Annual Environmental Management Report July 2024 – June 2025

Name of Operation	Nowra Brickworks Quarry
Name of Operator	South Coast Concrete Crushing & Recycling Pty Ltd
Development consent / project approval #	07_0123
Name of holder of development consent / project approval	South Coast Concrete Crushing & Recycling Pty Ltd
Mining Lease #	ML 5087 / ML 6322 / ML 531
Name of Holder of mining lease	Abib Pty Ltd
Water Licence #	10BL602172
Name of holder of water licence	South Coast Concrete Crushing & Recycling Pty Ltd
MOP/RMP start date	1st September 2015
MOP/RMP end date	31st August 2022
Annual Review start date	1st July 2024
Annual Review end date	30th June 2025
I, Budd Green, certify that this audit report is a true and accurate record of the compliance status of South Coast Concrete Crushing and Recycling for the period July 2024 – June 2025 and that I am authorised to make this statement on behalf of South Coast Concrete Crushing and Recycling Note. a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report to the minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000. b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement-maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents – maximum penalty 2 years imprisonment or $22,000 or both).	
Name of authorised reporting officer	Budd Green
Title of authorised reporting officer	General Manager / Production Manager
Signature of authorised reporting officer	
Date	

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1. INTRODUCTION.

This AEMR has been prepared to cover a period from 1st July 2024 to 30th June 2025.
The operation of this mine is controlled by the Mining Operations Plan (MOP) which covers mining operations from September 2015 – 2022. The current MOP provides the relevant information on the mining, processing and rehabilitation operations necessary for compliance with the collective conditions imposed upon the mining development at the Nowra Brickworks Quarry by the applicable mineral authorities and other licences required to be held by SCCCR.
This report should be read in conjunction with the current mining operations plan.

1.1 Consents, Leases and Licences

1.1.1 Mineral Authorities.

Table 1 - Mineral Leases

Title	Act	Expiry Date	Area (ha)	Group
ML 5087	1906	08 January 2041	7.36	Group 5
ML 6322	1906	08 March 2041	14.67	Group 5

The area covered by these mineral authorities is referred to hereafter as “the quarry site”.
No activities were carried out in flat rock quarry (ML531) during the reporting period

1.1.2 Licences

The Nowra Brickworks Quarry is operated in accordance with Environment Protection Licence No. **11765.** This licence covers “Hard-Rock Gravel Quarrying” of between 100 000t and 500000t per annum and “Crushing, Grinding or Separating Works” between 100 000t and 500 000t per annum.

1.1.3 Development Consents

Development Consent under Section 75J of The Environmental Planning and Assessment Act 1979. Application No. 07_0123. Approved by the Minister for Planning 1st December 2009. MOD 1 approved June 2013. MOD 2 approved 21st June 2018.

1.2 Mine Contacts

SCCCR personnel responsible for operational and environmental performance at the Nowra Brickworks Quarry and their relevant contact details are as follows.

- Budd Green – Mine Manager SCCCR, retains overall responsibility for all activities and performance on site. Contact: 02 4421 7766. Fax 02 4421 7988. Postal Address PO Box 192, OAK FLATS NSW 2529
- Genaya Shephard –Production Manager of SCCCR.
  Contact: 02 4421 7766. Fax 02 4421 7988. Postal Address PO Box 192, OAK FLATS NSW 2529
- Ben Brookfield/Joey Sanders – Allocations and Processing of SCCCR.
  Contact: 02 4421 7766. Fax 02 4421 7988.

1.3 Actions required at previous AEMR review

- Independent environmental audit completed

2. Operations/Activities During Reporting Period

2.1 Exploration

No exploration was carried out within the mine area during the period.

2.2 Land Preparation

No Land preparation was required during the reporting period.

2.3 Construction

During the July 2024 – June 2025 AEMR reporting period no new permanent structures were built.

2.4 Mining - Extraction

All mining activities were carried out in accordance with the current MOP 2015-2021.

During the reporting period, ongoing extraction of minerals was carried out. This was carried out using standard excavating procedures (ripping and excavating) of the subsoil/overburden. The harder material was blasted as per approved methods.

Mining Methods (ref section 2.3.3 MOP 2015-2021)

“Weathered shale material would be extracted from below the base of the subsoil to a depth where the material becomes too hard to be extracted using an excavator. The weathered shale material would be loaded into trucks for transportation to customers, stockpiled for subsequent sale and despatch, or used for rehabilitation-related purposes within the quarry. Once the hardness of the shale becomes too great to be ripped, drill and blast techniques would be used to extract the material which would be direct loaded into the processing plant using an excavator. All drilling and blasting-related activities will be conducted in accordance with the Drilling and Blasting procedures set out in the EMS (GHD 2010)”.

2.5 Mineral Processing

All materials mined were processed in accordance with the current MOP 2015-2021.

From MOP 2.3.5 Mineral Processing

The quarry maintains the following infrastructure to carry out its operations:

- Five mobile crushers (Two jaws, two cone and impact);
- Five excavators (three 35t excavators and two 38t Excavator);
- Three mobile screens
- Three Front end loaders.
- One Pugmill

The shale extracted from the quarry undergoes crushing, shaping, screening and blending with imported construction waste material.)

2.5.1 Importation of material for Blending

The following materials were imported and stockpiled for re-use in processing or backfilling to existing quarry void: for processing and blending into recycled and reusable products.

- Virgin Excavated Natural Material (VENM) for blending and processing into quarry products
- VENM, top-soil, subsoil and weathered shale for quarry backfilling operations
- Blending materials, such as crusher dust and road base, for processing into quarry products
- Recyclable materials, such as masonry construction waste (brick, cement roof tiles), concrete and asphalt.

In accordance with the mining leases, mining is planned to a depth of 30 metres with the maximum amount of shale material to be extracted while ensuring no resource sterilisation. The extraction area would then be backfilled with VENM and ENM to create a final, rehabilitated landform that would mimic the adjacent environment.

All material imported onto the quarry will be as per the Importation and use of Virgin Excavated Natural Material procedures as set out in our **EMS GHD (2010).**

“VENM/ENM is to be imported to the site for processing and blending to produce quarry products. VENM/ENM not used to make quarry products will also be placed within the ‘exhausted’ extraction area for rehabilitation purposes and to ultimately establish a final landform which mimics the pre-extraction landform.”

The use of VENM as part of the rehabilitation process will be restricted to the use of VENM as defined in the NSW Protection of the Environment Operations Act 1997,

“Natural material (e.g. clay, gravel, sand, soil and rock) that is not mixed with any waste that:

a) has been excavated from areas that are not contaminated, as the result of industrial, commercial, mining or agricultural activities, with manufactured chemicals and that does not contain sulphidic ores or soils, or

b) consists of excavated natural materials that meet such criteria as may be approved by the EPA”

2.5.2 VENM/ENM Certificate and Receipt Procedures

- All imported VENM will be certified at its source and certification verified by the Mine Manager (or delegated authority) on receipt in accordance with relevant guidelines current at the time of VENM importation. This is likely to include a visual inspection for signs of contamination and the presence of any other waste material.

- A VENM certification sheet will be prepared, dated and signed by the person certifying the material.

- The history of the site from which the material is to be excavated will be determined and recorded on the VENM certificate sheet. The following procedures will be implemented depending on the previous land uses.

- Where the site has been used for commercial, industrial, mining or agricultural purposes at any time, or if the site contains fill material, or there is potential for chemical contamination from past or current uses, a testing regime will be implemented to establish that the material sourced from the site can be classified as VENM.

- Where the site is, and has always been, used for residential or agricultural purposes then excavated material from the site, except for surface layers that may be contaminated with physical debris, vegetation, chemicals, fertilisers or asbestos, will be presumed to be classified as VENM.

- Upon arrival, the Mine Manager (or delegated authority) will require the drivers delivering the VENM material to complete and sign a VENM record sheet. The Mine Manager (or delegated authority) will direct the driver to the receival area where the load will be inspected to ensure it corresponds with the description of the material included on the certificate sheet before it is accepted.
- Any unsuitable loads (i.e. loads that do not meet the description of VENM) will not be accepted and the supplier/driver will be advised to deliver the load to a licensed waste facility.

2.5.3 VENM Stockpiling

When VENM is being processed, it will be placed in the stockpiling and processing area.
The environmental management measures for stockpiles detailed in Section 9 of the EMS will be applied.

- All surface waters will be diverted into the water storage or sump within the extraction area.

2.5.4 VENM/ENM Placement and Compaction

- When VENM is to be used to backfill the quarry, the following procedures will be undertaken:
- Compaction of VENM will not occur within approximately 3.5m of the proposed final landform.
- Between approximately 3.5 m and 1.0 m of the final landform VENM comprising weathered material is to be placed without compaction.
- Between 1.0 and 0.5 below the final landform, weathered shale material will be placed without compaction.
- Sub-soil and top-soil will be placed over the VENM/weathered shale in accordance with the Landscape and Biodiversity Management Plan.
- Soils will be handled only when they are moist (neither wet, nor dry) to minimise the risk of soil structural decline.

2.5.5 VENM/ENM On-site Operations

- Water sprays and water trucks will be used in all areas of potential dust lift-off to minimise potential dust emissions.
- A maximum speed limit of 25 km/hour will be maintained within the quarry site.
- The width of haul roads will be limited to that which is safe for heavy vehicle passage to minimise soil erosion hazards.

2.5.6 Monitoring and Reporting

- During all VENM/ENM importation operations, records will be kept for each site where imported VENM/ENM is to be sourced and for each load of material received.
- Record sheets must be filled out at the source of VENM/ENM for transport to the quarry, and at the quarry for the receiving of VENM/ENM. Completed record sheets are to be stored and

filed in a suitable location to facilitate the reporting, auditing, and “access to information” requirements specified in the Project Approval and EPL.

During the reporting period a total of 5,130T of material was imported and placed within the void. All records have been kept and are referenced within Appendix K. the plan of the location of the placement of the VENM/ENM has been provided in Appendix L.

2.6 Waste Management

As the facility is designed to minimise waste production long term there is minimal waste produced at the facility however the following waste is dealt with onsite and managed in accordance with current environmental guidelines

2.6.1 Scrap steel (ferrous metal) from concrete recycling.

The bulk scrap steel from the concrete is separated during pre-processing of the concrete, this material is then stored in bulk storage bins. During final processing of the concrete the steel is separated using a magnet to remove the final small amounts and stored in the same bulk storage bins. Once full the bin is replaced with an empty bin and the full bin is taken to the metal recyclers.

2.6.2 Waste timber, plastic, non-ferrous metals

During processing of imported concrete and brick/masonry products there can be other unwanted products in the final processed material, such as plastic, timber, ferrous and non-ferrous metals. However, there is an allowable amount of this type of material in the final processed product (RTA T276 – Foreign Material content of Recycled Crushed concrete). With our products, we endeavour to have 100% of foreign material removed from our finished product, we do this by a process of machine sorting and hand picking prior to crushing and sorting and picking after crushing. These materials are then sorted into various non-ferrous metal bins (copper, aluminium, steel) and or a rubbish bin. The recycled metal products are transported to the metal recyclers for recycling while the rubbish (plastic, timber etc.) is removed and disposed of at an approved waste disposal facility.

2.6.3 Lunch Waste and Food Scraps

All lunch waste and food scraps are placed in bins around the facility, those bins are then consolidated into a waste bin. This bin is then removed and disposed of at an approved waste disposal facility.

2.6.4 Asbestos Materials

All materials imported to site for disposal are handled per our asbestos management guidelines.

1. The load is visually checked at the weighbridge for signs of asbestos contamination. **If any asbestos is detected the load is refused and sent away. The date, time, truck and rego are all recorded.** If no asbestos is identified the truck is permitted to tip onsite subject to another inspection after tipping.
2. The load is then taken down to the unloading station in preparation for tipping.
3. The load is then directed for tipping away from the main stockpile of material to be processed, to prevent any cross contamination.
4. The load is then tipped in the presence of quarry personnel who again inspect the tipped load for any signs of potential asbestos. **If any asbestos is detected the load is reloaded and sent away. The date, time, truck and rego are all recorded.**

5. The tipped load is then pulled up into the main stockpile while again checking for any signs of asbestos.
6. Further to this our guidelines have also been updated to comply with the “Standards for managing construction waste in NSW” introduced by the EPA on the 15th May 2019.

2.6.5 Ablutions

Currently utilise medium sized ablution facility that is for all staff currently onsite. This has male and female amenities. This pump out is regularly maintained and serviced by offsite contractor.

2.6.6 Waste Oils, Batteries

Waste oil from servicing is stored in two, 205L drums located in the sea container bund within the maintenance area. These drums are pumped out regularly with local oil recycling contractors. Batteries that are no longer functioning are removed and stored on pallets. A local recycling contractor for batteries attends site and disposes of the batteries.

2.7 Ore and Product Stockpiles

All stockpiled material is managed in 4000t stockpiles. These stockpiles are situated on the floor of the current blasting area. All sales are managed and loaded from the stockpile floor. This area is not exposed to winds and dust generation. There are numerous stockpiles onsite that are stored in preparation for sales in meeting client demand.

2.8 Water Management

Any water that accumulates from the main extraction zone is pumped up to the main water storage buffer dam. Which is processed through the Reverse Osmosis Plant, this water is then used for dust management and suppression, wheel washes, in stockpiles and for cleaning of equipment.

2.9 Hazardous Material Management

No hazardous materials are stored on the mine site.

- Fuel for machinery is brought to site as required, all refuelling is serviced via a dedicated plant refuelling truck.
- The blasting contractor only brings explosives to site on the day required.

