overall visual aesthetics of the area surrounding the town

## Weed Control

Weed control makes up much of the environmental management at the Penrice site given the ongoing abundance and reproduction of invasive species. 2024 was one of the driest years on record for the region meaning weed pressure and growth was not as substantial in comparison to previous years. However, the months of June and July saw good rainfall enough to still drive the germination of a number of different invasive species. While there has been excellent progress in mitigating a wide range of invasive species, there continue to be a number of species that are providing ongoing challenges.

Wild Gazania is a declared weed of South Australia that is highly concentrated in some pockets of the site as indicated in *appendix 1*. It is a deep-rooted perennial herb that forms tussocks and can be quite difficult to control (*see figure 4*). Glyphosate and dicamba is a typically robust herbicide mix on this weed, however it can have its limitations as it cannot be applied through the spring/summer period due to the risk of spray drift onto neighbouring vineyards. Consequently, the timing of chemical control needs to ideally be late winter prior to bud burst.

***Figure 4 - populations of wild Gazania on site***

Onion weed continues to be problematic given its invasiveness and distribution across the site. MPL75 has proven to be the worst affected area surrounding the tree plantings, however has been suppressed following recent chemical applications. Given the requirement of Metsulfuron to control this weed control is limited in close proximity to trees given the off target residual impact this herbicide can have.

Spiny Fleabane continues to be reproducing at a significant rate year to year, and while it is not acknowledged as a declared weed of South Australia, it is becoming increasingly invasive. Through most of its vegetative period, it can be difficult to identify or discover as it grows as rosette beneath overlying grass/shrubs etc. This makes it near impossible to effectively control across such a large area during this period. It is far easier to identify once it begins flowering and produced a stem but this then provides a small window for control before it set seed and reproduced. It is not a weed listed on any herbicide labels although glyphosate + Dicamba and or Glyphosate + Dicamba has proven effective in the past.

Wild artichoke, once an abundant species on the site, has now been extremely well controlled over the past 24-month period with the use of dicamba. Now, the weed typically only exists in areas inaccessible by foot or vehicle. Similarly, cotton bush has been significantly reduced in numbers over in recent years with only the odd sporadic germination identified which again is typically in areas inaccessible for herbicide applications.

Some horehound regrowth and new germinations have been identified along Jaeckeli Creek (*see figure 5).* This area has been highlighted in the past for horehound populations. This will be flagged for control in the coming months with the use of dicamba. Olive trees have been identified intermittently across the site although considerable control has been achieved in the previous two years via the cut and paste stump method.

***Figure 5 - horehound along Jaeckeli Creek***

## 4. Conclusions/Long and Short-Term Targets

The state of the environment that surrounds the Penrice Quarry continues to improve with continued successful weed control and revegetation. However, there is always further work to be done to help improve the state of the site. In the short term, weeds of high priority that are declared weeds of South Australia will be pencilled in for control where applicable including Wild Gazanias, Horehound, and Olive trees.

In the longer term, planning for a substantial tree planting program is underway for autumn 2025 with approximately 1000-2000 native trees in line for planting. Outside of this, general maintenance of the area will compile much of the work required over the next 12 month including ongoing weed control, irrigation repairs, and vegetation management. In addition, the monitoring of the Western Grey Kangaroo will continue and it likely that a new permit will be raised for a required cull to help protect new tree plantings as numbers continue to rise again.

## 5. Appendices

# Attachment 7

Topsoil Stockpile Inspection Report

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | Topsoil Stockpile Inspection |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 21 November 2024 | **Monitored by:** | Rachel Hall |
| **Report Requested by:** | Rachel Hall | | |

**Purpose:** Inspection of Site topsoil stockpiles to ensure that existing topsoil quality and quantity is contained and appropriately maintained.

**Event Discussion**

A Topsoil Stockpile Inspection was undertaken at Penrice Quarry on 21 November 2024. Topsoil stockpiles onsite were found to be in good condition, with some vegetation cover, and free from significant weeds and erosion. Topsoil has been observed to have been used directly on rehabilitation, which have been re-seeded and are progressing well.

**Photographs Points**

21/11/2024

**Stockpile 1:** View of rehabilitation area with recently spread topsoil and re-seeding. Well maintained with adequate vegetation cover, with no evidence of erosion or serious weeds.

21/11/2024

**Stockpile 2:** Stockpile 2 located in the north-west corner. Some vegetation growth with no significant evidence of erosion or weeds.

# Attachment 8

Weeds and Pests Inspection Report

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | Weeds and Pests |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 21 November 2024 | **Monitored by:** | Rachel Hall |
| **Report Requested by:** | Rachel Hall | | |

**Purpose:** Ensure no introduction of new weeds or pests (including feral animals) nor increase in abundance or escape of existing weeds and pest species in the mine area.

**Event Discussion**

A Weeds and Pests Inspection was conducted on 21 November 2024 at Penrice Quarry. Weed growth was generally insignificant and limited to annual grasses with evidence of dieback.

Some tree tobacco (Nicotiana glauca) (envrionmental weed) individuals were noted to be scattered around the walls of the Site, particularly above haul roads. Many of the individuals were inferred to have been established during the previous reporting period, due to their size. Tree tobacco was noted within the previous assessment in isolated patches. No significant increases in abundance were noted, and no spread onto adjacent properties was observed during the inspection. Removal / treatment by a suitably qualified third-party is recommended to prevent further spread.

**Photographs Points**

21/11/2024

**Photo 1:** General views towards Ironstone Road from eastern overburden dump. Generally limited to annual grasses with evidence of dieback. Potentially one (1) or more tree tobacco individuals noted.

21/11/2024

**Photo 2:** Walls above haul road into pit. Generally limited to annual weeds with dieback evident. Potentially one (1) or more tree tobacco individuals noted.

21/11/2024

**Photo 3:** Photo facing north from north eastern corner of PM 120. Some tree tobacco individuals noted on benching. Weeds on landscape outside of disturbed area generally limited to annual grasses with dieback present.

21/11/2024

**Photo 4:** Perimeter bunding along southern edge of PM 120. Weeds generally limited to annual grasses with dieback evidence.

21/11/2024

**Photo 5:** Some tree tobacco present along haul road walls, which looked to have been established during previous reporting periods due to its size.

21/11/2024

**Photo 5:** General view of weeds along haul road wall, generally limited to annual weeds with dieback evident.

21/11/2024

**Photo 6:** View of eastern overburden dump. Generally limited to annual grasses with dieback evidence. Some tree tobacco noted.

21/11/2024

**Photo 7:** View facing south from Jaeckeli Creek in MPL 118. Evidence of weed dieback. Weeds generally limited to annual grasses.

21/11/2024

**Photo 8:** Tree tobacco individual noted within product stockpiling / sales are within PM 86.

# Attachment 9

Annual Geotechnical Audit October 2024

# Penrice Quarry Annual Geotechnical Audit October 2024

## Penrice Quarry

### Adbri Quarries

Prepared by:

**SLR Consulting Australia**

SLR Project No.: 655.V10402.00005

17 January 2025

Revision: 1.0

## Revision Record

| Revision | Date | Prepared By | Checked By | Authorised By |
|---|---|---|---|---|
| 1.0 | 17 January 2025 | Joe Vivash | Rod Huntley | Rod Huntley |
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# Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Adbri Quarries (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

# Executive Summary

This report presents the findings of the October 2024 Annual Geotechnical Audit for Penrice Quarry, conducted by SLR Consulting Australia on behalf of Adbri Quarries. The audit, performed on 14 October 2024, focused on evaluating the geotechnical performance of the pit highwalls, the eastern rehabilitation mound, and the western overburden dump.

**Key Findings:**

- **Overall Stability:**
    - Pit Walls: 3D laser scanning confirmed no significant multi-bench deformations, indicating stability. However, minor rockfalls and material dislodgements were observed, particularly in the west wall. These are manageable through current controls, including bench safety bunds and scaling practices.
    - Eastern Rehabilitation Mound: Found to be currently geotechnically stable with no obvious signs of deformation, slumping, or significant material movement. Monitoring is recommended.
    - Western Overburden Dump: Structurally sound with minor surface erosion. Adherence to suitable slope design parameters was observed.
    - Rockfall and Wedge Risks: The west wall shows increased susceptibility to wedge formation due to persistent joints and fractures, requiring focused monitoring, particularly after rainfall or blasting activities.
- **Monitoring Program:**
    - The geotechnical monitoring system, using 3D laser scanning, proved effective for early risk detection. The scans identified minimal material loss and no large-scale instability, highlighting the importance of continued six-monthly monitoring.
- **Slope Angles:**
    - Total slope angles (TSAs) for the west and east walls, as well as the overburden dump, generally fell within acceptable design tolerances.

**Recommendations:**

- Maintain geotechnical monitoring of the east and west walls to identify and address potential wedge formations, localised instabilities and larger-scale multi-bench deformation.
- Conduct routine inspections of the east rehabilitation mound and east overburden dump after extreme weather events to identify early signs of erosion or deformation.
- Implement vegetation terminal waste dump faces or exposed areas and ensure adequate water drainage systems.
- Continue using 3D scanning for comprehensive geotechnical performance analysis.

The audit confirms that Penrice Quarry operates within acceptable geotechnical safety margins, with stable pit walls and managed risks. Areas of localised instability, particularly in the west wall, require ongoing attention to mitigate risks. The effective use of 3D laser scanning and proactive site management will ensure continued operational safety and compliance with regulatory standards.

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# 1.0 Introduction

SLR Consulting Australia (SLR) has been commissioned by Adbri Quarries (Adbri) to conduct a Geotechnical Audit for Penrice Quarry, located at Penrice Rd, Penrice, South Australia 5353. The audit aims to assess the stability and performance of the rehabilitation mound and ensure compliance with safety regulations, best practice guidelines and recommended design parameters. Additionally, the performance of the quarry's slopes and benches will be evaluated. This assessment will help identify any geotechnical risks and provide recommendations for maintaining safe and efficient operations.

## 1.1 Objective and Scope

This geotechnical audit aims to evaluate the current ground conditions concerning the stability and performance of the pit slopes and the rehabilitation mound over the past year, as required by the approved Mine Operations Plan / Program for Environment Protection and Rehabilitation (MOP PEPR) Environmental Outcome related to Damage to Third Party Property. The audit involves reviewing monitoring data, conducting a site inspection, and assessing the geotechnical design of the rehabilitation mound as outlined in the MOP PEPR, comparing it to current conditions. It aims to identify potential risks or instabilities and evaluate the effectiveness of risk mitigation measures.

The audit scope includes the western rehabilitation mound, wester overburden dump, and all active and inactive pit walls. It involves collecting and analysing qualitative observations from the site visit conducted on 14 October 2024. Recommendations will be made to address identified risks, improve geotechnical practices, and optimise slope performance to ensure safe and sustainable operations. The audit covers the following key areas:

- **Rehabilitation Mound and Overburden Structure Performance:** Assessment of the rehabilitation mound and overburden dump structure and slopes and whether it meets performance and design expectations.
- **Geotechnical Monitoring Systems:** Evaluation of the monitoring data (e.g., 3D laser scanning) for detecting movements or deformations of the pit walls.
- **Pit Slopes and Benches:** Review the current conditions and stability of all active pit walls.
- **Risk Identification:** Identifying and evaluating any geotechnical hazards or instabilities that could impact operations relating to the pit walls and rehabilitation mound structure.

## 1.2 Regulatory Requirements

The approved regulatory document, MOP PEPR, includes specific items that must be addressed to ensure conformance with the criteria. These include:

- **Objective / Outcome achievement:**
  - Audit by an independent geotechnical engineer at the completion of each Stage of quarry development and overburden dump construction confirms that the quarry landform is stable and overburden dumps are built to design parameters.
- **What will be measured and the form of measurement:**
  - Inspection undertaken by a suitably qualified person will demonstrate that the progressive establishment of the final landform is geotechnically stable.