Thus, eliminating the need to store any hazardous materials onsite.

2.10 Production Quantities and VENM/ENM importation for Emplacement in Void

Table 2 - Production ~~and Waste Summary~~Summary Against Approvals

Process	Start of Reporting Period (July 2024)	At end of Reporting Period (June 2025)	End of next reporting (estimated)
Topsoil Stripped	22,680	22,680	22,680
Topsoil Used/Spread	22,680	22,680	22,680
Waste Rock	Nil	Nil	Nil
Ore	2,176,586	2,287,741	2,437,741
Processing Waste	18	18	18
Product	2,176,586	2,287,741	2,437,741
VENM/ENM importation (tonnes)	310,425	315,555	350000t

Schedule 2 Condition 8 Approval	At end of Reporting Period (June 2025)	Schedule 2 Condition 8 Approved Quantity
8(a) Extracted materials (clay shale/structural clay)	266,773	364,000t
8(b) Recycling materials	43,029	50,000t
8(c) Blending materials	89,537	125,000t
8(d) VENM/ENM importation	5,130	200,000
8(e) Dispatched materials (natural and blended materials)	399,467	500,000

Table 3 - Stored Water

	Volumes held (cubic metres)		
	Start of Reporting Period	At end, of Reporting Period	Storage Capacity
Clean water	10000 est.	10000 est.	103000
Dirty water	Nil	Nil	Nil
Controlled discharge water	N/A	N/A	N/A
Contaminated water	N/A	N/A	N/A

3. ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

3.1 Blasting Monitoring

During the AEMR reporting period, seven blasts were conducted. All blasting activities were carried out in compliance with the Blast Management Plan, relevant blast control measures, and project approval conditions. Monitoring was undertaken for each blast, and all recorded vibration and overpressure levels remained within the approved limits.

Following each blast, results were promptly analysed and submitted to the DECCW for verification. Detailed results, including tables and charts, are provided below, with additional data included in **Appendix C**.

Blasting controls include the following.

- The police, Shoalhaven City Council, NSW Roads and Traffic Authority, Environmental Protection Agency and the resident occupying the house immediately to the south of the quarry site are notified verbally at least 24 hours prior to the initiation of each blast.
- The drill hole spacing, burden distance, stemming length, maximum instantaneous charge is carefully designed and implemented by the blasting contractor to ensure that ground vibration and air blast do not exceed the Project Approval Controls criteria and that there is no danger to motorists using the Princes Highway.
- Each blast is monitored at the nearest residence, adjacent to jail, adjacent to commercial premises and north of brickworks and subsequent blast designs are modified if required considering the blast monitoring.
- Records of each blast monitored have been stored for future reference and are attached to this report.
- All blast monitors are downloaded, and the results analysed at the completion of each blast. Checking for any exceedances of the reporting criteria. Precision Drill and Blast rely on this information for future blasting design and this information enables them to determine if any modifications to the MIC (Maximum Instantaneous Charge), drill pattern and overall blast design are required. (See attached letter and blast reports in Appendix C)
- All drilling and blasting-related activities will be supervised by a suitably qualified and experienced blasting engineer or shot-firer.

As per Section 14.3.1 of our EMS (GHD 2010)

Blasting is to be designed to:

- Achieve the required degree of fragmentation;
- Satisfy all environmental criteria (especially noise and vibration,)
- Contain all blast fly rock within the nominated blast envelope.

- Blast emissions will be quantified using a portable blast emissions monitor (measurement of air blast and vibration, which will be positioned at the nearest potentially affected residences and other blast emission sensitive receivers to the plant operations as identified in the Project Approval. Blast monitoring instrumentation will be employed to meet the primary specifications presented in the Noise Monitoring Program/Blast management Plan.

- The Blast Design Record Sheet is to be filled in for individual blast events.

3.1.1 Blasting Analysis (Ground Vibration)

Table 4 - Blasting Ground Vibration Results

July 2024 – June 2025 AEMR Ground Vibration – Results – Residential			
Date	**Correctional Centre**	**Goodsell Residence**	**Peak Vector Sum Reporting Limit**
29/07/2024	1.089	1.356	5
15/08/2024	2.784	2.583	5
19/09/2024	0.675	0.633	5
19/11/2024	1.355	1.157	5
06/02/2025	4.554	1.081	5
21/02/2025	1.959	1.165	5
21/05/2025	1.089	3.668	5

Table 5 - Blasting Ground Vibration Results

July 2024 – June 2025 AEMR Ground Vibration – Results – Commercial			
Date	**North of Brickworks**	**Commercial Premises**	**Peak Vector Sum Reporting Limit**
29/07/2024	1.658	7.393	25
15/08/2024	0.256	2.868	25
19/09/2024	5.053	22.38	25
19/11/2024	0.316	2.246	25
06/02/2025	1.006	5.975	25
21/02/2025	0.413	1.895	25
21/05/2025	0.78	4.275	25

Chart 1 - Residential Ground Vibration

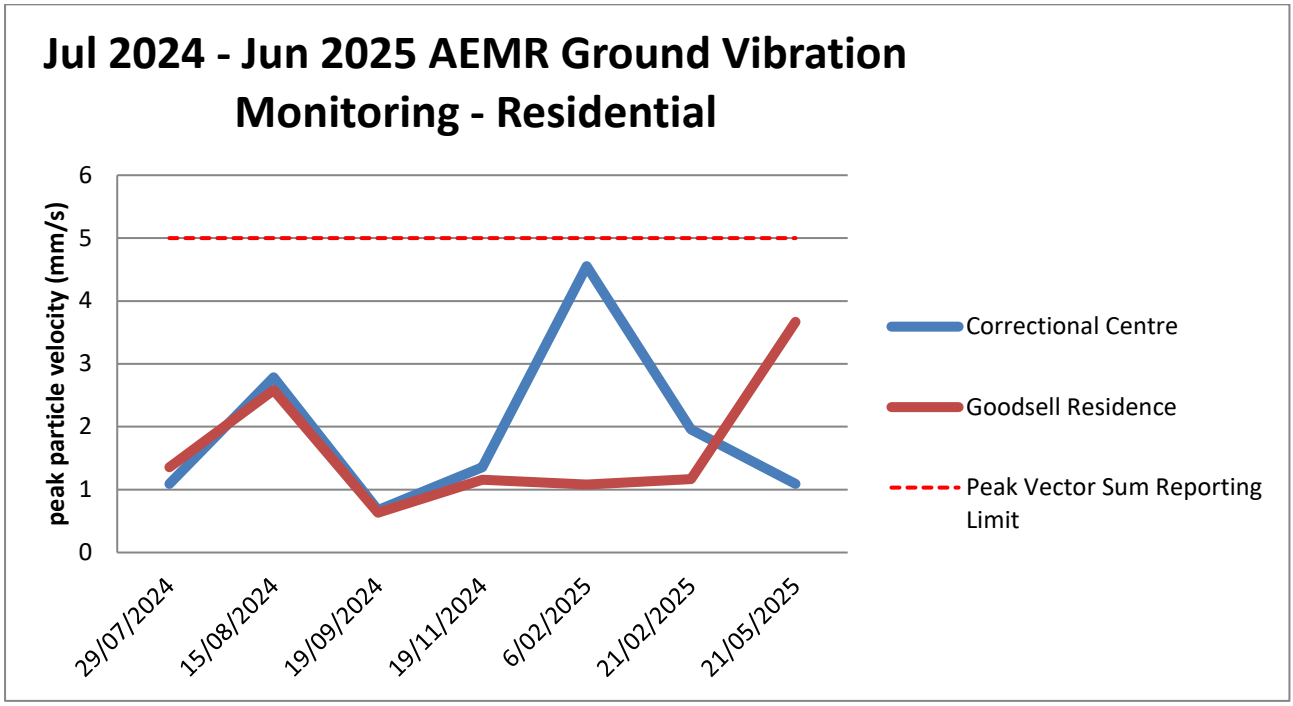
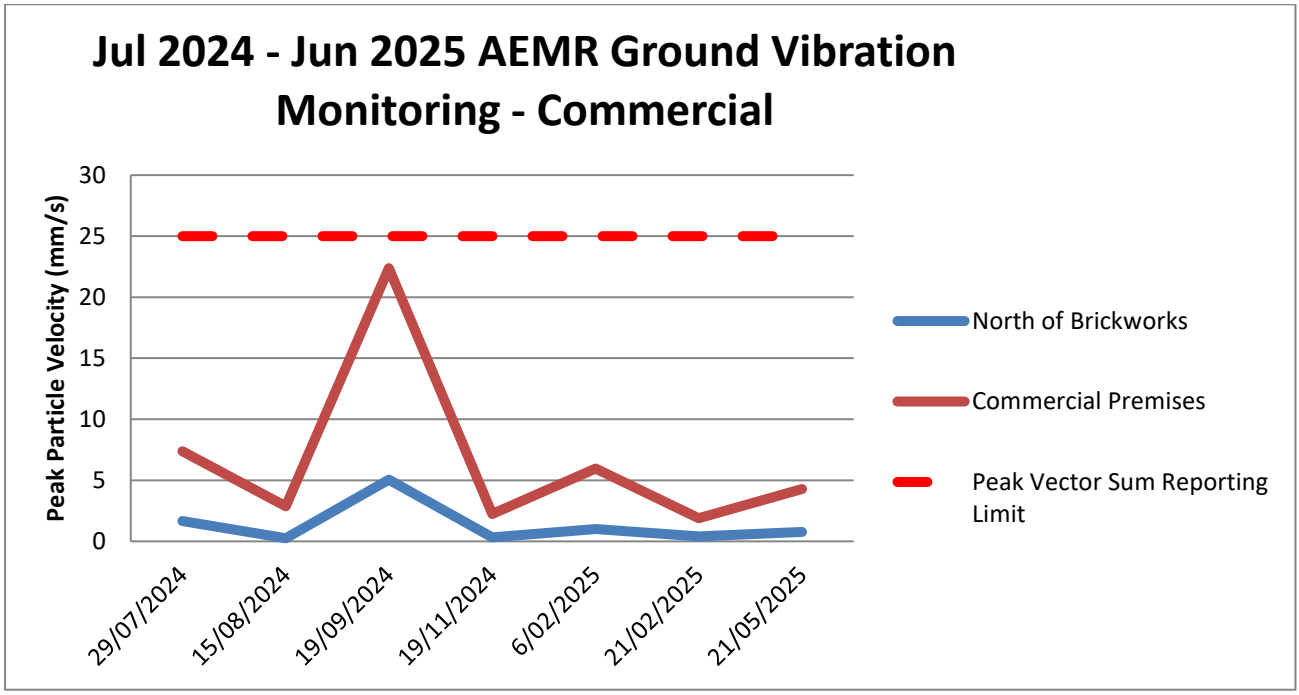


Chart 2 - Commercial Ground Vibration



3.1.2 Blasting Analysis (Air Blast Overpressure)

Table 5 – Residential Overpressure

July 2024 – June 2025 AEMR Air Blast Overpressures – Residential			
Date	**Correctional Centre**	**Goodsell Residence**	**Peak Overpressure Reporting Limit**
29/07/2024	104.9	114.7	115
15/08/2024	113.5	114.4	115
19/09/2024	104.9	107.5	115
19/11/2024	112.8	109.9	115
06/02/2025	109.5	103.5	115
21/02/2025	114.6	112.8	115
21/05/2025	113.5	113.8	115

Table 6 – Commercial Overpressures

July 2024 – June 2025 AEMR Air Blast Overpressures – Commercial			
Date	**North of Brickworks**	**Commercial Premises**	**Peak Overpressure Reporting Limit**
19/07/2024	102.9	113.5	125
15/08/2024	106.5	115.7	125
19/09/2024	111.6	117.8	125
19/11/2024	101.9	110.9	125
06/02/2025	101.4	111.8	125
21/02/2025	108.4	116.6	125
21/05/2025	109.2	116.3	125