## 1.3 Site Description

Penrice is located at 256 Penrice Rd, Penrice, South Australia 5353. It is situated approximately 4.8 kilometres east of Nuriootpa and accessible via Penrice Rd; refer to Figure 1. The nearest city is Adelaide, about 64.6 kilometres to the southwest.

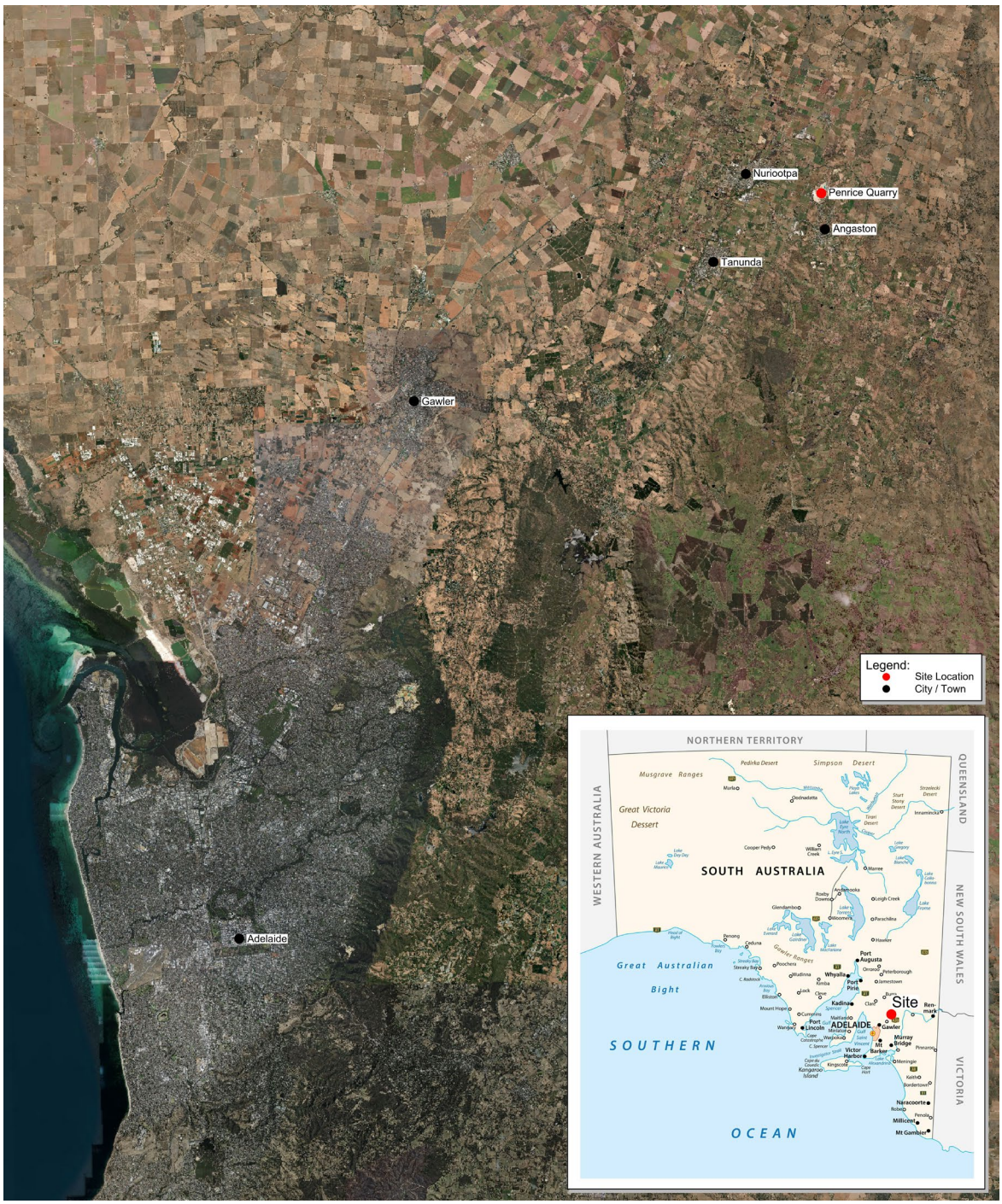



**Figure 1: Penrice Quarry location (red dot).**

**Figure 2: Penrice Quarry site layout.**

# 2.0 Geotechnical Monitoring

Penrice Quarry has implemented a geotechnical monitoring system for the pit walls, utilising 3D LiDAR (Light Detection and Ranging) scanning to measure and track material mobilisation and deformation. These scans capture 3D displacement data, providing a robust assessment of wall stability and performance. Monitoring data is collected from seven station locations opposite the walls being scanned, ensuring optimal coverage of the pit highwall. This system is crucial for offering early warning signs of displacement and enhancing site safety.

## 2.1 Geotechnical Monitoring

3D laser scanning was conducted on 13 September 2024 and compared to the previous survey taken on 6 March 2024. Over the six-month monitoring period, low rockfall volume and material loss from the crestlines have occurred. The amount of rockfall is viewed positively, as it does not appear to occur in large volumes but over a large area.

The results for the east wall indicate that it is performing satisfactorily, with no significant signs of large-scale multi-bench movement or substantial bench-scale wedge formation. Material loss along the crestlines of the central benches on the east wall remains minimal. However, rockfall, crest material loss, and minor slumping increased in the northeast and southeast areas of the east-facing wall. This material can be effectively contained on the catch benches by implementing catch bunds and exclusion zones where necessary.

On the other hand, the west wall shows a notable increase in rockfall originating from the crestlines, as well as indications of small-scale movement potentially linked to wedge formation. The increase in rockfall may be attributed to scaling, chaining, or related operations. Nonetheless, the benches on the west wall are highly susceptible to rockfall. The potential for wedge formation continues to be an issue for the west wall. While small-scale movement is evident, this issue warrants close monitoring, particularly after rainfall or blasting activities, as these events are likely to exacerbate localised material dislodgements in key areas.

In summary, the 3D laser scanning results over the past six months show no signs of significant multi-bench deformation and indicate that the walls are currently performing suitably. That said, rockfall, crest material loss, and localised material mobilisation or wedge dislodgement are expected to continue. Penrice Quarry is aware of these challenges and can manage them by maintaining adequately wide benches with safety bunds along the crests and safety bunds at the slope toe and ensuring suitable offset distances for operations near the slopes.

Although the east wall appears to be performing well, regular monitoring remains essential due to the waste dump load above and the presence of rock mass structures.

The monitoring program at Penrice Quarry is invaluable for managing risk, as the data collected allows for informed decision-making, thereby reducing the risk profile of ongoing work. The scanning is considered a critical component of future monitoring and safety efforts and should be continued.