Chart 3 - Residential Overpressure

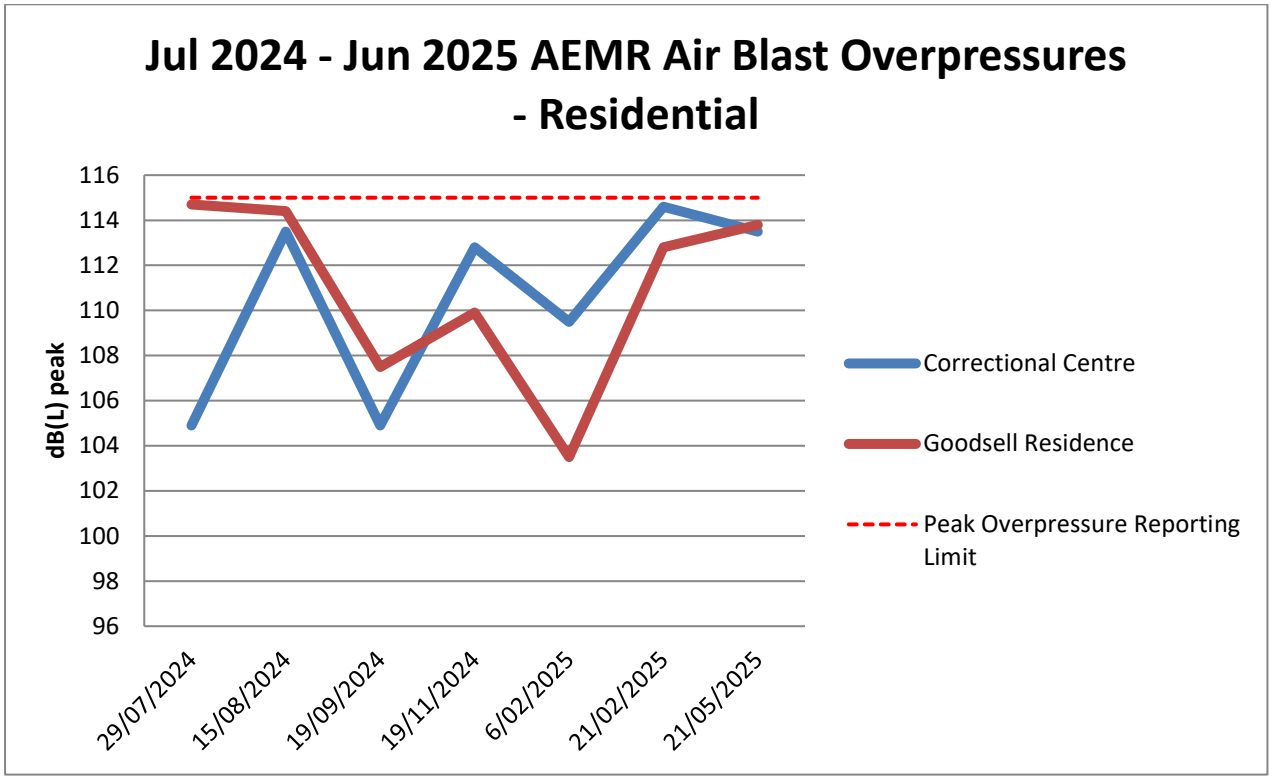
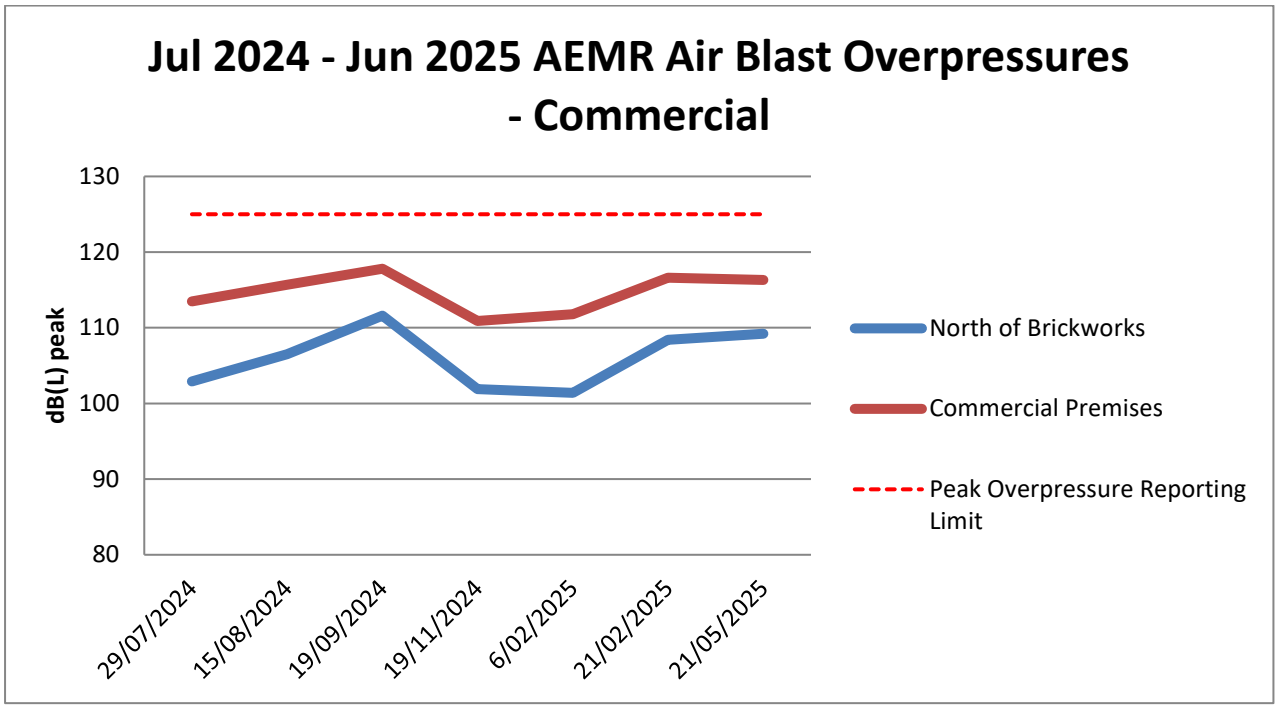


Chart 4 - Commercial Overpressure



3.1.3 Blasting Summary

The blasting program has continued to perform successfully throughout the current AEMR reporting period. This success is attributed to the use of small-scale blasts and strict adherence to project criteria, ensuring that ground vibration and overpressure limits were not exceeded at any time.
To date, the operation has achieved compliance across **11 consecutive AEMR reporting periods**, with a total of **87 blasts** conducted within approved limits. During the current reporting period, **seven blasts** were undertaken—consistent with the previous period and below the forecast average of one blast per month, due to slightly reduced operational demand.
Looking ahead, we anticipate conducting **8–10 blasts** in the next reporting period. All future blasts will continue to be carefully managed and kept small in scale to minimise ground vibration and overpressure. Post-blast monitoring and analysis will remain a key part of the program to guide ongoing blasting requirements and ensure continued compliance.

3.2 Noise Monitoring

Noise monitoring was undertaken during this reporting period. This recommenced this year after it was identified that this was deficient in the previous reporting periods.

Four sets of attended noise monitoring was undertaken. The monitoring was undertaken by Sean O'Shea of SLR Consulting Australia Pty Ltd on the 19th September 2024, 6th November 2024, 19th February 2025 and 27th July 2025. (Reports attached in Appendix D). Due to inclement weather, the 4th quarter monitoring was conducted later than planned. SCCCR Quarries will ensure the monitoring for all four quarters is undertaken within the designated timeframes in the next reporting period.

The surveys were carried out in accordance with the EMS and the MOD 2 Project Approval conditions. With monitors being located monitoring stations 1,2,4 and 5. (as per EMS requirements).

All surveys indicated that the quarry had not exceeded any of the "noise impact assessment criteria" at any locations.

Table 8 – Noise Emission Testing

July 2024 – June2025 Noise Monitoring				
Date	Location 1 – 80 links Road	Location 2 – 371 Old Southern Road	Location 4 – 243 Princes Highway	Location 5 – South Coast Correctional Facility
19/09/2024	<40 dBA	<45 dBA	<43 dBA	40 dBA
06/11/2024	<39 dBA	<29 dBA	42 dBA	43 dBA
19/02/2025	<31 dBA	<34 dBA	47 dBA	46 dBA
27/07/2025	<34 dBA	<34 dBA	<39 dBA	44 dBA
Noise Emission Criteria	39 dBA	45 dBA	49 dBA	51 dBA

3.2.1. Noise Summary

Noise monitoring surveys conducted on 19 September 2024, 6 November 2024, 19 February 2025, and 27 July 2025 confirmed that quarry noise emissions remained well within the limits specified in the Project Approval. Results indicate that operational noise continues to have minimal impact beyond the site's natural ambient noise levels.

3.3 Air Monitoring

Airborne dust at the Nowra Brickworks Quarry is primarily generated through crushing and screening operations, vehicle movements on haul roads, stockpiles, and exposed surfaces—particularly those affected by prevailing westerly winds.
A comprehensive range of air quality control measures is in place and will continue to be implemented for the duration of the project approval:

- **Dust Suppression on Processing Plant:** The processing plant is equipped with dust suppression systems, which are operated whenever the plant is in use.
- **Watering of Exposed Areas:** On-site roads, hardstand areas, stockpiles, and other exposed surfaces are regularly watered using a water cart or fixed sprinklers. Water is sourced from within the extraction area or the Water Storage Dam.
- **Truck Load Management:** All trucks transporting materials to and from the site via public roads are covered to minimise dust emissions.
- **Vehicle Exit Controls:** Two automated wheel wash systems have been installed at site exits, along with an improved shaker grid and multiple spray systems to reduce dust carried offsite by vehicles.
- **Dust Control on Eastern Boundary:** Sprinklers and sprays have been installed along the eastern boundary and on stockpiles to manage dust emissions from areas impacted by westerly winds and increased haul road traffic.

Air quality monitoring results, including DDG, TSP, and PM10 data, have been analysed and are presented in the following charts and tables. Refer to **Appendix E** for detailed results.

3.3.1 Dust Deposition Gauges (DDG)

The DDG reporting criteria of 4 g/m2.month was within limits during the July 2024 – June 2025 AEMR reporting period.

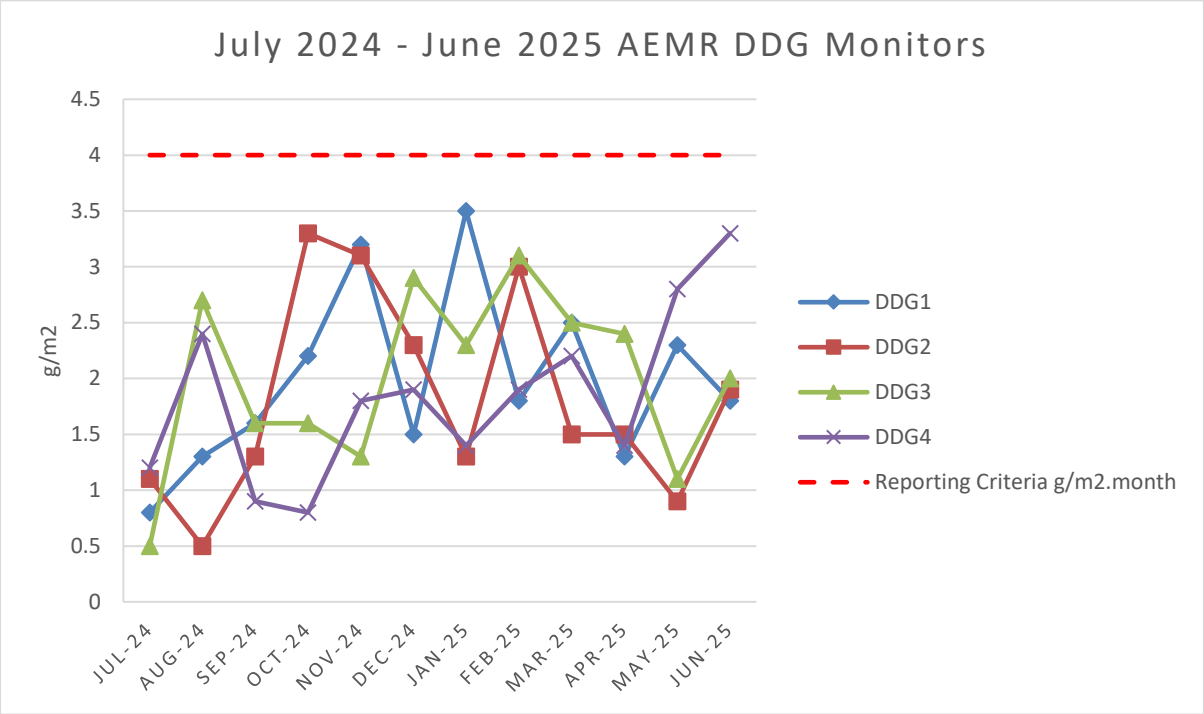


Chart 5- DDGs

3.3.2 TsP High Volume Samplers

The TsP Annual Average limit (90ug/m3) was not exceeded during the reporting period (July 2024 – June 2025).

July 2024 - June 2025
TsP Annual Average – South (29.5 ug/m3) a decrease of 8.8 ug/m3 from the previous reporting period.
TsP Annual Average – North (30.4 ug/m3) a decrease of 12.8 ug/m3 from the previous reporting period.

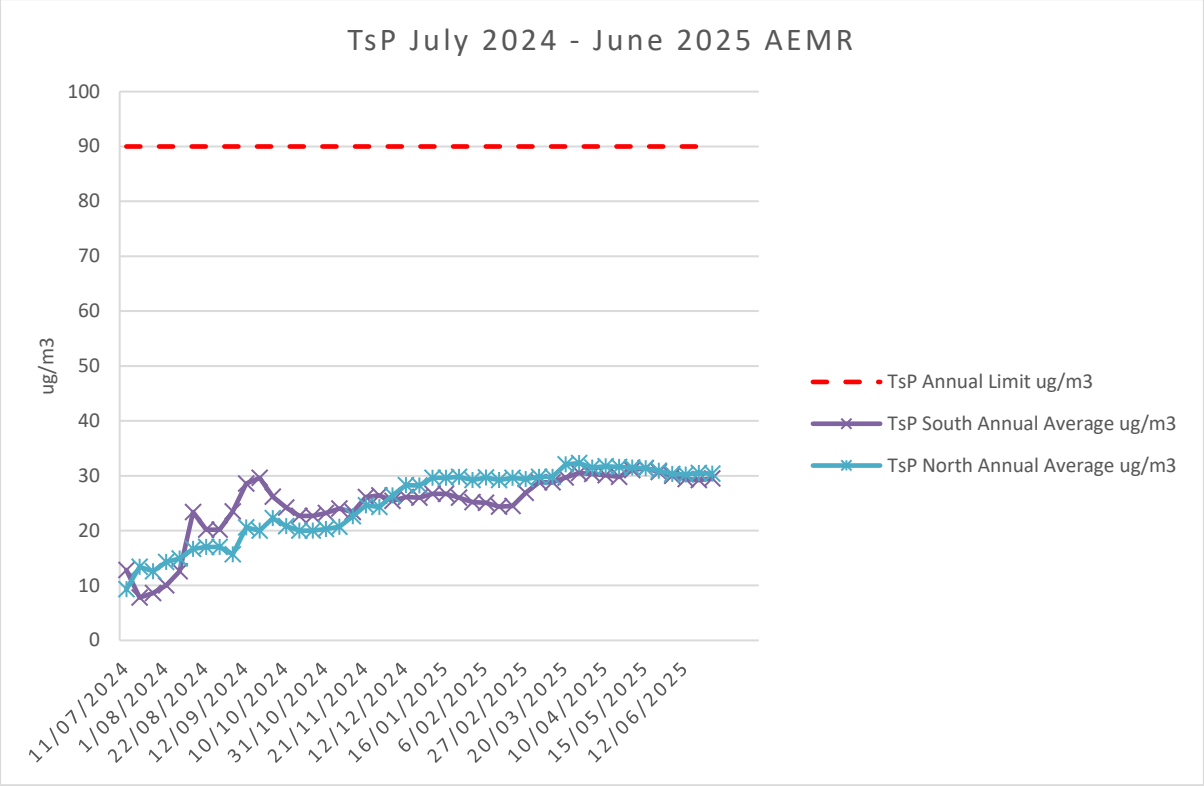


Chart 6 - TsP

3.3.3. Pm10 High Volume Samplers

The Pm10 Annual Average limit (30ug/m3) and the 24hr limit (50ug/m3) were not exceeded during monitoring during this reporting period.