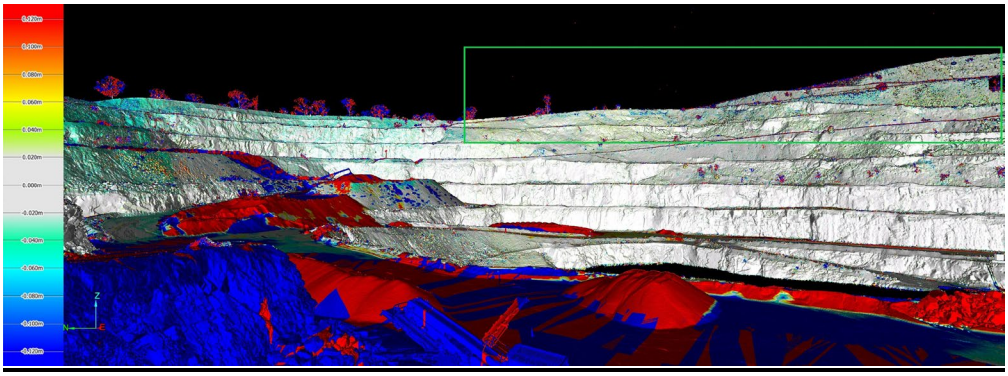


**Figure 3: Station 7. Northeast wall.**

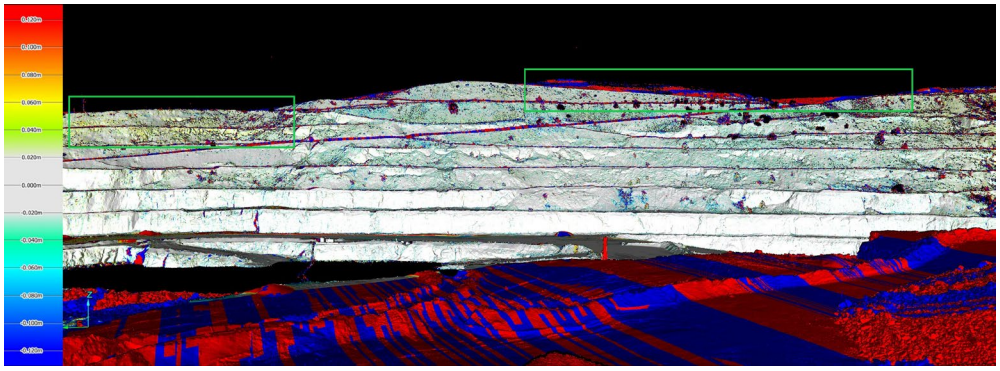


**Figure 4: Station 6. Central east wall.**

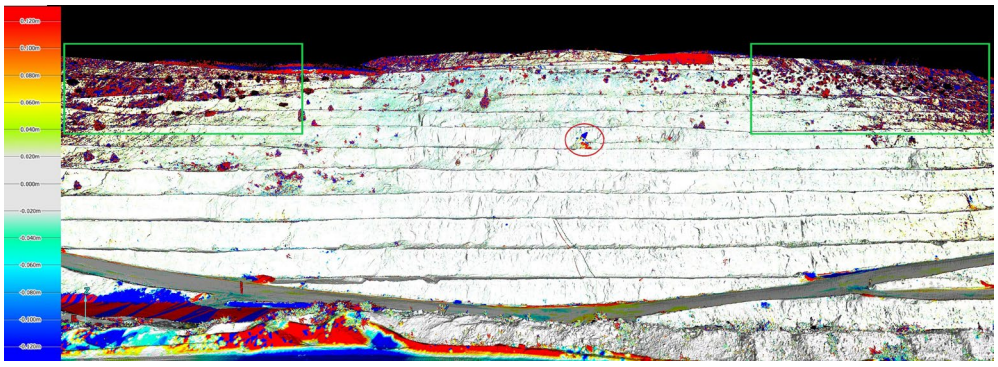


**Figure 5: Station 5. Central east wall.**

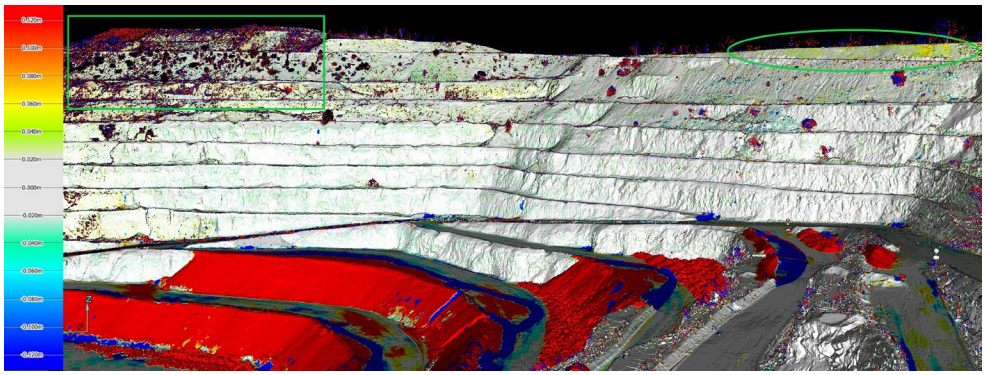


**Figure 6: Station 4. Southeast wall.**

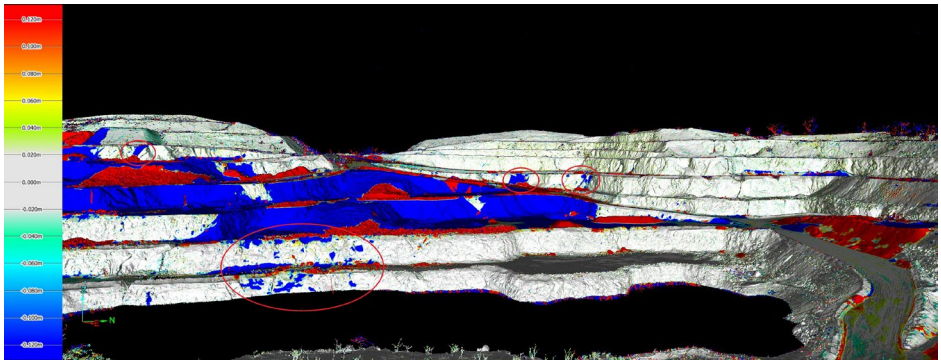


**Figure 7: Station 3. Northwest wall.**

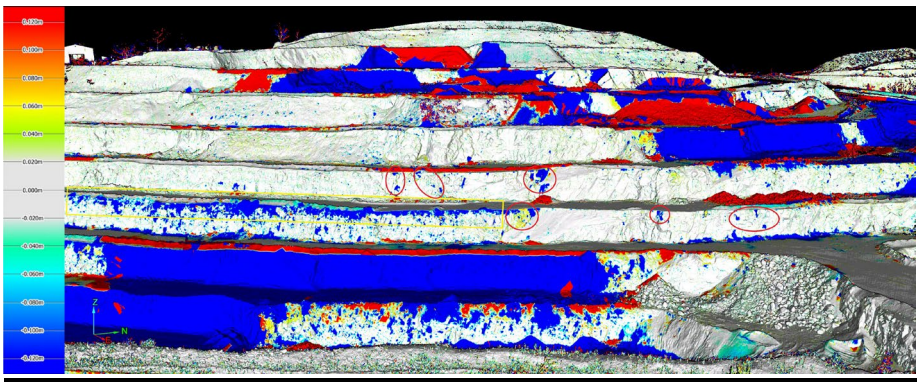


**Figure 8: Station 8. Central west wall.**

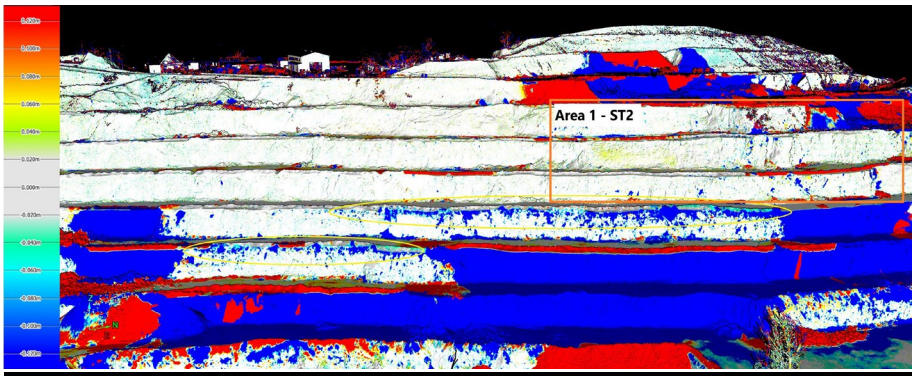



**Figure 9: Station 2. Central west wall.**

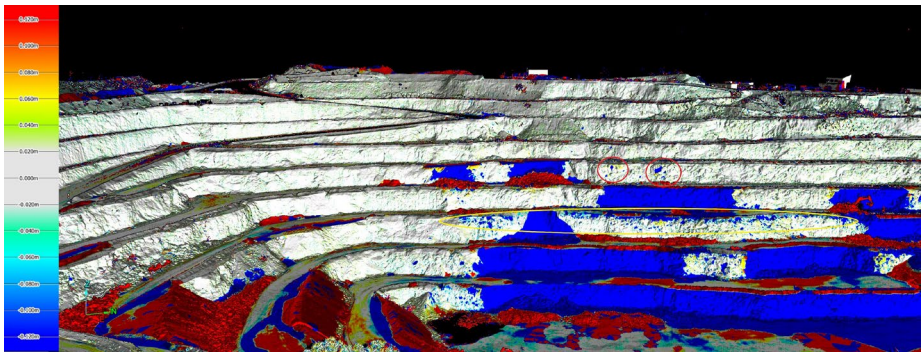


**Figure 10: Station 1. Southwest wall.**

# 3.0 Geotechnical Audit

A geotechnical audit was conducted on 14 October 2024 to evaluate the stability, conditions, and overall performance of the pit highwalls, rehabilitation mound structure and overburden dumps. This audit aimed to assess potential geotechnical risks, ensure operational safety, and maintain the structural integrity of these critical areas. The audit focused on identifying any issues that could impact ongoing and future mining activities, including the stability of the pit walls, the effectiveness of rehabilitation mound and overburden dump management, and any slope instability or failure indicators. This audit is a proactive measure to address concerns before they escalate into safety hazards or operational inefficiencies. The findings will inform necessary corrective measures and improvements, ensuring compliance with industry standards and regulatory requirements.

## 3.1 Names and Qualifications of the Investigation Team

Joe Vivash, serving as the Associate Geotechnical Engineer (Geotechnics and Mine Waste Engineering Department) at SLR, led the site investigation and audit.

Joe has a Bachelor of Science in Geology from the Queensland University of Technology (QUT) and a Master of Engineering Science in Mining from Curtin University Western Australia School of Mines: Minerals, Energy and Chemical Engineering (WASM).

Rod Welsh, Quarry Manager at Adbri Penrice Quarry, facilitated the site investigation and audit.

## 3.2 Details of Investigation

The geotechnical audit conducted on 17 October 2024 involved inspecting various areas within the site. This included traversing the pit crestline and floor area, which provided a vantage point for observing the geological structures and features of the highwalls. Particular attention was paid to any signs of instability, such as tension cracks, slumping or recent rockfall, signs of wedge formation and jointing. This assessment involved driving along the pit floor, pit crests, the crest and toe of the eastern rehabilitation mound structure, various pit benches, and conducting a general full-site drive-around.

Visual inspections were carried out on the east rehabilitation mound structure to evaluate their condition and performance in accordance with geotechnical best practices, stability, and safety. The focus was identifying signs of deformation that could affect future operations. Visual inspections were carried out on the west overburden dump structure with UAV drone data.

## 3.3 Observations

The following section outlines all geotechnical observations and provides recommendations where necessary. These observations include geotechnical issues and general commentary on various aspects of the site and operations.

All observations were documented with photographs and are focused on two primary areas:

- Pit Highwalls
- Eastern Rehabilitation Mound Structure
- Western Overburden Dump

### 3.3.1 Pit Highwalls

The west wall exhibits a high susceptibility to wedge failure, a condition influenced by both historical events and the geological characteristics of the site. Previous wedge failures have been documented, and large wedge-shaped slipperybacks are evident on the wall. These features are formed by the intersection of unfavourable discontinuities, such as joints, faults, and bedding planes, which create potential failure surfaces. Notably, the defects that form these wedge surfaces often exhibit scale effects, extending across multiple benches. This persistence through the rock mass means that observed discontinuities should be assumed to be larger than what is readily visible on-site. Such large-scale defects, when combined with the orientation of the wall and ongoing excavation activities, create risks that demand careful management and ongoing monitoring with scale.

A significant challenge in managing wedge failure on the west wall is the scale of the defects that form wedge failure surfaces. These defects, such as joints and faults, are often highly persistent within the rock mass and can extend across multiple benches. Their large-scale continuity increases the potential for significant instability, as the full extent of these defects is not always readily visible during routine inspections. Consequently, when evidence of wedge formation, such as slipperybacks or cracks, is observed, it must be taken seriously. These defects should be assumed to extend further than what is visible.

Observations on-site indicate that wedges form across multiple benches, with their orientations generally aligned. This alignment highlights the systematic nature of the underlying conditions driving wedge formation. Recognising that any observed wedge development should not be considered an isolated issue is essential. Instead, it likely indicates a broader, more pervasive structural challenge within the rock mass. Treating these observations as part of a larger pattern ensures that appropriate mitigation strategies are implemented across the affected areas rather than addressing individual wedges in isolation.

**Figure 11: High occurrence of wedge failure in the west wall.**

Defects such as joints, fractures, and bedding planes significantly affect the strength of a rock mass. When these are oriented at angles between parallel and perpendicular to the load direction (assumed to be vertical), the rock mass may experience a notable reduction in strength. This weakening increases the likelihood of localised failures, as observed in the high occurrence of western wall wedge failures.

**Figure 12: Central west wall slipperybacks, planar and wedge formation.**

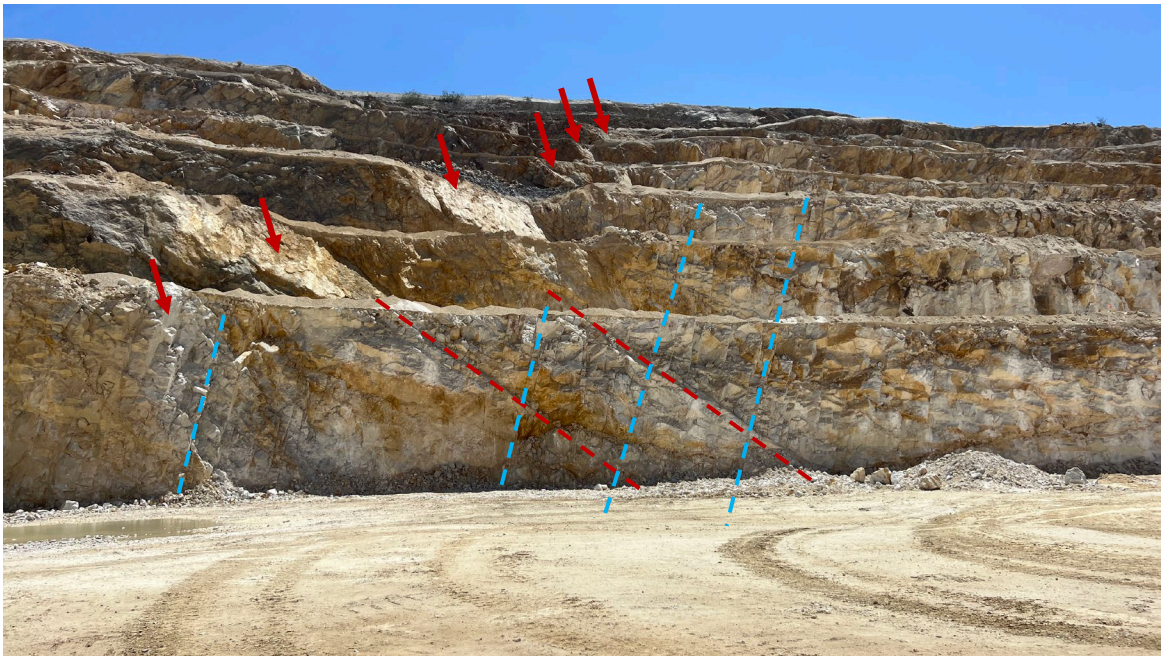


**Figure 13: Southwest west wall highlights existing wedges and defects causing wedge formation.**

The rock mass comprising both the western and northern walls is highly jointed and fractured. While this condition is neither immutable nor unavoidable, it can be effectively managed, as demonstrated by Penrice. The team has shown a strong awareness of the challenges and risks of managing such a complex rock mass. The most practical approach to handling such conditions involves the following measures:

- Maintaining sufficiently wide benches to catch falling material.
- Implementing bench crest catch bunds to prevent rocks from rolling over the bench crests.
- Scaling loose material when safe to do so.
- Monitoring for changes in slope conditions, such as an increased frequency of localised rockfalls, as this may indicate stress redistribution in the walls and signal a more significant structural issue, such as wedge formation.

**Figure 14: Southwest west wall highly jointed and fractured rock mass.**

**Figure 15: Central east wall highly jointed and fractured rock mass.**

### 3.3.2 Eastern Rehabilitation Mound Structure

The eastern rehabilitation mound structure was inspected and found to be in good condition regarding geotechnical stability, rehabilitation progress, and minimal surface erosion. There were no apparent signs of material movement, such as toe ramping, crest spreading, tension cracks, or slumping. Penrice and the operators should be commended for their efforts.

Although the structure appears structurally sound, it is critical to ensure it remains dry, vegetate any unvegetated areas, and continually monitor for cracks along the top and crest and signs of movement along the toe. This does not need to be an overly burdensome task; a simple monthly or after extreme rain events drive around the structure would suffice.

**Figure 16: Eastern rehabilitation mound structure toe.**

**Figure 17: Eastern rehabilitation mound structure crest and top surface.**

### 3.3.3 Western Overburden Dump

The Western overburden dump structure was inspected using drone survey data and found to be in good condition concerning geotechnical stability. Minor erosional scouring and channelling were observed on several batters. While this does not currently pose an immediate concern, it is important to acknowledge that, over the long term, such erosion could develop into deeper channelling.

The survey data revealed no apparent signs of material movement, such as toe ramping, crest spreading, tension cracks, or slumping, and the slope angles are appropriate. Lifts should be restricted to a maximum height of 10 metres, with a minimum bench width of 8 metres and maximum slope angles of 34 degrees. This slope design guideline appears to be generally adhered to, which is encouraging.

Although the structure appears structurally sound, it is essential to ensure it remains dry, vegetate the terminal faces where practical, provide suitable channels and pathways for surface water egress, and conduct visual monitoring every few months or after extreme rain events.

**Figure 18: West overburden dump.**

**Figure 19: West overburden dump.**

### 3.3.4 Total Slope Angles

Measuring the total slope angle (TSA) of slope composed of earth materials is crucial for understanding their stability and integrity. These angles are critical indicators of the material's behaviour under various conditions. A slope angle that is too steep relative to the material's strength can lead to instability, as gravitational forces acting on the slope material increase with the steepness of the angle.

TSA angles were reviewed for the east and west pit walls, as well as the western overburden dump. All TSAs for the west wall are considered suitable, primarily due to the wide benches. The east wall TSAs are steeper, as expected, given that these walls terminal with thinner benches. The TSAs for the western waste dump are also deemed suitable, with all angles remaining below 30 degrees, apart from a few individual slope faces displaying angles slightly greater than 30 degrees.

**Table 1: Total slope angle cross-sections.**

| Section | Angle Type | West Wall Angle ( ° ) | East Wall Angle ( ° ) | Dump Angle ( ° ) |
|---|---|---|---|---|
| A | TSA | - | 40 | - |
| B | TSA | 30 | 31 | - |
| C | TSA | 33 | 41 | - |
| D | TSA | 30 | 44 | - |
| E | TSA | 32 | 48 | - |
| F | TSA | 31 | 44 | - |
| G | TSA | 32 | 45 | - |
| H | TSA | 33 | 42 | - |
| I | TSA | 34 | 39 | - |
| J | TSA | 35 | 29 | - |
| K | TSA | 32 | 34 | - |
| L | TSA | 21 | 37 | - |
| M | TSA | 36 | 41 | - |
| N | TSA | 35 | 39 | - |
| O | TSA | - | - | 22 |
| P | TSA | - | - | 19 |
| Q | TSA | - | - | 18 |
| R | TSA | - | - | 22 |
| S | Slope face | - | - | 33 |
| T | TSA | - | - | 22 |
| U | Slope face | - | - | 32 |
| V | TSA | - | - | 30 |


**Figure 20: TSA cross-section locations**

# 4.0 Key Findings

The geotechnical audit for Penrice Quarry in October 2024 identified critical insights into the performance and stability of the site's pit walls, rehabilitation mound, and overburden dump. These findings are integral to maintaining compliance with design standards and ensuring operational safety:

**Overall Stability:**

- Pit Walls: 3D laser scans confirmed no significant multi-bench deformations, indicating stable conditions. Minor rockfalls and material dislodgements and movements were observed but are manageable through existing controls.
- Eastern Rehabilitation Mound: Appears geotechnically stable and performing well.
- Western Oberburden Dump: Appears geotechnically stable and performing well.
- Rockfall: Minor rockfall were noted in localised areas within the pit, particularly in the west wall, likely exacerbated by blasting, weathering processes and joints.
- TSA: Overall, the TSA values fall within the acceptable tolerance of the recommended TSA angles.

**Monitoring Effectiveness:**

- The geotechnical monitoring program utilising 3D laser scanning proved essential for early detection of potential risks. No large-scale issues were detected and observed material losses remained minimal.
- Ongoing monitoring of the pit walls is highly recommended on a 6-month basis.

**Rehabilitation and Overburden Management:**

- The Eastern Rehabilitation Mound demonstrated sound stability, with no visible signs of material movement.
- The Western Overburden Dump showed minor surface erosion but maintained structural integrity. Adherence to lift and slope design parameters is commendable.

The audit confirms that while the quarry's overall geotechnical performance is stable, specific areas, particularly the western pit wall, will require ongoing monitoring and a proactive approach to risk management due to the highly jointed and fractured rock mass and the high susceptibility to wedge formations.

That said, during the inspection, management and staff demonstrated a high degree of awareness, understanding, and care regarding the risks and challenges associated with the rock mass. All identified issues can be effectively managed through existing and outlined controls.

# 5.0 Closure

Overall, deformation scanning indicates that the Penrice Quarry highwalls are stable from a total slope and global perspective. However, on a smaller scale, challenges do exist. These challenges are being suitably managed through knowledgeable and proactive site management.

Given the history of localised bench-scale instability caused by jointing and fractures, it is highly recommended that deformation scans be maintained on a six-month basis. This will help detect any large-scale movements that may develop over time.

If you have any questions or require further information, please do not hesitate to contact me on 0497 674 562. Alternatively, you can reach me via email, and I will be happy to assist you.

Sincerely,

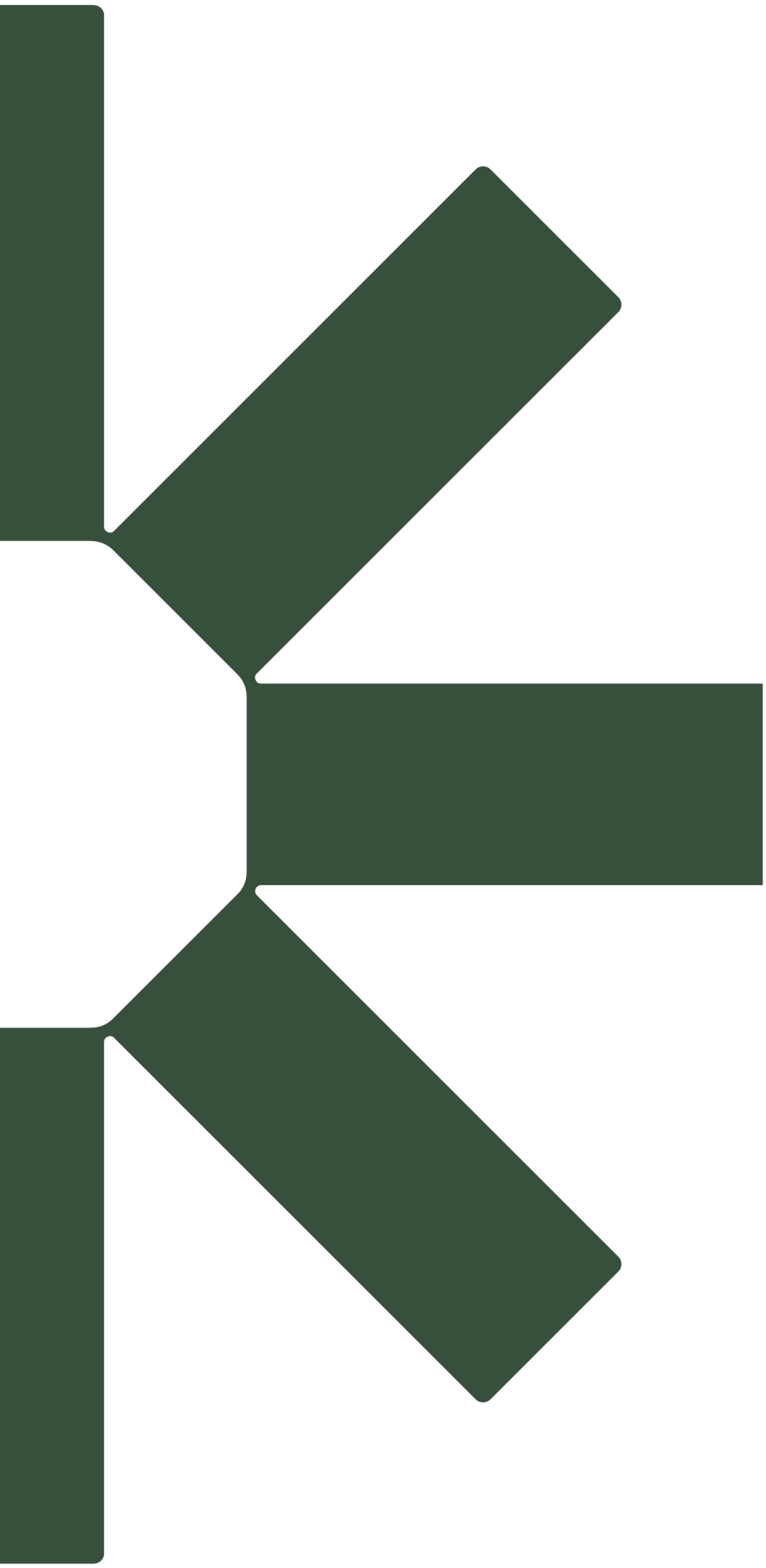
**SLR Consulting Australia**

**Joe Vivash, BSc, MEngSc**
Associate Geotechnical Engineer
Geotechnics & Mine Waste Engineering

# 6.0 Feedback

At SLR, we are committed to delivering professional quality service to our clients. We are constantly looking for ways to improve the quality of our deliverables and our service to our clients. Client feedback is a valuable tool in helping us prioritise services and resources according to our client needs.

To achieve this, your feedback on the team's performance, deliverables and service are valuable and SLR welcome all feedback via https://www.slrconsulting.com/en/feedback. We recognise the value of your time and we will make a $10 donation to our Charity Partner - Lifeline, for every completed form.



Making Sustainability Happen

# Attachment 10

Penrice Groundwater Monitoring Plan

# Penrice Groundwater Monitoring Plan

Prepared by:

Penrice Quarry & Mineral

256 Penrice Road, Penrice SA 5353

Telephone: 08 8563 8800 Facsimile: 08 8564 3358

21st March 2020

# Contents

# 1. Introduction

## 1.1. Background

The Penrice quarry is situated some 2 kilometres from Angaston in the foothills that define the eastern extent of the Barossa basin. Penrice Quarry is now owned and operated by Adelaide Brighton Cement Ltd (ABCL), one of the largest employers in the community.

According to weather statistics taken from the Bureau of Meteorology weather station (ID 023373) at Nuriootpa, most of the rain in the region falls between April and October. Groundwater within the Barossa Basin has been broadly grouped into three aquifer systems;

- An Upper Aquifer found in alluvium and representing the water table aquifer with the basin,
- A Lower Aquifer comprised of Tertiary Aged sediments; and
- A fractured rock aquifer contained within Pre-Cambrian and Palaeozoic metasediments, which contain the Penrice quarry.

The three aquifer systems are hydraulically connected, with the primary source of groundwater recharge to the Basin being from rainfall on the foothills that delineate the eastern boundary of the Barossa Basin and recharging the fractured rock aquifer. Groundwater flows in a westerly direction, with recharge of the sedimentary aquifers primarily occurring through lateral flow from the fractured rock aquifer (see Aquaterra – Hydrologeological Investigation Report 2013).