The maximum values recorded for North and South were 26.5ug/m3 and 45.7ug/m3 which were below the 50ug/m3 allowable limit.

July2023 - June2024
Pm10 Annual – South (12.9ug/m3) an increase of 1.3ug/m3 for the reporting period.
Pm10 Annual – North (10.9ug/m3) a decrease of 3.1ug/m3 for the reporting period.

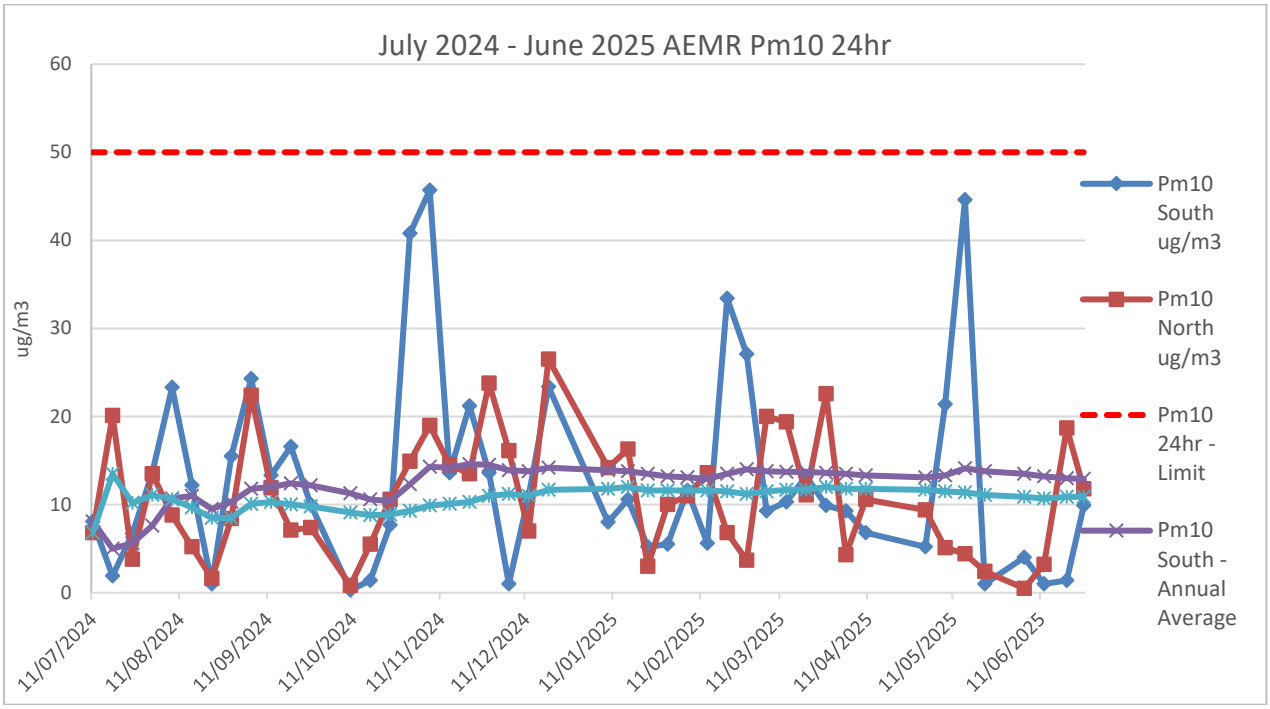


Chart 7 - Pm10 24hr and annual average

3.3.4. Dust Summary

For the majority of the operations during the reporting period there were no adverse effects in regard to generating additional dust during quarrying operations.

The Pm10 and TsP annual average limits are still currently below the approval limits.

3.4 Erosion and Sediment Control Monitoring

3.4.1 Nowra Brickworks Quarry

Erosion and sedimentation control at the Nowra Brickworks Quarry revolves around:

- diversion of 'clean' surface water runoff away from disturbed areas; and
- capture and retention of 'dirty' water flowing from disturbed areas of the quarry site.
- Sedimentation fencing around soil stockpiles
- Sedimentation fencing to Nowra Creek Riparian protection zone

Attached in appendix F is the sedimentation monitoring logs for the AEMR monitoring period.

3.4.2 Flat Rock Quarry

Nil works were conducted at flat rock quarry during the reporting period.

3.5 Landscape and Biodiversity Monitoring

3.5.1 Weed Management

Continuous secondary weed management was carried out by Proust Land Services in August 2024 - April 2025. This is continuing to have an improved impact on the land management as we have achieved continual improvement in concerted effort on declining weed density and population.

Table 1 Weed Treatment Table August 2024 Secondary/Maintenance weeding

Common Name	Control Location / density
Agapanthus	Cut/paint, manual removal Eastern boundary /scattered seedlings
Asparagus Fern WoNS N	Hand dug crown (bag crown & removed off site) Western boundary / scattered seedlings
Bitou Bush WoNS N	Not recorded this round.
Blackberry WoNS N	Cut/paint & manual removal Eastern & western boundary / scattered small plants
Broom	Cut/paint & manual removal
Castor Oil Plant	Hand pull seedlings, Cut/paint larger plants. Eastern boundary / scattered with medium patches
Cotton Bush	Hand Pull Eastern boundary
Crassula	Hand dug southern boundary/ scattered patches
Crofton Weed N	Hand pull seedlings, cut paint larger plants, spray denser patches Eastern & Western boundary / medium
Euphorbia	Hand pull Eastern boundary / scattered patches
Fennel	Hand dug northwest corner / increasing in area
Lantana WoNS N	Hand pull seedlings, Cut/paint larger plants. western boundaries / sparse to occasional
Madeira Vine N	Spot spray after site prep western boundaries / several patches. will need follow up
Moth Vine	Hand pull. (bag & remove fruit off site). All boundaries/ sparse
Polygala	Cut/paint eastern boundary/ several patches
Senna	Cut/paint / Hand pull eastern boundary / scattered seedlings
Spear Thistle	Cut/paint / spray all boundaries / scattered has increased in numbers and area
Spider Plant	Not recorded this round
Tobacco Bush	Cut/paint / Hand dug all boundaries / scattered several large ones in flower
Turkey Rhubarb	Hand dug; spray prep eastern & western boundaries / increasing. Will need follow up
Annuals such as Fleabane, Paddy's Lucerne,	Hand. Pull; Spray prep & spray all areas. Not a major concern
Exotic Grasses mainly	Manual removal, some sprayed. some areas the slopes were too steep.

WoNS: Weed of national Significance N: Noxious Weed

Table 1 Weed Treatment Table April 2025 Secondary/Maintenance weeding

Common Name	Control Location / density/ quantity
Agapanthus	Cut/paint, manual removal Eastern boundary /scattered seedlings **<10**
Asparagus Fern WoNS N	Hand dug crown (bag crown & removed off site) Southern boundary / scattered seedlings **100+**
Bitou Bush WoNS N	Hand pulled western boundary 1 seedling
Blackberry WoNS N	Spray after site prep Eastern & western boundary / scattered patches **3 x 10m²**
Broom	Not recorded this round
Castor Oil Plant	Hand pull seedlings, Cut/paint larger plants. NW corner & Eastern boundary / scattered patches **100+**
Cotton Bush	Hand Pull Eastern boundary **<10**
Crassula	Sprayed eastern boundary/ scattered patch **20m²**
Crofton Weed N	Hand pull seedlings, cut paint larger plants, spray denser patches Eastern & Western boundary /many patches **>300m²**
Euphorbia	Not recorded this round
Fennel	Not recorded this round
Lantana WoNS N	Hand pull seedlings, Cut/paint larger plants. Eastern & western boundaries / scattered patches **>200m²**
Madeira Vine N	Spot spray after site prep western boundaries / several patches. **>50m²**
Moth Vine	Hand pull. (bag & remove fruit off site). All boundaries/ sparse **>100**
Polygala	Cut/paint eastern boundary/ several patches **30**
Senna	Cut/paint / Hand pull eastern boundary / scattered seedlings **<10**
Spear Thistle	Cut/paint / spray all boundaries / scattered throughout **100+**
Spider Plant	Sprayed after site prep eastern boundary/ one patch **10m²**
Tobacco Bush	Cut/paint / Hand dug all boundaries / scattered several large ones in flower
Turkey Rhubarb	Sprayed after prep eastern & western boundaries / increasing. **>500m²**
Annuals such as Fleabane, Paddy's Lucerne,	Hand. Pull; Spray prep & spray all areas. Not a major concern
Exotic Grasses mainly Paspalum	Manual removal, some sprayed. some areas the slopes were too steep. **>500m²**

WoNS: Weed of national Significance N: Noxious Weed

3.5.2 Site Reference Photos

July 2023

Figure 1

Figure 2

June 2024

3.5.3 Landscape and Biodiversity Summary

The site is generally in healthy condition. Weed control activities will continue during the July 2025-June 2026 AEMR reporting period and the site will be monitored every 6 months for any new or increase in weed populations.

3.6 Aboriginal heritage monitoring.

No requirement for any specific aboriginal monitoring work was required the AEMR reporting period.

3.7 Surface water monitoring

Surface water monitoring was conducted in accordance with the Environmental Management Strategy (EMS) throughout the AEMR reporting period from 1 July 2024 to 30 June 2025.

Previous baseline analysis by SEEC concluded that quarry operations have no measurable impact on Nowra Creek, with historically higher readings observed at the upstream control site (C1). This trend has continued during the current reporting period. As reported in the 2023–2024 AEMR, further analysis of recent data confirms no correlation between water quality results from within the quarry (S4 and S5) and those from Nowra Creek (C1, C2, and C10).

Monitoring results consistently show significant differences between water within the extraction area (S5) and creek water. Surface water runoff from the quarry (S4) is more comparable to creek values due to overland flow, yet readings at the creek control point (C1) are generally higher than those at S4. These findings further support the conclusion that quarry activities are not adversely affecting the quality of water in Nowra Creek.

3.7.1 pH

The pH of the water within the quarry extraction area (S5) was found to be in the 7.85- 8.16 range which is consistent with previous collected baseline data, while water within the creek had results ranging from 6.20 – 6.87. (see chart below).