Several geological and hydrogeological assessments have been undertaken on the operating aspects of the Penrice quarry, with Golders (2008) and Aquaterra (2013) the most recent specific reports. Several government reports, Brown K G; The Hydrogeology of the Barossa Basin – 2002; Cobb M. A. 1986 Groundwater Resources of the Barossa Valley' on the hydrogeology of the Barossa region have also been undertaken.

## 1.2. Water Allocation

Within the Barossa Prescribed Water Resources Area, groundwater is extracted from Tertiary sediments and Quaternary sediments with the Barossa Valley, as well as from the fractured rock aquifer that underlies and surrounds the Valley. The main groundwater uses in the area include irrigation, stock, industrial, recreation and domestic.

Penrice quarry currently has two licences for groundwater extraction of 102.20 ML/year (Licence No. 3778), and 19.60 ML/year (Licence 3724) for use in dust suppression and to a lesser amount in production, taking the total licence for water extraction to 121.80 ML/year. These total amounts include annual rollover allocations which are granted if the water licence(s) retain surplus water allocation(s) from the previous reporting period.

## 1.3. Purpose

The purpose of this Groundwater Monitoring Plan (GMP) is to provide the framework for groundwater monitoring that will be undertaken to support the environmental outcomes for Adelaide Brighton's Penrice Quarry.

The Environmental Outcome relating to groundwater is;

*No adverse impact to the quality or quantity of ground water to existing uses caused by mining operations.*

The environmental control management and strategies listed for measuring this outcome are:

- *Ensure that groundwater extraction from the quarry complies with the extraction limits provided within groundwater licences 3778 and 3724.*
- *Undertake regular monitoring of surrounding groundwater wells for depth and quality (EC and pH) in accordance with the Penrice Groundwater Monitoring Plan*
- *Ensure that quarry extraction is undertaken in accordance with approved Quarry Development Plans*

The data collected as a part of this GMP may be used to assess compliance with this environmental outcome.

## 1.4. Responsible Personnel

Adelaide Brighton employs experienced and qualified staff to fulfil the requirements relating to the water management requirements in the GMP at Penrice Quarry.

## 1.5. Review and modification

This GMP may be reviewed from time to time. The data collected as a part of this GMP will be used to update the plan where necessary. All changes or amendments following the review will be documented and recorded.

## 1.6. Regulatory reporting

Adelaide Brighton provides an annual compliance report to the Department of Energy and Mining (DEM); this report will include the water management components of its activities at the Penrice Quarry detailed in this GMP.

## 1.7. Sampling Methodology

Sampling of Monitoring Bores is conducted by an in-situ water grab from the bore water body. This is done in conjunction with a depth reading using an electronic water level meter, measured in centimetres (cm). Samples are brought back to the PQM Lab for immediate chemical testing.

Where possible, water extracted should be fresh, and samples are taken when no recent pumping has occurred (48 hrs).

Pit reservoir testing is conducted in-situ with field instruments for chemical analyses.

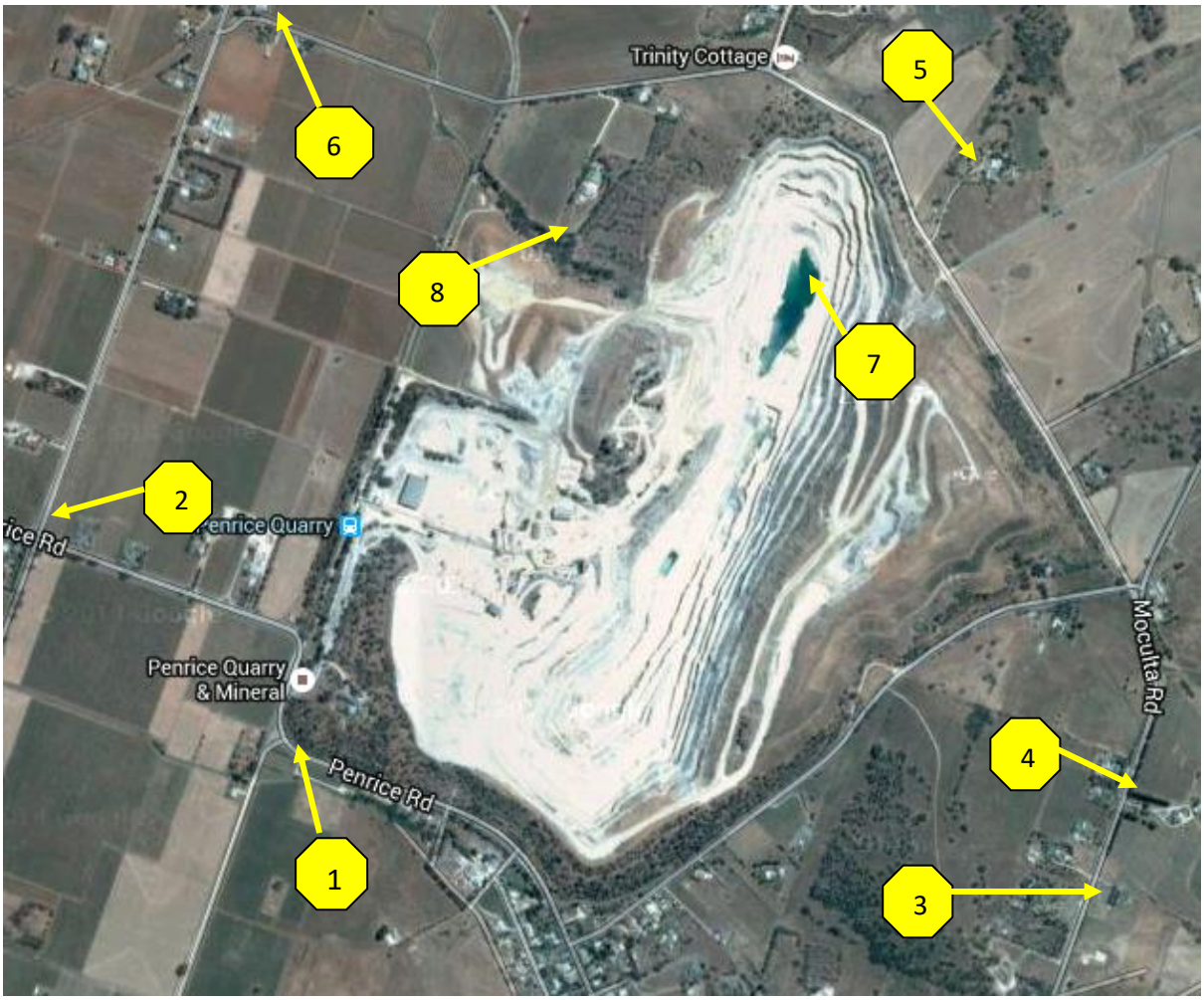
Refer to Environmental Systems' methods for sampling and testing procedures.

# 2. Introduction

## 2.1. Location of Monitoring Bores

Figure 1 illustrates the locations of water related monitoring points. Monitoring points have been selected to provide an even distribution of monitoring points at locations surrounding the quarry. Most of these monitoring bores are in the fractured rock however, site 5 Kalimna Road (ID 6729-592) is recorded as being in the Lower Barossa Basin sediments.

*Figure 1 Location of monitoring points (include map showing water monitoring points)*




**Pointed Locations:**

- 1 Penrice Road
- 2 Stockwell Road
- 3 172 Moculta Rd
- 4 190 Moculta Rd
- 5 555 Kalimna Rd
- 6 393 Kalimna Rd
- 7 PQM Nth Pit (3778)
- 8 PQM Bore (3724)

## 2.2. Parameters Measured at Monitoring Bores

*Table 1 Parameters monitored at monitoring points*

| Monitoring Site (Unit Number) | Location of the Bore | Parameter | Frequency |
|---|---|---|---|
| 6729-885 | 555 Kalimna Road | Groundwater Level, Water quality (EC, pH) | Quarterly |
| 6729-592 | 393 Kalimna Road | Groundwater Level, Water quality (EC, pH) | Quarterly |
| 6729-1433 | 172 Moculta Road | Groundwater Level, Water quality (EC, pH) | Quarterly |
| 6729-898 | 190 Moculta Road | Groundwater Level, Water quality (EC, pH) | Quarterly |
| 6729-1691 | Penrice Rd, (South of PQM entrance) | Groundwater Level, Water quality (EC, pH) | Quarterly |
| 6729-678 | Stockwell Rd (Nth of Penrice Rd corner) | Groundwater Level, Water quality (EC, pH) | Quarterly |
| PQM Nth Pit | Quarry Site | Water quality (EC, pH ) | Quarterly |
| PQM Bore | Quarry Site | Groundwater Level, Water quality (EC, pH) | Quarterly |

## 2.3. Pit monitoring

Pit monitoring involves activities for the following purposes:

1. Monitoring volume of water extracted from the pit as required under Water Licence 3778.
2. Monitoring quality of water extracted from the main pit lake is as per Table 1. Any water exiting the quarry site will have documented chemical and physical levels.

Although it was suggested to monitor the pit water level, it is not practical to do so. The water in the pit is regularly moved from the main pit lake either to another location within the pit or to header tanks at the top of the quarry. This constant movement of water from the main pit lake and lower collection areas means the water level will change constantly and therefore the pit level will be a constant variable.

# 3. Units of Measure

| Name of unit | Symbol | Definition in terms of other metric units | Quantity |
|---|---|---|---|
| **Electrical Conductivity** | EC | uS | resistance |
| **acidity** | pH | Base unit 7 | comparison |
| **Kilolitre** | kL | $10^3$l or 1 $m^3$ | Volume |
| **Groundwater monitoring plan** | GMP | | |
| **Megalitre** | ML | $10^6$L | Volume |
| **Centimetre** | cm | Base unit | Length |
| **Temperature** | $^oC$ | | Degrees Celsius |
| **Salinity** | | | ppm |

# 4. References


- Report titled; Penrice Mine – Hydrogeological Investigation, by RPS Aquaterra; dated 24 June 2013.
- Brown K. G, The Hydrogeology of the Barossa Basin, South Australia, 2002.
- Cobb M. A., 1986; Groundwater Resources of the Barossa Valley.
- Golder Associates, 2008, Groundwater Assessment – Penrice Quarry, Angaston, SA.
- Bureau of Meteorology, Nuriootpa Weather Station ID: 023373

# 5. Appendices

## 4.1. Water Licence 3778 – Adelaide Brighton Cement Ltd (Licensee)

GOVERNMENT OF SOUTH AUSTRALIA

**DEPARTMENT FOR ENVIRONMENT AND WATER**

Berri Office | PO Box 240 | Berri SA 5343 | [P] 8595 2053

# WATER LICENCE

**pursuant to section 146 of the *Natural Resources Management Act 2004***

| Licence No: | 3778 | Management Area: | |
|---|---|---|---|

**Licensee(s):** ADELAIDE BRIGHTON CEMENT LIMITED
ACN 007870199
LEVEL 1, 157 GRENFELL STREET
ADELAIDE SA 5000

**PRESCRIBED WATER RESOURCES:** **The underground water to which a well in the Barossa Prescribed Water Resources Area has access.**

**QUANTITY OF WATER PER ANNUM** Taking 107,330.00 kL

| COMPONENTS OF ALLOCATION | PURPOSE | EXPIRY DATE |
|---|---|---|
| 5,130.00 kL | Taking Rollover Water | 30/06/2020 |
| 102,200.00 kL | Taking Industrial | |
| 0.00 kL | Taking Irrigation | |

**DETAILED SOURCE OF WATER**

| Description | | Meter |
|---|---|---|
| Underground BAR ANGASTON QUARRY | Fractured rock | 7ME65200<br>4802N168 |

**Intervals at which conditions of this licence may be varied by the Minister if, in the opinion of the Minister, the variation is necessary or desirable to more effectively regulate the use of water from the resource (pursuant to section 149(1)(b) of the *Natural Resources Management Act 2004* (the Act)):**