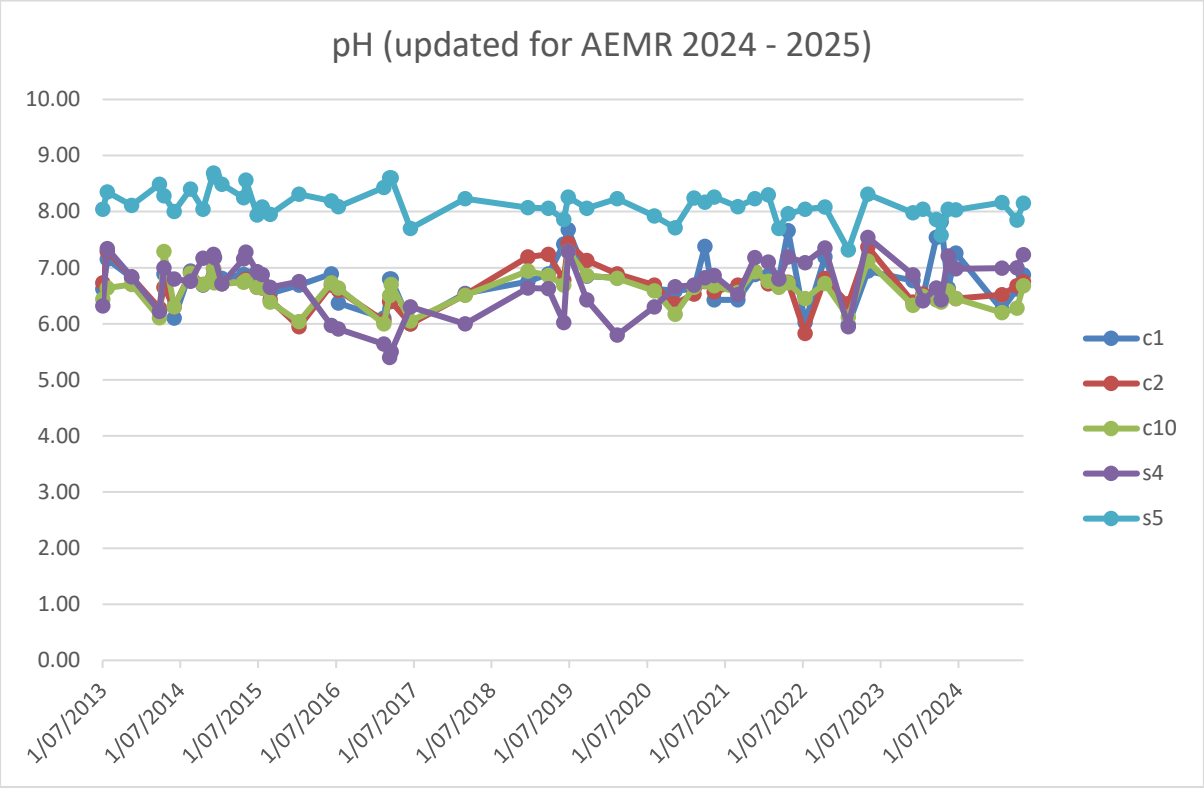


Chart 8 - Surface Water pH

3.7.2 Electrical Conductivity

Electrical conductivity of the water within the quarry (test location S5) recorded EC values up to 4230 us/cm and had reduced to 4010. The results in the creek (162-231) were found to be very low and show no correlation with the water within the quarry. (see chart below)

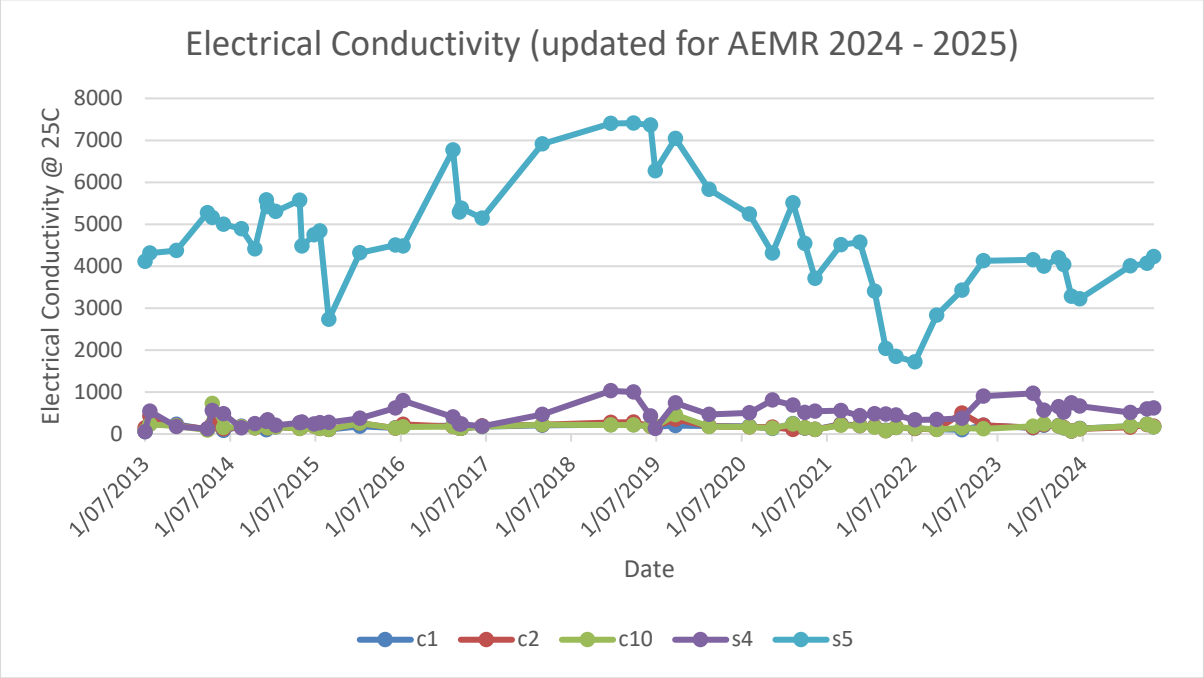


Chart 9 - Surface Water EC

3.7.3 Iron

Iron readings have remained consistent throughout the AEMR (2024-2025) reporting period with results maintaining previous baseline levels. The main water body within the quarry has a low detectable limits of iron with the highest reading at <0.05.

3.7.4 Aluminium

Aluminium readings recorded were similar to that of iron with low readings recorded in the main quarry water body (S5) 0.09-0.25 well below all other results during the reporting period (2024-2025). The creek results are again correlated closely with those of the control location (C1) for the creek. There was a high reading at monitoring location S4 with no correlation to the creek.

3.7.5 Arsenic

As with previous reporting Arsenic recorded zero or negligible results for all locations.

3.7.6 Zinc

The results within the creek are generally following the creek control point (C1). C1 results were above the reporting limit of 0.015 in 2 reporting periods and C10 above the reporting limit of 0.015 in 2 reporting period. The highest results were recorded at the control point C1 with results very similar or decreased downstream.

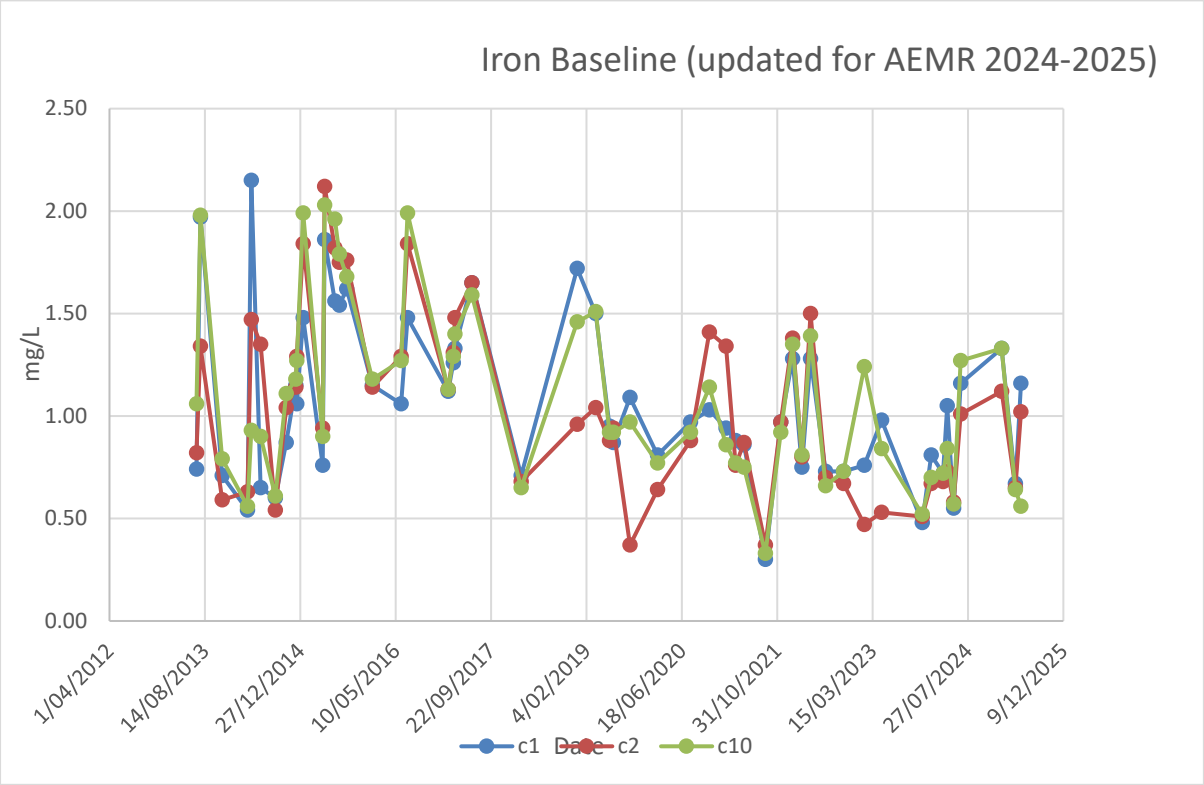


Chart 10 – Iron Baseline

3.7.7 Nitrate

As with previous AEMR results Nitrate values recorded in the creek were within the accepted guidelines there where high levels recorded in the main quarry body with no correlation to results located in the creek.

3.7.8 Ammonia

All results are within the acceptable limits during the reporting period.

3.7.9 Phosphorus

Highest recorded results in the reporting period were identified at C10. While C1 and C10 were all closely correlated with C1 being the lower value but above the reporting threshold.

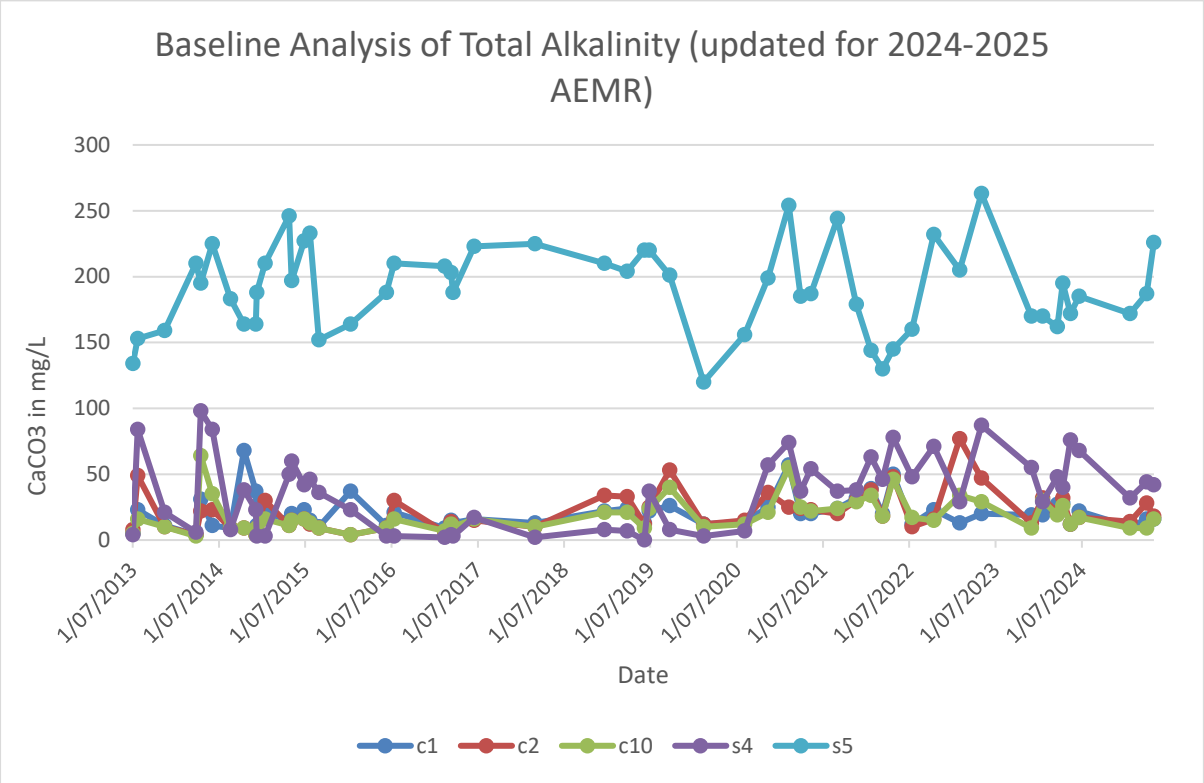


Chart 11 – Total Alkalinity

3.7.10 Surface Water Summary

As with SEEC's report "Review of Water Quality Monitoring" from AEMR (2014-2015) the results are consistent in this reporting period and the quarry is having little to no impact on the water health of Nowra creek with no correlation between water tested within the quarry and that of Nowra creek. Monitoring will continue as per our EMS (GHD 2010).