**Yearly (on or about 30 June each year)**

**This licence is subject to the Act, and any conditions which may be specified from time to time in the Regulations, or by the Minister under the Act, and to the following further conditions:**

Page 1 of 4

## 4.2. Water Licence 3724 – Adelaide Brighton Cement Ltd (Licensee)

GOVERNMENT OF SOUTH AUSTRALIA

**DEPARTMENT FOR ENVIRONMENT AND WATER**

Berri Office | PO Box 240 | Berri SA 5343 | [P] 8595 2053

# WATER LICENCE

**pursuant to section 146 of the *Natural Resources Management Act 2004***

| Licence No: | 3724 | Management Area: | |
|---|---|---|---|

**Licensee(s):** ADELAIDE BRIGHTON CEMENT LIMITED
GPO BOX 2155
ADELAIDE SA 5001

**PRESCRIBED WATER RESOURCES:** **The surface water in the Barossa Prescribed Water Resources Area.**

**QUANTITY OF WATER PER ANNUM** Taking 0.00 kL

| COMPONENTS OF ALLOCATION | PURPOSE | EXPIRY DATE |
|---|---|---|
| 0.00 kL | Taking Irrigation | |

**PRESCRIBED WATER RESOURCES:** **The underground water to which a well in the Barossa Prescribed Water Resources Area has access.**

**QUANTITY OF WATER PER ANNUM** Taking 21,560.00 kL

| COMPONENTS OF ALLOCATION | PURPOSE | EXPIRY DATE |
|---|---|---|
| 1,960.00 kL | Taking Rollover Water | 30/06/2020 |
| 0.00 kL | Taking Stock And Domestic | |
| 10,500.00 kL | Taking Industrial | |
| 9,100.00 kL | Taking Irrigation | |

**DETAILED SOURCE OF WATER**

| Description | | Meter |
|---|---|---|
| Underground 6729-01677 | Fractured rock | 022298 |
| Underground BAR ANGASTON QUARRY | Fractured rock | |

# Attachment 11

Groundwater Monitoring Summary Report

| | | | |
|---|---|---|---|
| **Job No.:** | 1767 | **Category:** | Quarterly Groundwater Monitoring |
| **Site Name:** | Penrice Quarry | **Client:** | Adbri Limited |
| **Site Address:** | 256 Penrice Road Penrice SA 5353 | **Approvals:** | EPA Licence No.45822 |
| **Monitoring Date:** | 1 Jan 2020 - 15 Jan 2025 | **Monitored by:** | |
| **Report Requested by:** | Rachel Hall | | |

**Purpose:** To ensure no adverse impact to the quality or quantity of ground water to existing uses caused by mining operations.

**Discussion**

Groundwater monitoring is undertaken on a quarterly basis at Penrice Quarry to ensure compliance with the Groundwater Outcome / Objective within the approved MOP PEPR.

| 21-11-2024 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 63.45 | 29.91 | 24.01 | 26.46 | 16.47 | 22.63 | | 36.02 |
| Target | | | | | | | | |
| pH | 7.89 | 9.48 | 7.08 | 7.48 | 7.4 | 6.95 | 8.45 | 8 |
| Target | | | | | | | | |
| Ec | 1008 | 3990 | 1286 | 1906 | 1558 | 1912 | 1671 | 1995 |
| Target | | | | | | | | |
| Salinity | 675.36 | 2673.3 | 861.62 | 1277.02 | 1043.86 | 1281.04 | 1119.57 | 1336.65 |
| Target | | | | | | | | |

**Comments / Field Observations**

21/11/2024 1 - Penrice Road: Total depth 87 m
21/11/2024 6 - 393 Kalimna Road: Water slightly murky

| 02-08-2024 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 64.6 | 30.15 | 22.98 | 24.98 | 15.97 | 22.79 | | 36.07 |
| Target | | | | | | | | |
| pH | 7.9 | 9.67 | 6.92 | 7.63 | 7.21 | 6.89 | 8.57 | 8.03 |
| Target | | | | | | | | |
| Ec | 1045 | 3850 | 1139 | 2003 | 1652 | 1967 | 1645 | 1984 |
| Target | | | | | | | | |

**Comments / Field Observations**

2/8/2024 8 - PQM Bore: DO 21.93mg/l
2/8/2024 7 - PQM Pit: DO 10.19mg/l
2/8/2024 5 - 555 Kalimna Road: Total depth 31.49

| 03-05-2024 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 64.89 | 29.95 | 34.45 | 25.34 | 15.51 | 22.66 | | 36.37 |
| Target | | | | | | | | |
| pH | 7.43 | 9.63 | 6.67 | 7.81 | 6.74 | 6.57 | 7.94 | 7.63 |
| Target | | | | | | | | |
| Ec | 895 | 3293 | 1187 | 1975 | 1442 | 1713 | 1546 | 1758 |
| Target | | | | | | | | |

| 06-02-2024 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 64.09 | 29.7 | | 25.55 | 14.87 | 23.64 | | 36.48 |
| Target | | | | | | | | |
| pH | 7.68 | 9.81 | | 7.35 | 7.24 | 6.55 | 8.67 | 8.56 |
| Target | | | | | | | | |
| Ec | 1074 | 3970 | | 2174 | 1707 | 1938 | 1677 | 1977 |
| Target | | | | | | | | |

**Comments / Field Observations**

6/2/2024 3 - 172 Moculta Road: Dry
6/2/2024 2 - Stockwell Road: Smelly

| 08-11-2023 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 63.83 | 29.81 | 29.09 | 28.25 | 14.31 | 27.82 | | 35.97 |
| Target | | | | | | | | |
| pH | 7.34 | 9.58 | 6.67 | 7.07 | 7.15 | 6.67 | 8.04 | 7.63 |
| Target | | | | | | | | |
| Ec | 1100 | 3910 | 1355 | 2110 | 1739 | 1948 | 1695 | 2031 |
| Target | | | | | | | | |

**Comments / Field Observations**

8/11/2023 6 - 393 Kalimna Road: Lid broken - bore not covered.
8/11/2023 3 - 172 Moculta Road: Pump was on and drawing water.

| 03-08-2023 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 64.9 | 29.51 | 10.71 | 24.49 | 13.78 | 22.71 | | |
| Target | | | | | | | | |
| pH | 7.69 | 9.79 | 7.15 | 7.72 | 7.28 | 6.77 | 7.63 | 7.53 |
| Target | | | | | | | | |
| Ec | 1045 | 3730 | 1148 | 1911 | 1699 | 1689 | 1459 | 1890 |
| Target | | | | | | | | |

**Comments / Field Observations**

3/8/2023 7 - PQM Pit: Water appeared clear and free from any hydrocarbon contamination.
3/8/2023 8 - PQM Bore: Bore appeared dry at 38.4 m.

**Event Discussion**

Quarterly groundwater monitoring was undertaken on 3 August 2023 to confirm no adverse impacts to groundwater systems as a result of quarrying activities. No substantial changes in readings were noted when comparing to the previous monitoring event.

| 02-05-2023 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 65.25 | 29.6 | 12.6 | 26.28 | 13.53 | 23.82 | | |
| Target | | | | | | | | |
| pH | 7.14 | 10.18 | 6.41 | 6.92 | 6.97 | 6.6 | 7.95 | 7.42 |
| Target | | | | | | | | |
| Ec | 1027 | 3860 | 1192 | 1973 | 1622 | 1746 | 1526 | 1932 |
| Target | | | | | | | | |

**Comments / Field Observations**

2/5/2023 2 - Stockwell Road: Turbid / sedimented
2/5/2023 8 - PQM Bore: Unable to obtain SWL reading - apprered dry and probe very dirty post-dipping.
2/5/2023 7 - PQM Pit: Water appeared clear and free from oil

| 09-02-2023 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 64.24 | 30.16 | 9.54 | 29.32 | 12.9 | 22.97 | | 37.8 |
| Target | | | | | | | | |
| pH | 7.64 | 9.9 | 6.91 | 7.1 | 6.95 | 6.72 | 7.84 | 7.4 |
| Target | | | | | | | | |
| Ec | 1010 | 3600 | 1410 | 1967 | 1829 | 3710 | 1445 | 1966 |
| Target | | | | | | | | |

**Comments / Field Observations**

9/2/2023 8 - PQM Bore: Bore dry @ 37.8m.

**Event Discussion**

A quarterly groundwater monitoring event was undertaken on 9/2/2023.

| 15-11-2022 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 65.23 | 30 | 1.65 | | 14.65 | 23.05 | | |
| Target | | | | | | | | |
| pH | 7.45 | 10.04 | 6.88 | 7.17 | 7.54 | 6.97 | 7.9 | 7.76 |
| Target | | | | | | | | |
| Ec | 1019 | 3720 | 543 | 1937 | 555 | 1670 | 1328 | 1924 |
| Target | | | | | | | | |

**Comments / Field Observations**

15/11/2022 4 - 190 Moculta Road: No SWL
15/11/2022 8 - PQM Bore: Dry @ 36m, dirty
15/11/2022 2 - Stockwell Road: Very sedimented (see attached photo)

**Event Discussion**

Groundwater monitoring was conducted on 15 November 2022 to inform compliance with the Groundwater outcome of the MOP PEPR. No SWL was able to be recorded for Stations 4 and 8. Station 2 experienced slightly elevated pH levels compared with previous readings.

| 04-08-2022 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 66.67 | 30.38 | 15.94 | 27.34 | 18.05 | 22.93 | | 36.8 |
| Target | | | | | | | | |
| pH | 7.46 | 9.26 | 6.81 | 7.22 | 6.9 | 6.88 | 7.89 | 7.49 |
| Target | | | | | | | | |
| Ec | 1016 | 3023 | 855 | 1843 | 1515 | 1606 | 1554 | 1913 |
| Target | | | | | | | | |

**Comments / Field Observations**

4/8/2022 7 - PQM Pit: Surface water sample

| 12-05-2022 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 65 | 30 | 21 | 31 | 18 | 23 | | 36 |
| Target | | | | | | | | |
| pH | 7.8 | 9.1 | 7.3 | 7.2 | 7.4 | 7.1 | 8.1 | 7.5 |
| Target | | | | | | | | |
| Ec | 879 | 3090 | 1011 | 1972 | 1507 | 1494 | 1643 | 1742 |
| Target | | | | | | | | |

| 01-02-2022 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 65.62 | 30.34 | 21.76 | 31.74 | 17.97 | 22.68 | | 36.53 |
| Target | | | | | | | | |
| pH | 7.78 | 9.1 | 7.31 | 7.22 | 7.4 | 7.08 | 8.08 | 7.49 |
| Target | | | | | | | | |
| Ec | 879 | 3090 | 1011 | 1972 | 1507 | 1494 | 1643 | 1742 |
| Target | | | | | | | | |
| Salinity | 588.93 | 2070.3 | 677.37 | 1321.24 | 1009.69 | 1000.98 | 1100.81 | 1167.14 |
| Target | | | | | | | | |

| 01-12-2021 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 64.98 | 30.02 | 12.28 | 27.32 | 17.68 | 22.62 | | 36.91 |
| Target | | | | | | | | |
| pH | 7.96 | 9.03 | 7.17 | 7.46 | | 6.87 | 8.11 | 7.63 |
| Target | | | | | | | | |
| Ec | 995 | 3100 | 1045 | 2031 | | 1502 | 1562 | 1776 |
| Target | | | | | | | | |
| Salinity | 666.65 | 2077 | 700.15 | 1360.77 | | 1006.34 | 1046.54 | 1189.92 |
| Target | | | | | | | | |

| 01-08-2021 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 66.94 | 30.1 | 12.48 | 27.24 | 18.53 | 22.51 | | 36.48 |
| Target | | | | | | | | |
| pH | 7.87 | 7.98 | 7.32 | 7.26 | 8.02 | 6.52 | 7.71 | 7.53 |
| Target | | | | | | | | |
| Ec | 967 | 3040 | 877 | 1680 | 1497 | 1510 | 1476 | 1773 |
| Target | | | | | | | | |
| Salinity | 647.89 | 2036.8 | 587.59 | 1125.6 | 1002.99 | 1011.7 | 988.92 | 1187.91 |
| Target | | | | | | | | |