3.8 Ground water monitoring

Samples of Chart results for groundwater monitoring carried out during the AEMR reporting period (2024-2025). The results have been included with the baseline charts to allow ease of analysis showing change over time

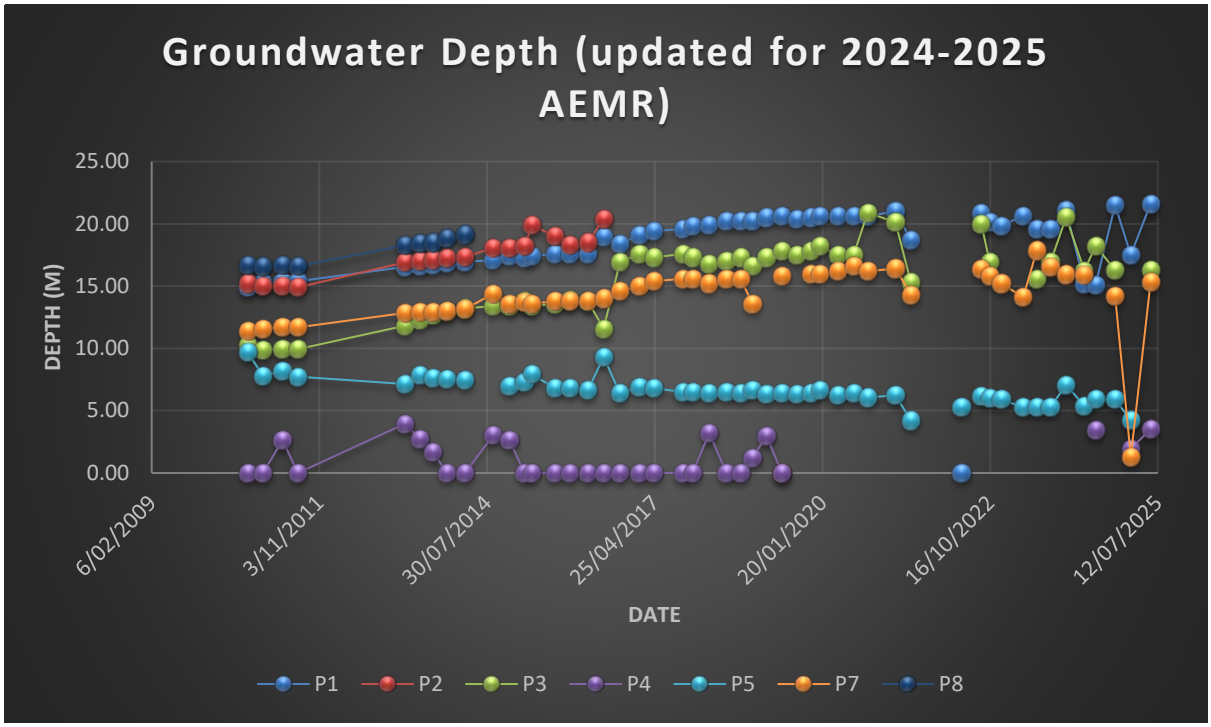


Chart 12 - Groundwater Depth

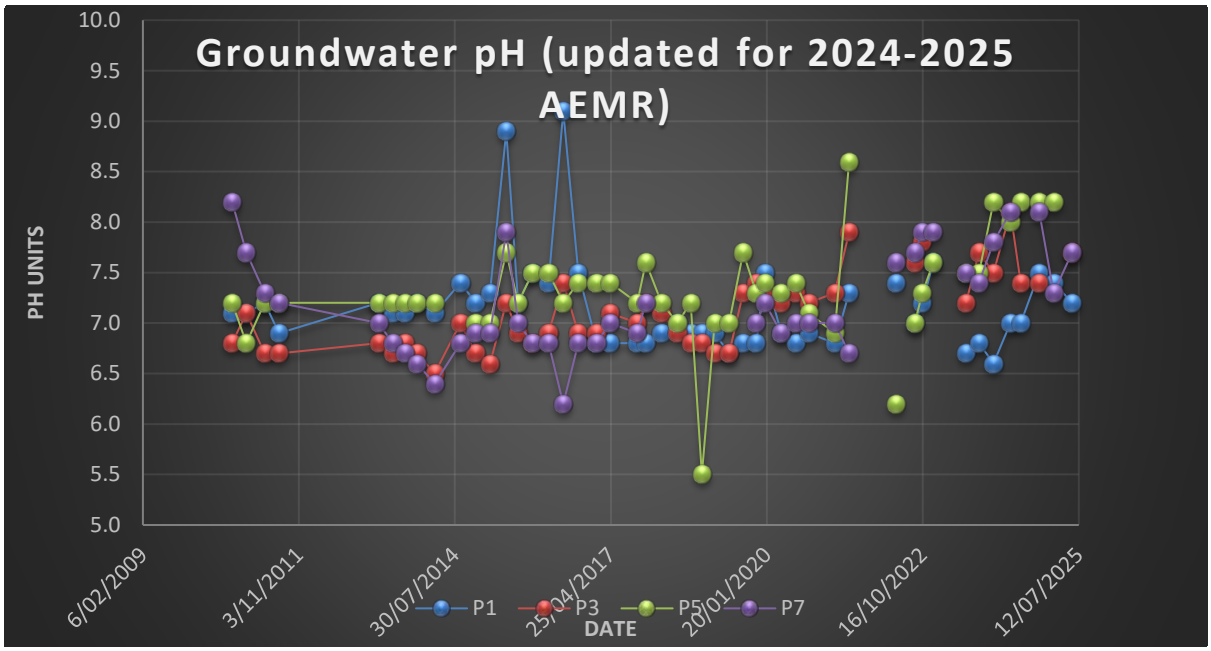


Chart 13 - Groundwater pH

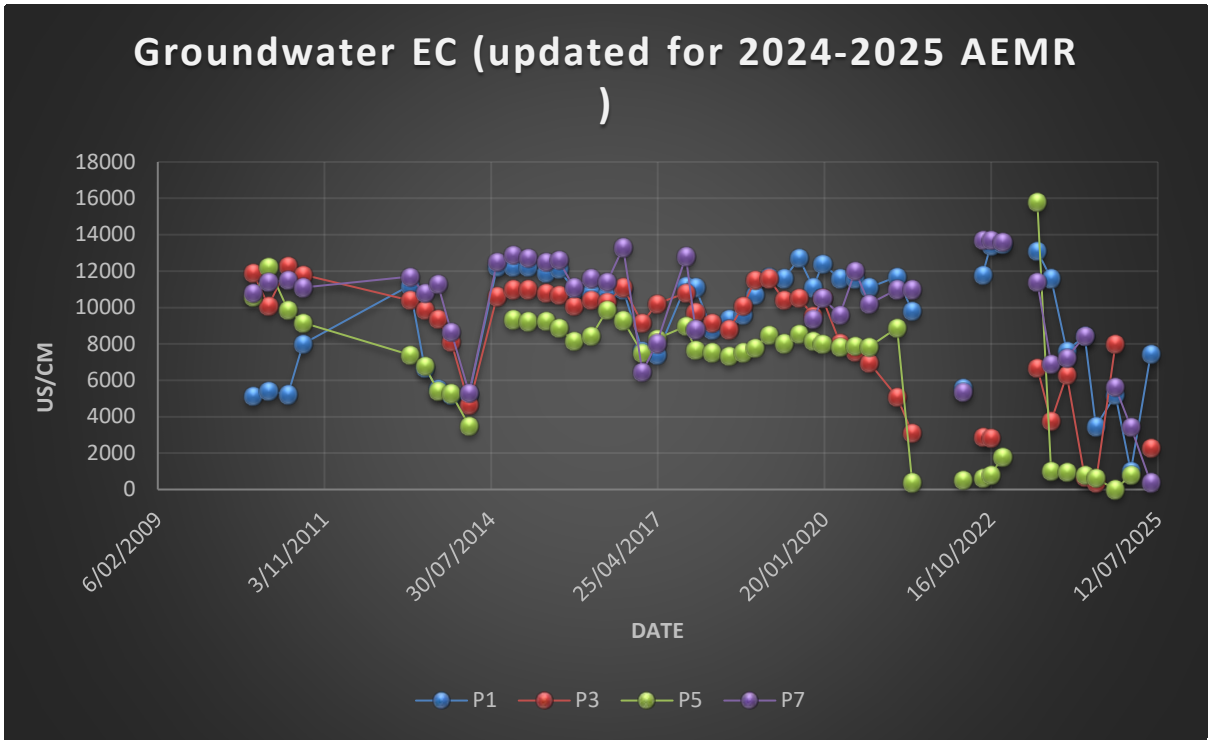


Chart 14 - Groundwater EC

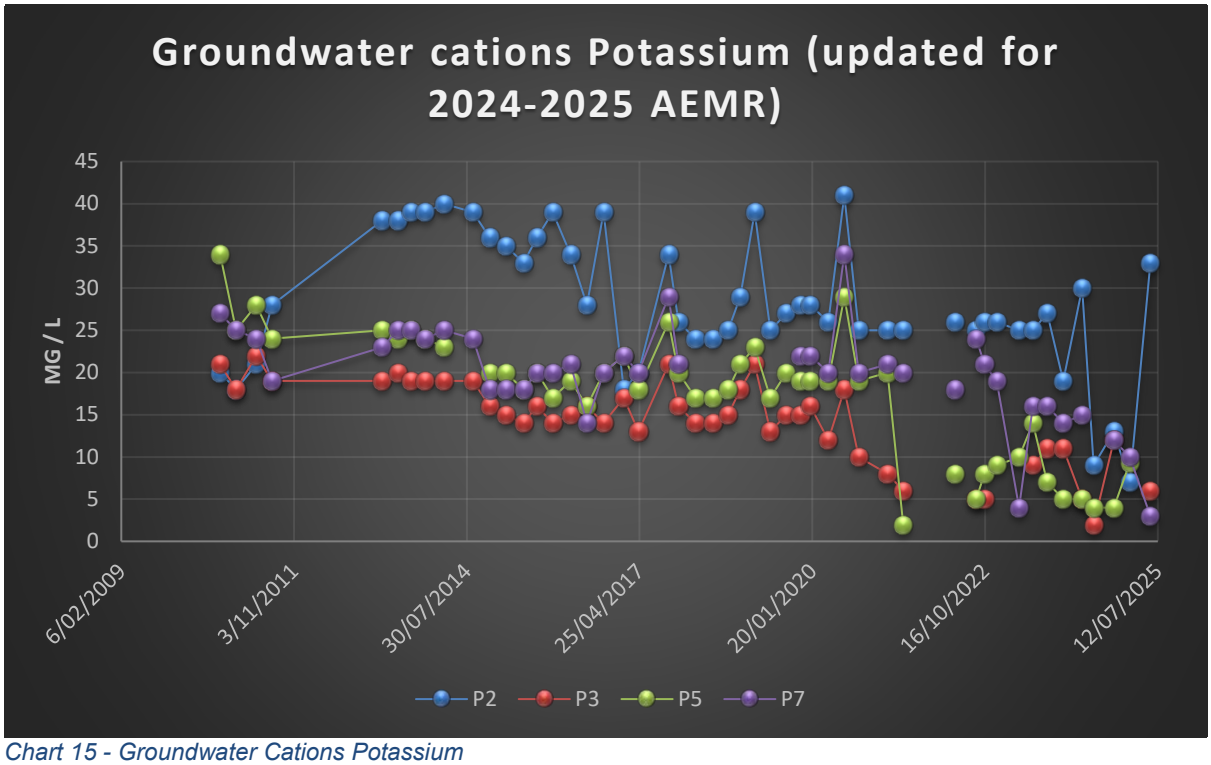


Chart 15 - Groundwater Cations Potassium

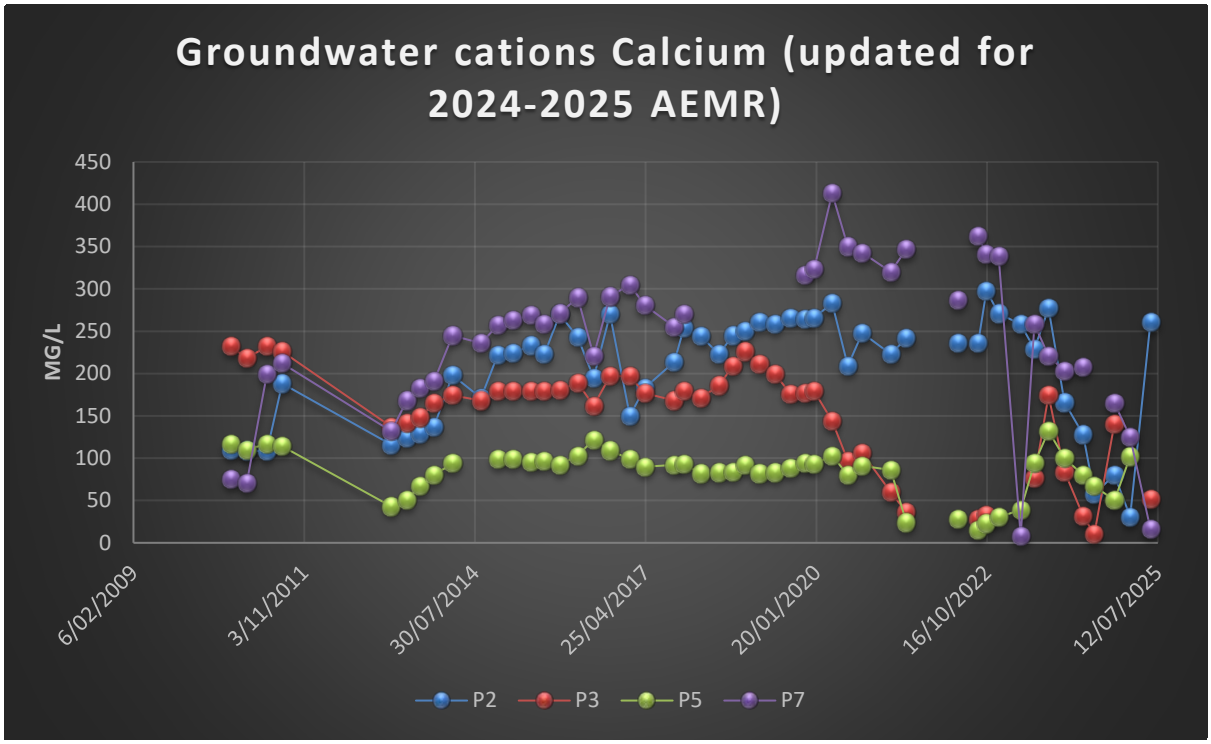


Chart 16 - Groundwater Calcium Cations

3.8.1 Groundwater Monitoring summary

Groundwater monitoring results indicate potential impact or effect of rainwater results on piezometers P2 and P4 arrangements have been made for verification and assessment of the wells in these locations, as they may have potentially been damaged. Monitoring will continue as per the EMS (GHD). Results will continue to be graphed for ongoing analysis and ease of reference for any correlation in change.

3.9 Nowra Creek Health monitoring

During sampling for surface water monitoring, photos are taken at monitoring locations C1, C2 and C10. These are for ongoing assessment of Nowra Creek Health Monitoring.