| 01-06-2021 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 67.35 | 30.34 | 19.68 | 27.68 | 18.74 | 22.44 | | 36.84 |
| Target | | | | | | | | |
| pH | 7.88 | 8.17 | 7.46 | 7.63 | 8.23 | 5.56 | 8.09 | 7.92 |
| Target | | | | | | | | |
| Ec | 912 | 2990 | 978 | 1859 | 1403 | 1481 | 1950 | 1729 |
| Target | | | | | | | | |
| Salinity | 611.04 | 2003.3 | 655.26 | 1245.53 | 940.01 | 992.27 | 1306.5 | 1158.43 |
| Target | | | | | | | | |

| 01-02-2021 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 66.12 | 30.13 | 14.48 | 30.38 | 18.12 | 22.15 | | 36.87 |
| Target | | | | | | | | |
| pH | 7.94 | 9.01 | 7.26 | 7.12 | 7.52 | 6.56 | 8.24 | 7.76 |
| Target | | | | | | | | |
| Ec | 865 | 2990 | 937 | 2001 | 1492 | 1446 | 1765 | 1695 |
| Target | | | | | | | | |
| Salinity | 579.55 | 2003.3 | 627.79 | 1340.67 | 999.64 | 968.82 | 1182.55 | 1135.65 |
| Target | | | | | | | | |

| 01-11-2020 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 65.74 | 29.85 | 14.11 | 26.47 | 17.87 | 22.08 | | 37.39 |
| Target | | | | | | | | |
| pH | 7.74 | 8.9 | 7.44 | 7.33 | 8.3 | 7.05 | 7.8 | 7.6 |
| Target | | | | | | | | |
| Ec | 969 | 3030 | 1056 | 1988 | 1447 | 1471 | 1631 | 1710 |
| Target | | | | | | | | |
| Salinity | 649.23 | 2030.1 | 707.52 | 1331.96 | 969.49 | 985.57 | 1092.77 | 1145.7 |
| Target | | | | | | | | |

| 01-08-2020 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 66.95 | 29.72 | 14.91 | 27.11 | 18.47 | 21.91 | | 37.3 |
| Target | | | | | | | | |
| pH | 7.83 | 9.1 | 7.61 | 7.52 | 7.34 | 6.69 | 8.15 | 7.86 |
| Target | | | | | | | | |
| Ec | 974 | 3040 | 690 | 1983 | 1495 | 1425 | 1675 | 1706 |
| Target | | | | | | | | |
| Salinity | 652.58 | 2036.8 | 462.3 | 1328.61 | 1001.65 | 954.75 | 1122.25 | 1143.02 |
| Target | | | | | | | | |

| 01-05-2020 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 67.57 | 29.78 | 17.17 | 27.93 | 18.58 | 21.79 | | 36.77 |
| Target | | | | | | | | |
| pH | 8.11 | 9.02 | 7.44 | 7.24 | 7.32 | 6.89 | 8.09 | 7.75 |
| Target | | | | | | | | |
| Ec | 988 | 3100 | 877 | 2041 | 1517 | 1445 | 1743 | 1712 |
| Target | | | | | | | | |
| Salinity | 661.96 | 2077 | 587.59 | 1367.47 | 1016.39 | 968.15 | 1167.81 | 1147.04 |
| Target | | | | | | | | |

| 01-02-2020 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 67.25 | 29.79 | 16.14 | 28.59 | 18.24 | 21.58 | | 37.36 |
| Target | | | | | | | | |
| pH | 7.66 | 8.98 | 7.46 | 7.38 | 7.4 | 6.85 | 7.93 | 7.75 |
| Target | | | | | | | | |
| Ec | 1116 | 3470 | 1086 | 2344 | 1532 | 1525 | 1976 | 1913 |
| Target | | | | | | | | |
| Salinity | 747.72 | 2324.9 | 727.62 | 1570.48 | 1026.44 | 1021.75 | 1323.92 | 1281.71 |
| Target | | | | | | | | |

| 01-01-2020 | 1 - Penrice Road | 2 - Stockwell Road | 3 - 172 Moculta Road | 4 - 190 Moculta Road | 5 - 555 Kalimna Road | 6 - 393 Kalimna Road | 7 - PQM Pit | 8 - PQM Bore |
|---|---|---|---|---|---|---|---|---|
| SWL (mBTOC) | 66.33 | 29.71 | 15.85 | 30.63 | 19.97 | 22.59 | | 37.38 |
| Target | | | | | | | | |
| pH | 7.95 | 8.97 | 7.85 | 7.6 | 7.52 | 6.99 | 7.97 | 7.89 |
| Target | | | | | | | | |
| Ec | 974 | 3000 | 981 | 1977 | 1476 | 1390 | 1963 | 1949 |
| Target | | | | | | | | |
| Salinity | 652.58 | 2010 | 657.27 | 1324.59 | 988.92 | 931.3 | 1315.21 | 1305.83 |
| Target | | | | | | | | |