3.9.1 Health Monitoring Photos 20th January 2025

Figure 1 - Monitoring Location C1 – 20th Jan 2025

Figure 2 - Monitoring Location C2 – 20th Jan 2025

Figure 3 - Monitoring Location C10 – 20th Jan 2025

3.9.2 Health monitoring photos 1st April 2025

Figure 4 - Monitoring Location C1 1st April 2025

Figure 5 - Monitoring Location C2 1st April 2025

Figure 6 - Monitoring Location C10 1st April 2025

3.9.3 Health monitoring photos 1st May 2025

Figure 7 - Monitoring Location C1 1st May 2025

Figure 8 - Monitoring Location C2 1st May 2025

Figure 9 - Monitoring Location C10 1st May 2025

3.9.7 Creek Health Monitoring Summary

The creek has had no visible changes at any of the three monitoring locations C1, C2 and C10 during the reporting period. There are no signs of increased scour, contamination or any other adverse effect occurring at these locations.

3.10 Aboriginal Heritage

Also, included in section 3.6

3.11 Natural Heritage

No Natural artefacts were found or identified during the reporting period.

3.12 Spontaneous Combustion

Not applicable to mine

3.13 Bushfire

The following bushfire-specific management controls have been implemented and enforced.

- On-site bushfire fighting facilities have been provided and maintained.
- Bushfire fighting equipment is operational for fire fighting purposes at all times.
- Firebreaks and fire tracks have been maintained.
- Sufficient water resources have been maintained within the quarry site for fire fighting purposes.

Fuel loads are monitored and fuel reduction programs will be implemented where necessary.

3.14 Mine subsidence

No signs of mine subsidence were evident during the reporting period.

3.15 Hydrocarbon contamination

Management controls for preventing or minimising hydrocarbon contamination of water and/or land were carried out in accordance with the MOP and our updated PIRMP as per EPA guidelines and requirements. This document is available on our website as per EPA requirements also.
(From MOP...
Existing and Additional Control Strategies

- Control strategies to manage hydrocarbon contamination at the quarry are defined in the following sections of GHD (2010):
- 4 – Emergency Response; and
- 10.2 – Loading, Despatch and Transportation.

- The main controls to reduce the impacts of hydrocarbon contamination from site activities are:

- Implementation of a Nowra Brickworks Quarries Mine Safety Plan;
- Training of employees in the Safety Plan;
- Notification of environmental harm to the DECCW hotline; and
- Maintenance of all mobile equipment to manufacturer's specifications.)

(EMS GHD 2010...
4. Emergency Response

Response to an emergency is to be in accordance with the Nowra Brickworks Quarries Mine Safety Plan, prepared in accordance with the NSW Mine Health and Safety Act 2004. Emergency procedures are located in the SCCCR main office.
The following procedures relate to environmental emergencies which are not covered by the quarry's emergency plan and procedures, i.e. spills and environmental harm.
4.1 Spills
The principal potential sources of soil or land contamination at the quarry is from spills or leaks of hydrocarbons (fuel, oil, grease, etc.). The following pollution control measures will be implemented during the life of the Project:

- Employees will read the quarry's Environmental Response Plan for fuel and oil spills, and will refer to the Material Safety Data Sheets (MSDS) located next to the first aid kit located in SCCCR main office.
- During fuelling, the following will be observed: – Fuelling will be undertaken carefully to minimise drips on the ground;
  - Fuelling will be undertaken in a suitable area away from access areas and drainage lines or water courses;
  - Persons undertaking the fuelling will remain present during the entire fuelling operation; – If necessary, the emergency shut off switch for plant and machinery is to be used; – A spill kit will be kept at or near each fuelling area and on the fuel truck; – Spills and dirty absorbent materials will be cleaned up; – Fuelling equipment will be inspected for cracks, leaks, corrosion or failure; and – Small equipment will be fuelled over a paved or concrete area, away from any
- Stormwater drains or ditches, and a funnel will be used when pouring fuel from a portable can.
- Any affected stormwater drains on site will be located and blocked. Spilled fuel will be prevented from reaching drains or waterways.
- Any spills will be cleaned up thoroughly and promptly. The Dry Method (refer to the Emergency Response Plan will be used for cleaning up fuel spills (diesel or kerosene).
- If fuels are leaking or have spilled on an impermeable surface, the nearest down gradient drain will be diked or bermed to prevent fluids from flowing. Absorbent material from the spill kit will be applied on the spill area, and after cleaning up the contaminated absorbent material will be swept up, and the berm or dike will be removed from the stormwater drain.
- If fluids are leaking or have spilled on a permeable surface, the area will be marked and assistance will be sought to clean up.
- Spills or leaks will never be hosed down.
- Any spill kit materials will be disposed of in accordance with EPA guidelines.
- Any spill or discharge of any pollutant will be reported to the Mine Manager. If a spill or leaks of a hazardous substance that exceeds 500 mL, is an unknown substance of any amount, or a spill is too great to control, the NSW Fire Brigade will be called on 000.
- All applicable employees will be trained in general water pollution prevention and spill response, and a record of the employees trained will be kept.
- A current copy of the Spill Response Plan will be maintained in the SCCCR main office.

3.16 Methane drainage/ventilation

Not applicable

3.17 Public safety

The Nowra Brickworks Quarry is located in an area with extensive industrial development and adjacent to a major public road. As a result, public safety, including the safety of employees and contract truck drivers, is an important issue for the proper management of the quarry. The following management controls have been implemented and enforced to manage this safety issue.

- The front gate is locked outside the hours of operation and whenever the quarry site is not occupied.

- The perimeter bunding is maintained to ensure that the only vehicular access to the quarry site is via the front gate.
- Infrared and Motion sensing cameras have been installed at the weighbridge and front entrance gates, as well as within the vehicle maintenance compound. These are then programmed to send warning messages to appropriate quarry officer outside the approved hours of operation.
- Warning signs will continue to be prominently displayed around the perimeter and within the quarry site.
- Bunds will continue to be placed adjacent to the perimeter of the extraction area in areas where vehicles or people may be working.
- 25km/h speed signs have been erected, and site management enforces speed limits.
- All employees and contractors working within the quarry site will be required to complete a site induction.
- Visitors are required to complete a visitor's induction and sign a visitor's book indicating their time of arrival and departure.
- All employees, contractors and visitors are required to wear personal protective equipment, namely hard hats, safety glasses, steel cap boots and reflective vests. This equipment will be supplied to individuals who do not have their own.
- All communication between mobile equipment within the quarry site is by UHF radio. All mobile equipment owned or operated by SCCCR is fitted with a UHF radio. A handheld UHF radio is supplied to any transport contractor who does not have a UHF radio fitted to their vehicle.
- No truck drivers are permitted to leave the cab of their truck while the vehicle is within the extraction or processing areas. A designated area for covering loads will continue to be provided.
- All trucks carrying material to or from the quarry site on public roads will have their loads covered to prevent material falling from trucks.
- The quarry entrance and adjoining highway shoulder are continually monitored and any spillage is removed immediately.

The Company maintains a register of any complaints it receives from the public, such as speeding trucks or generally unsafe or discourteous driving or quarry vehicles.

3.20 Other issues and risks

No other issues or risks were identified during the reporting period.

4. COMMUNITY RELATIONS

4.1. Community Consultative Committee (CCC)

As stated in the previous AEMR, a Community Consultative Committee (CCC) has not been established due to a lack of interest from external stakeholders. Extensive advertising and community engagement were undertaken during the approval process for the previous MOD 2 project. Despite these efforts, no formal requests to establish a CCC have been received to date.

A permanent expression of interest link remains active on our company website; however, no responses have been received through this channel during the current reporting period. As a result, no CCC meetings were held during this time.

SCCCR remains committed to community engagement and will continue to advertise on our website to encourage interested parties to participate in the formation of a CCC.

4.2. Complaints

No complaints recorded in the 2024-2025 reporting period.

5. REHABILITATION

During this reporting period works continued within the stage 3 of the project Staging plan with backfilling of the void well underway in stage 2.
VENM has continued to be imported throughout the reporting period and the void has been progressively filled. Unusable overburden material containing tree roots was also used to fill the existing void. Appendix L contains the VENM / ENM certificates and importation records for the material imported to the void. Appendix M contains the plan of the VENM/ENM emplacement during the reporting period.

As per section 7 Rehabilitation of the 2015-2021 MOP it is anticipated that only the section of Domain 6 (voids) will undergo progressive rehabilitation as the area is filled.

Table 7 - Mine Rehabilitation Summary

		Cumulative Area Affected (hectares)		
		To date	Last report	Next Report (estimated)
A:	MINE LEASE AREA			
A1	Mine Lease(s) Area	22.028ha		
B:	DISTURBED AREAS			
B1	**Infrastructure area** other disturbed areas to be rehabilitated at closure including facilities, roads	2.4 ha	2.4 ha	2.4 ha
B2:	**Active Mining Area** excluding items B3 - B5 below	12.0 ha	10.7 ha	12.0 ha
B3	**Waste emplacements**, active/unshaped/in or out-of-pit	0.7 ha	0.7 ha	0.7 ha
B4	**Tailings emplacements,** active/unshaped/uncapped. These areas currently sit within active mining area B1	1.4 ha	1.4 ha	1.4 ha
B5	Shaped waste emplacement (awaits final vegetation)	0.70 ha	0.70 ha	0.70 ha
ALL DISTURBED AREAS		16.5 ha	15.7 ha	16.5 ha
C	REHABILITATION PROGRESS			
C1	Total Rehabilitated area (completed)	4.85 ha	4.85 ha	4.85 ha
D:	REHABILITATION ON SLOPES			
D1	10 to 18 degrees	Nil	Nil	Nil
D2	Greater than 18 degrees	Nil	Nil	Nil
E:	SURFACE OF REHABILITATED LAND			
E1	Pasture and grasses			
E2	Native forest/ecosystems	4.85 ha	4.85 ha	4.85 ha
E3	Plantations and crops			
E4	**Other** (include non-vegetative outcomes)	1.1 ha	1.1 ha	1.1 ha

Table 8 - Maintenance Activities on Rehabilitated Land

NATURE OF TREATMENT	Area Treated (ha) Report period	Next period	Comment/control strategies/ treatment detail
Additional erosion control works (drains re-contouring, rock protection**)**			None required at this stage
Re-covering (detail - further topsoil, subsoil sealing etc.)			No new rehabilitation areas will be undertaken during this AEMR period
Soil treatment (detail - fertiliser, lime, gypsum etc.)			Nil
Treatment/Management (detail - grazing, cropping, slashing etc.)			No treatment will be required
Re-seeding/Replanting (detail - species density, season etc.)	2.2 ha		Eastern boundary bunds additional seeding for increased shrub density to assist with dust and screening management
Adversely Affected by Weeds (detail - type and treatment)			Spreadsheet provided in table 3.5.1
Feral animal control (detail - additional fencing, trapping, baiting etc.)			No feral animals have been observed on the site

(This period's activities and activities proposed in the next reporting period)

6. ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

During the next proposed AEMR period the works proposed to be carried out will be consistent with the current approved MOP. No works are proposed that will require any amendments to the MOP.

Figure 3 (attached in appendix L) from the Approved MOP shows the Project Development sequence for the overall project. With the current MOP, it is intended to transition from Stage 1 through to Stage 2 of the project. We have already commenced the filling component of stage 2 highlighted in blue and moving towards increasing the extraction area to that shown in Stage 2. Currently our extraction area is at the extent as shown in Stage 2 and Stage 3.

Appendix A – Project Approval

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:
- prevent and/or minimise adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Sam Haddad
Director-General
as delegate for the Minister for Planning

Sydney 2009

SCHEDULE 1

Application No:	07_0123
Proponent:	South Coast Concrete Crushing and Recycling
Approval Authority:	Minister for Planning
Land:	Lot 30, DP 1169494
Project:	Nowra Brickworks Quarry

MOD 1 July 2013 – shown in red
MOD 2 June 2018 – shown in blue

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DEFINITIONS

Aboriginal object or place	Have the same meaning as the definitions of the terms in section 5 of the NP&W Act
Annual Review	The review required by condition 12 of Schedule 5
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in Schedules 2 to 5 (inclusive) of this document
Council	Shoalhaven City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Department	NSW Department of Planning and Environment
Demolition	The deconstruction and removal of buildings, sheds and other structures on the site
DRG	Division of Resources and Geoscience within the Department
DoI Water	Department of Industry – Crown Lands and Water Division
EA	Environmental Assessment titled *Environmental Assessment for the Continuation and Expansion of Extractive Operations at the Nowra Brickworks Quarry, South Nowra*, prepared by R.W. Corkery & Co Pty Ltd and City Plan Services, dated February 2009, and associated Response to Submissions prepared by City Plan Services and dated August 2009
EA (Mod 1)	Environmental Assessment titled *Section 75W Modification Application to Major Project (MP07_0123) for the Continuation of Extractive Operations*, prepared by City Plan Services and dated 3 May 2013
EA (Mod 2)	Environmental Assessment titled *MP 07_0123 / Nowra Brick Quarry / Proposed S75W Modification* prepared by City Plan Services and dated 1 March 2018
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
ENM	Excavated Natural Material, as defined in Section 1 of the EPA's *Excavated Natural Material Order 2014*, or latest version
Feasible	What is possible and practicable in the circumstances
Imported materials	Recycling materials, blending materials, VENM and ENM as described in the EA and EA (Mod 2)
Incident	An occurrence or set of circumstances that: • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this approval
Land	Has the same meaning as the definition of the term in section 4 of the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this approval, where it is defined as the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
m	Metres
Material harm	Is unauthorised harm that: • involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the project
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the project prior to or during those impacts occurring
Modification 2	The modifications to the project, as described in EA (Mod 2)
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	*National Parks and Wildlife Act 1974*
OEH	Office of Environment and Heritage
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	Land that is not owned by a public agency or a mining, petroleum or extractive industry company (or its subsidiary)
Project	The development described in the documents listed in condition 2 of Schedule 2

Project layout	The plan in Appendix 1 of this approval
Proponent	South Coast Concrete Crushing and Recycling Pty Ltd (or its successors) or any person carrying out any development to which this approval applies
Public infrastructure	Linear and other infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Quarrying operations	The: • extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal and/or emplacement of vegetation, topsoil and overburden; and • processing, stockpiling, blending and transportation of imported materials carried out on the site
Quarry products	Includes all saleable quarry products, including products which have been blended with imported materials, but excludes tailings, other wastes and rehabilitation material for use on the site
Registered Aboriginal Parties	As described in the *National Parks and Wildlife Regulation 2009*
Rehabilitation	The restoration of land disturbed by the project to a good condition, to ensure it is safe, stable and non-polluting
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
RMS	NSW Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
Site	The land defined in Schedule 1 and the project layout
Statement of Commitments	The Proponent's commitments in Appendix 2
VENM	Virgin Excavated Natural Material, as defined in Schedule 1 of the POEO Act
Waste	Has the same meaning as defined in the Dictionary to the POEO Act

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. In addition to meeting the specific performance measures and criteria established under this approval, the Proponent must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under this approval.