6 - 393 Kalimna Road

21/11/2024

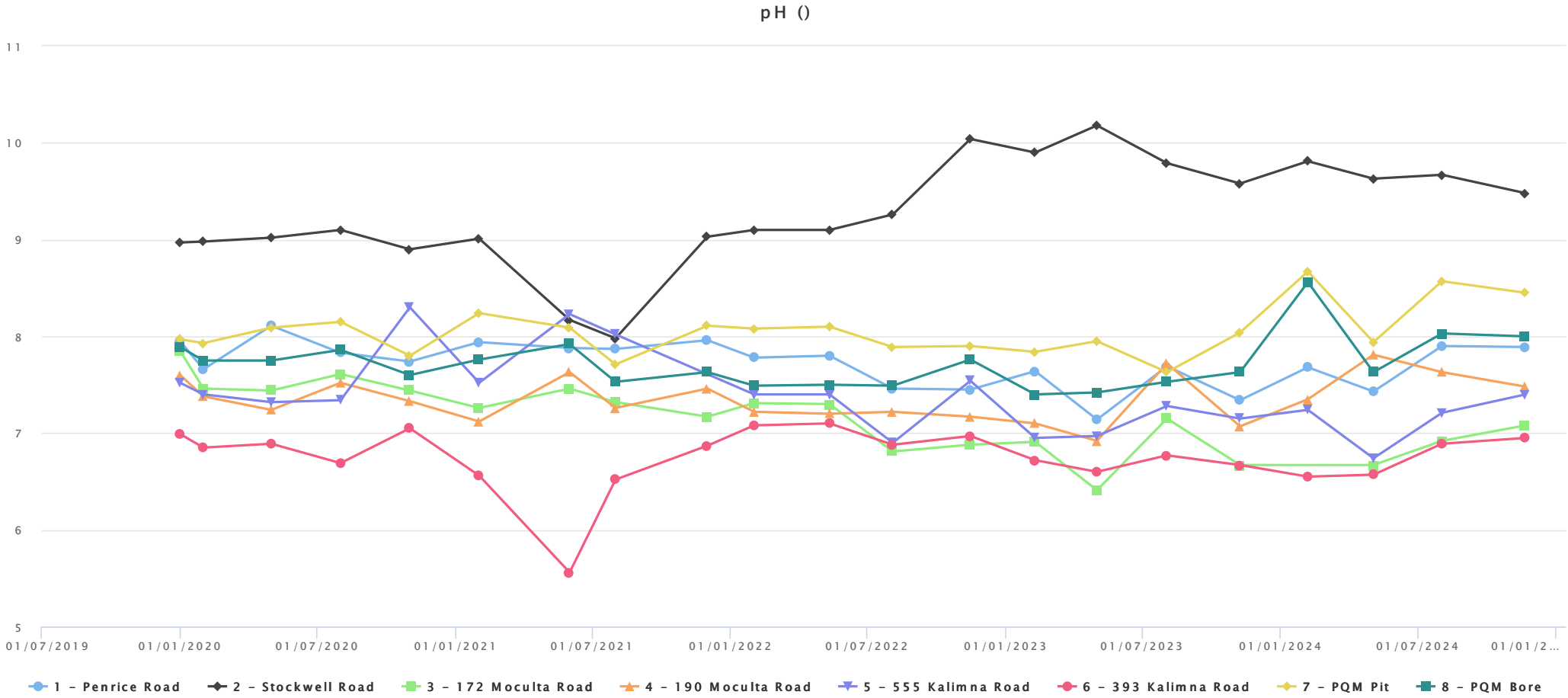
2 - Stockwell Road

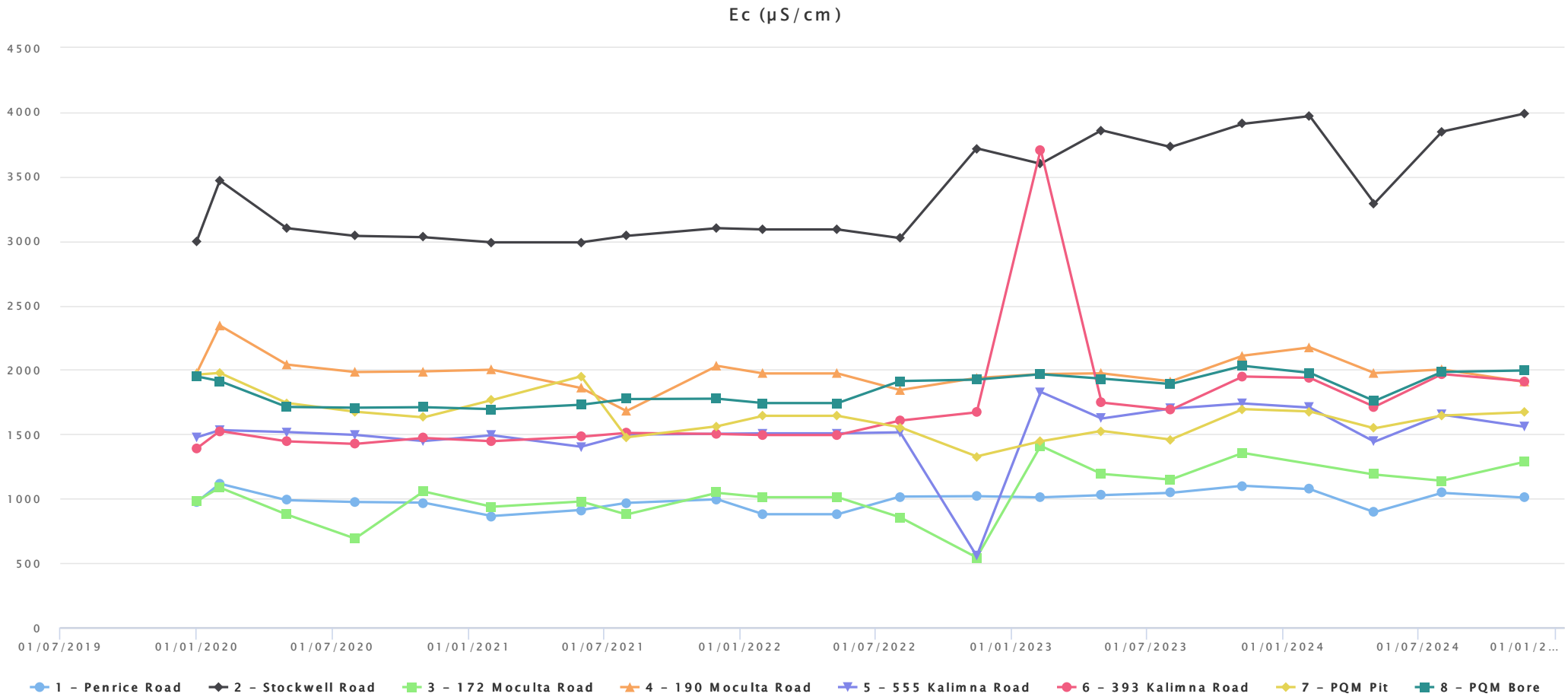
02/05/2023

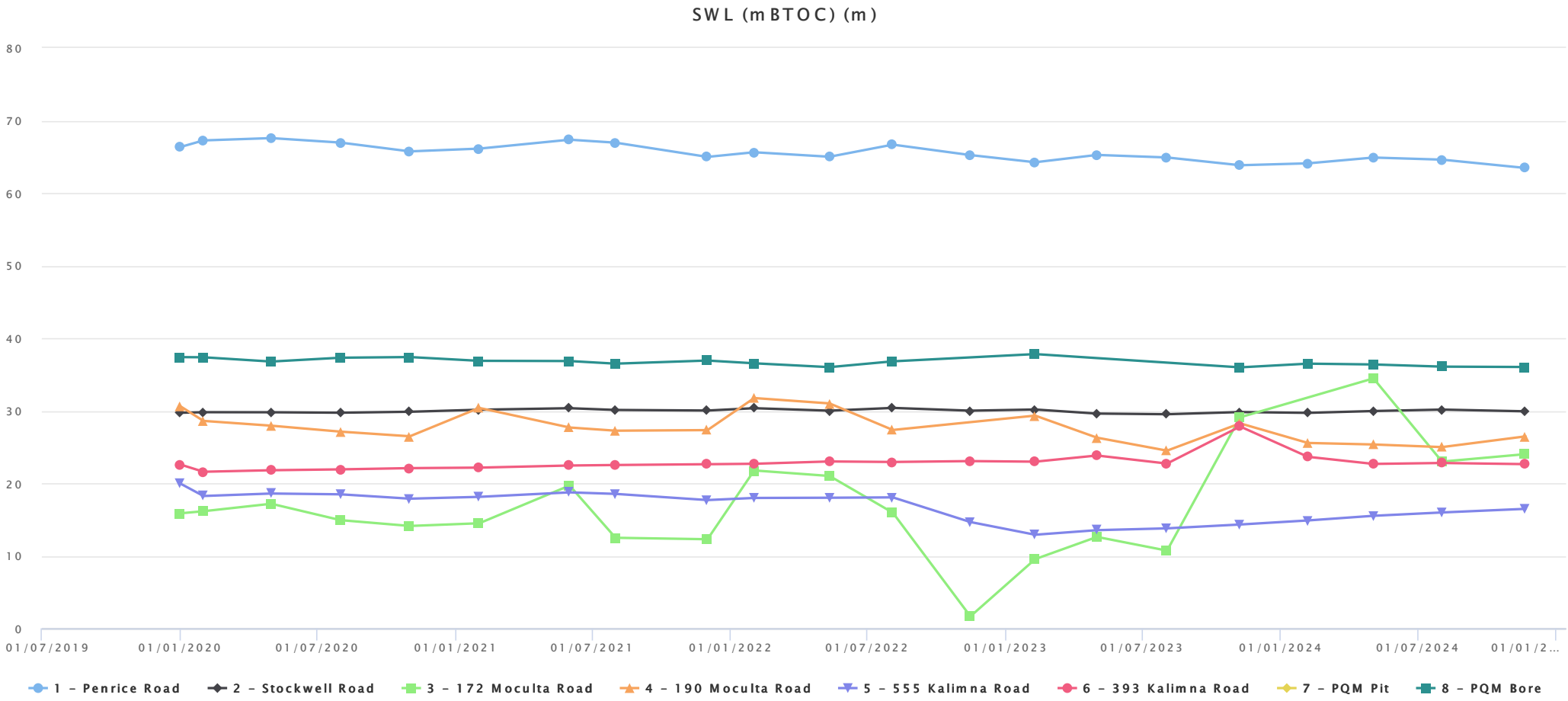
2 - Stockwell Road

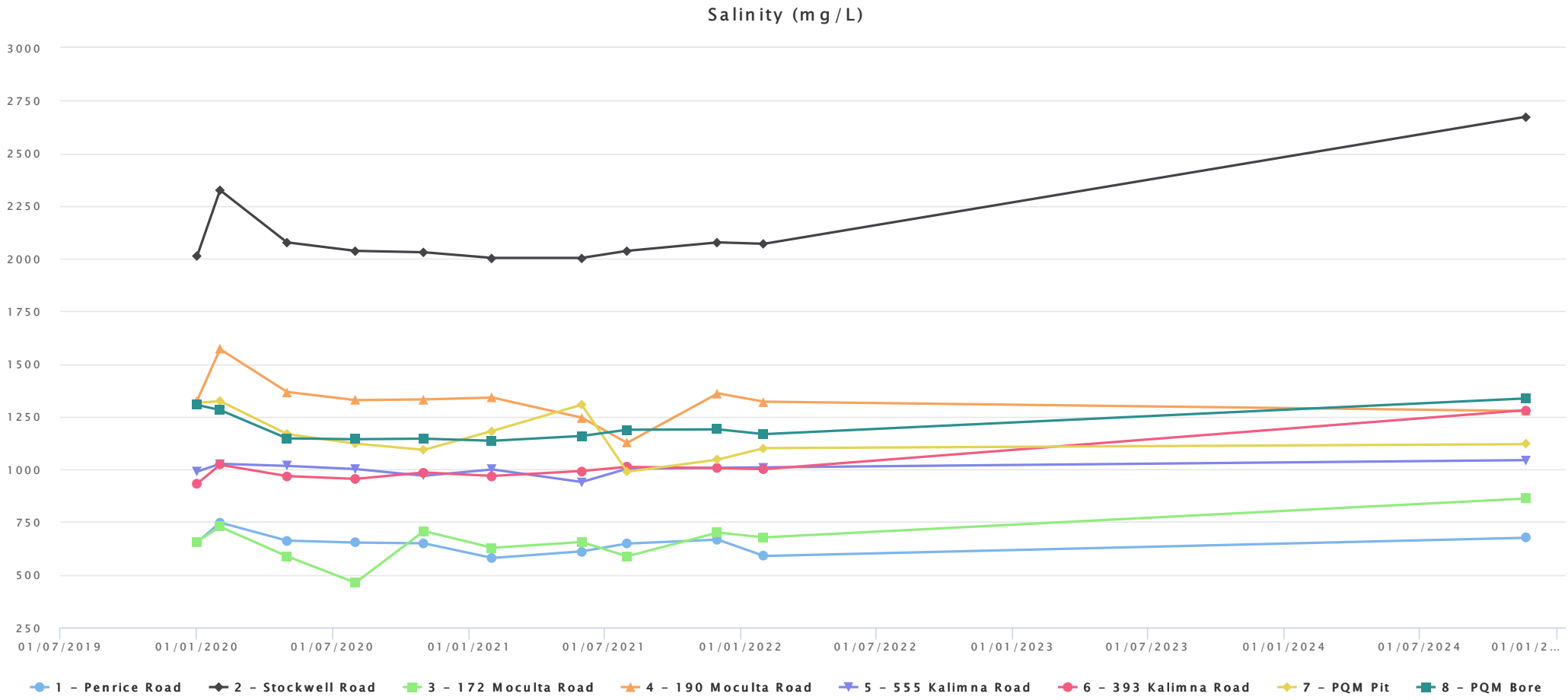
15/11/2022

## Historical Results Graphing




Ec (µS/cm)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
01/07/2019
01/01/2020
01/07/2020
01/01/2021
01/07/2021
01/01/2022
01/07/2022
01/01/2023
01/07/2023
01/01/2024
01/07/2024
01/01/2...
1 – Penrice Road
2 – Stockwell Road
3 – 172 Moculta Road
4 – 190 Moculta Road
5 – 555 Kalimna Road
6 – 393 Kalimna Road
7 – PQM Pit
8 – PQM Bore


SWL (mBTOC) (m)
80
70
60
50
40
30
20
10
0
01/07/2019
01/01/2020
01/07/2020
01/01/2021
01/07/2021
01/01/2022
01/07/2022
01/01/2023
01/07/2023
01/01/2024
01/07/2024
01/01/2...
1 - Penrice Road
2 - Stockwell Road
3 - 172 Moculta Road
4 - 190 Moculta Road
5 - 555 Kalimna Road
6 - 393 Kalimna Road
7 - PQM Pit
8 - PQM Bore


Salinity (mg/L)
3000
2750
2500
2250
2000
1750
1500
1250
1000
750
500
250
01/07/2019
01/01/2020
01/07/2020
01/01/2021
01/07/2021
01/01/2022
01/07/2022
01/01/2023
01/07/2023
01/01/2024
01/07/2024
01/01/2...
1 - Penrice Road
2 - Stockwell Road
3 - 172 Moculta Road
4 - 190 Moculta Road
5 - 555 Kalimna Road
6 - 393 Kalimna Road
7 - PQM Pit
8 - PQM Bore

**Monitoring Location Map**


A 1 - Penrice Road
B 2 - Stockwell Road
C 3 - 172 Moculta Road
D 4 - 190 Moculta Road
E 5 - 555 Kalimna Road
F 6 - 393 Kalimna Road
G 7 - PQM Pit
H 8 - PQM Bore

# Attachment 12

Measurement Report

SLR

# 1767 - AdBri: Penrice

Surveyed Feb 18, 2025

Coordinate reference system: GDA94 / MGA zone 54

# MEASUREMENT REPORT

Prepared by Rachel Hall Feb 21, 2025

View in Propeller

propeller

1767 - AdBri: Penrice

SLR

# Surveyed Feb 18, 2025


Prepared by Rachel Hall Feb 21, 2025

propeller

1767 - AdBri: Penrice

SLR

# SURFACE AREA

| Map reference / legend | Measurement name | DESCRIPTION | Surface Area (ha) | Horizontal Area (ha) |
|---|---|---|---|---|
| 1 | Disturbance (Pre-Reporting Period) - Sediment Trap, Haul Roads | | 0.351 | 0.237 |
| 2 | Disturbance (Pre-Reporting Period) - Sediment Trap, Haul Road | | 0.767 | 0.451 |
| 3 | Rehabilitation (Pre-Reporting Period) - Long Term Screening Bunds | | 7.765 | 5.397 |
| 4 | Rehabilitation (Pre-Reporting Period) - Long Term Screening Vegetation | | 5.1 | 1.414 |
| 5 | Disturbance (Pre - Reporting Period) | | 0.299 | 0.289 |
| 6 | Disturbance (Pre - Reporting Period) | | 0.064 | 0.061 |
| 7 | Disturbance (Pre-Reporting Period) - Pit | | 79.092 | 59.433 |
| 8 | Disturbance (Pre-Reporting period) - Entrance road | | 3.023 | 1.456 |
| 9 | Disturbance (Pre-Reporting Period) - Offices, Sales, Plant and Equipment and Haul Roads | | 41.19 | 33.323 |
| 10 | Disturbance (Pre-Reporting Period) - Haul Roads | | 5.997 | 5.416 |
| 11 | Rehabilitation (Pre-Reporting Period) - Juvenile Tree Plantings | | 4.1 | 3.701 |
| 12 | Disturbance (Pre-Reporting Period) - Western OB Dump, Haul Roads | | 10.227 | 8.56 |
| 13 | Disturbance (Pre-Reporting Period) - Historic Faces | | 5.812 | 4.252 |
| 14 | Rehabilitation - Reporting Period | | 3.817 | 3.662 |
| 15 | Disturbance (Pre - Reporting Period) | | 0.317 | 0.233 |
| 16 | Progressive Rehabilitation (Current and Previous Reporting Period) | | 0.545 | — |

Prepared by Rachel Hall Feb 21, 2025

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1767 - AdBri: Penrice

SLR

| Map reference / legend | Measurement name | DESCRIPTION | Surface Area (ha) | Horizontal Area (ha) |
|---|---|---|---|---|
| 17 | Progressive Rehabilitation - Reporting Period | | 0.466 | — |

Prepared by Rachel Hall Feb 21, 2025

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