Terms of Approval

2. The Proponent must carry out the project generally in accordance with the:
   (a) EA;
   (b) EA (Mod 1);
   (c) EA (Mod 2);
   (d) project layout; and
   (e) Statement of Commitments.

2A. The Proponent must carry out the project in accordance with the conditions of this approval.

3. The conditions of this approval and directions of the Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document referenced in condition 2 of this Schedule. In the event of an inconsistency, ambiguity or conflict between any of the documents referenced in condition 2 of this Schedule, the most recent document prevails.

   Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of approval or direction of the Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

4. Consistent with the requirements of this approval, the Secretary may make written directions to the Proponent in relation to:
   (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Secretary; and
   (b) the implementation of any actions or measures contained in any such document referred to in (a) above.

   Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

5. The Proponent must prepare revisions of any strategies, plans or programs required under this approval if directed to do so by the Secretary. Such revisions must be prepared to the satisfaction of, and within a timeframe approved by, the Secretary.

6. By 30 June 2010, the Proponent must surrender all existing development consents for the site to the relevant consent authority, to the satisfaction of the Secretary.

Limits of Approval

7. The Proponent may undertake quarrying operations on the site until 31 December 2039.

   Note: Under this approval, the Proponent is required to decommission and rehabilitate the site and carry out additional requirements. Consequently, this approval will continue to apply in all respects other than to permit the carrying out of quarrying operations, until the rehabilitation of the site and those requirements and undertakings have been carried out to the required standard.

8. The Proponent must not:
   (a) extract more than 364,000 tonnes per year of clay/shale, structural clay and associated materials (in total) from the site;
   (b) import more than 50,000 tonnes per year of recycling materials to the site;
   (c) import more than 125,000 tonnes per year of blending materials to the site;
   (d) import more than 200,000 tonnes per year of VENM/ENM (in total) to the site; or
   (e) despatch more than 500,000 tonnes per year of quarry products from the site.

8A. The Proponent may receive up to three unladen trucks at the site between:
   (a) 6.00 am and 7.00 am Monday to Saturday; and
   (b) 6.00 pm and 8.00 pm Monday to Friday; and
   (c) 4.00 pm and 6.00 pm Saturday.

   Note: Operating hours for arrival and despatch of trucks are also controlled under condition 1 of Schedule 3.

9. Deleted.

Structural Adequacy

10. The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:
- *Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

Demolition

11. The Proponent must ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

Operation of Plant and Equipment

12. The Proponent must ensure that all plant and equipment used on site is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

Protection of Public Infrastructure

13. Unless the Proponent and the applicable authority agree otherwise the Proponent must:
    (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and
    (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

    Note: This condition does not apply to damage to roads caused as a result of general road usage or otherwise addressed by contributions required by condition 33 of Schedule 3.

Compliance

14. The Proponent must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this approval relevant to activities they carry out in respect of the project.

Applicability of Guidelines

15. References in the conditions of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, standards or policies in the form they are in as at the date of this approval.

    However, consistent with the conditions of this approval and without altering any limits or criteria in this approval, the Secretary may, when issuing directions under this approval in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, standard or policy, or a replacement of them.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

NOISE

Hours of Operation

1. The Proponent must comply with the operating hours set out in Table 1.

Table 1: Operating hours

Activity	*Permissible Hours*
Quarrying operations	7.00 am to 6.00 pm Monday to Friday
	7.00 am to 4.00 pm Saturday
	At no time on Sundays or public holidays

Note: Limited truck movements are permitted outside of the permissible hours for quarrying operations, as specified in condition 8A of Schedule 2.

1A. The following activities may be carried out outside the hours specified in condition 1 of this Schedule:
(a) activities that are inaudible at residences on privately-owned land;
(b) the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
(c) emergency work to avoid the loss of life, property or to prevent material harm to the environment.

In such circumstances, the Proponent must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

Operational Noise Criteria

2. The Proponent must ensure that operational noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Operational noise criteria dB(A)

Receiver	*Location*	*Day* $L_{Aeq\ (15\ min)}$	*Evening* $L_{Aeq\ (15\ min)}$	*Night* $L_{Aeq\ (15\ min)}$
1	80 Links Road	39	35	NA
2	371 Old Southern Road	45	35	35
4	243 Princes Highway	49	38	38
5	South Coast Correctional Facility	51	37	37

Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the *NSW Industrial Noise Policy*. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 2 do not apply if the Proponent has an agreement with the relevant landowner to exceed the noise criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Note: Receiver locations are shown in Appendix 3.

Noise Operating Conditions

3. The Proponent must:
(a) implement all reasonable and feasible noise mitigation measures to minimise the noise impacts of the project;
(b) investigate ways to reduce the noise generated by the project;
(c) take all reasonable steps to minimise the noise impacts of the project during meteorological conditions when the noise criteria in this approval do not apply (see Appendix 6);
(d) carry out regular noise monitoring in accordance with Appendix 6 to determine whether the project is complying with the relevant conditions of this approval; and

(e) modify or stop operations on the site to comply with the relevant conditions of this approval.

Noise Monitoring Program

4. The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. The Program must:
   (a) be prepared in consultation with EPA and be submitted to the Secretary for approval within 6 months of the date of this approval;
   (b) include annual attended noise monitoring;
   (c) describe the proposed noise management system; and
   (d) include a noise monitoring program that:
   - is capable of evaluating the performance of the project;
   - includes a protocol for determining any exceedances of the relevant conditions of this approval; and
   - effectively supports the noise management system.

   The Proponent must implement the Noise Monitoring Program as approved by the Secretary.

BLASTING AND VIBRATION

Airblast Overpressure Limits

5. The Proponent must ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 3.

Table 3: Airblast overpressure impact assessment criteria

Receiver	***Airblast overpressure level (dB(Lin Peak))***	***Allowable exceedance***
Residential & South Coast Correctional Facility	115	5% of the total number of blasts in any 12 month period
	120	0%
Commercial	125	0%

Ground Vibration Impact Assessment Criteria

6. The Proponent must ensure that the ground vibration level from blasting at the project does not exceed the levels in Table 4.

Table 4: Ground vibration impact assessment criteria

Receiver	***Airblast overpressure level (dB(Lin Peak))***	***Allowable exceedance***
Residential & South Coast Correctional Facility	115	5% of the total number of blasts in any 12 month period
	120	0%
Commercial	125	0%

7. The Proponent must carry out blasting on site only between 9 am and 3 pm Monday to Friday. No blasting is allowed on weekends and Public Holidays.

8. The Proponent must not carry out more than one blast per week on site.

   Note: In the case of a documented misfire, the Proponent may carry out a second blast in the relevant week.

Blast Operating Conditions

9. The Proponent must not undertake blasting within 200 metres of any privately-owned land, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of flyrock-related impact to the property and to human safety to the satisfaction of the Secretary.

Property Inspections

10. Prior to 30 June 2010, the Proponent must advise all landowners within 500 m of proposed blasting activities, and any other landowner nominated by the Secretary, that they are entitled to a property inspection to establish the baseline condition of the property.

11. If the Proponent receives a written request for a property inspection from any such landowner, the Proponent must:
    (a) commission a suitably qualified person, whose appointment has been approved by the Secretary, to inspect and report on the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and
    (b) give the landowner a copy of this property inspection report.

Note: It is preferable for the property inspection to be carried out prior to the commencement of blasting activities on the site, and the Proponent should facilitate this occurring wherever possible.

Property Investigations

12. If any landowner within 500 m of proposed blasting activities, or any other landowner nominated by the Secretary, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent must within 3 months of receiving this request:
    (a) commission a suitably qualified person whose appointment has been approved by the Secretary to investigate the claim and prepare a property investigation report; and
    (b) give the landowner a copy of the report.

    If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent must repair the damage to the satisfaction of the Secretary.

    If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.

Blast Management Plan

13. Prior to 30 June 2010, the Proponent must prepare a detailed Blast Management Plan for the project to the satisfaction of the Secretary. The Plan must:
    (a) be prepared in consultation with EPA;
    (b) substantiate blast design to ensure compliance with blast criteria;
    (c) include protocols for communicating with all neighbouring landholders regarding scheduled blasts;
    (d) include details of how and at what locations blasting performance would be monitored; and
    (e) include a blast monitoring protocol for evaluating compliance with the blast criteria in this approval.

    The Proponent must implement the Blast Management Plan as approved by the Secretary.

AIR QUALITY

Air Quality Impact Assessment Criteria

14. The Proponent must ensure that particulate matter emissions generated by the project do not cause exceedances of the criteria in Table 5 at any residence on privately-owned land.

Table 5: Air quality criteria

Pollutant	Averaging Period	Criterion
Particulate matter < 10 µm (PM_{10})	Annual	[a,c] 30 µg/m^3
Particulate matter < 10 µm (PM_{10})	24 hour	[b] 50 µg/m^3
Total suspended particulates (TSP)	Annual	[a,c] 90 µg/m^3

Notes to Table 5:
a Cumulative impact (ie increase in concentrations due to the project plus background concentrations due to all other sources).
[b] Incremental impact (ie increase in concentrations due to the project alone, with zero allowable exceedances of the criteria over the life of the project.
[c] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.

Air Quality Operating Conditions

15. The Proponent must:

(a) implement all reasonable and feasible dust mitigation measures to minimise the dust impacts of the project;
(b) investigate ways to reduce the dust generated by the project;
(c) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d under Table 5);
(d) monitor and report on compliance with the relevant air quality conditions in this approval; and
(e) minimise the area of surface disturbance and undertake progressive rehabilitation of the site,
to the satisfaction of the Secretary.

Air Quality Management Plan

16. The Proponent must prepare an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with EPA;
(b) be submitted to the Secretary for approval within 3 months of the determination of Modification 2;
(c) describe the proposed air quality management system;
(d) describe the measures to be implemented to ensure:
- compliance with the air quality criteria and operating conditions of this approval;
- best practice management is being employed; and
- the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events; and

(e) include an air quality monitoring program that:
- includes a protocol for determining any exceedances of the relevant conditions of this approval; and
- effectively supports the air quality management system.

The Proponent must implement the Air Quality Management Plan as approved by the Secretary.

Meteorological Monitoring

16A. For the life of the project, the Proponent must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* guideline.

WATER MANAGEMENT

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Proponent is required to obtain all necessary approvals and/or water licences for the project.

Discharge

17. Except as may be expressly provided for by an EPL, the Proponent must comply with section 120 of the *Protection of the Environment Operations Act 1997* during the carrying out of the project.

18. The Proponent must manage on-site sewage to the satisfaction of the Council and EPA. The facility must comply with the requirements of the *Environment and Health Protection Guidelines – On-site Sewage Management for Single Households (1998)*.

Soil and Water Management Plan

19. The Proponent must prepare a Soil and Water Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with EPA and DoI Water, and be submitted to the Secretary for approval prior to 30 June 2010; and
(b) include a:
- Site Water Balance;
- Erosion and Sediment Control Plan;
- Surface Water Monitoring Program;
- Ground Water Monitoring Program; and
- Surface and Groundwater Response Plan.

The Proponent must implement the Soil and Water Management Plan as approved by the Secretary.

Site Water Balance

20. The Site Water Balance must:
    (a) include details of:
        - sources and security of water supply;
        - water make and use on site;
        - water management on site;
        - any off-site water transfers; and
        - reporting procedures; and
    (b) investigate and describe measures to minimise water use by the project.

Erosion and Sediment Control

21. The Erosion and Sediment Control Plan must:
    (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004* (Landcom);
    (b) identify activities that could cause soil erosion and generate sediment;
    (c) describe measures to minimise soil erosion and the potential for the transport of sediment downstream in Nowra Creek;
    (d) describe the location, function, and capacity of erosion and sediment control structures; and
    (e) describe what measures would be implemented to maintain the structures over time.

Surface Water Monitoring

22. The Surface Water Monitoring Program must include:
    (a) detailed baseline data on surface water flows and quality in Nowra Creek and any other waterbodies that could potentially be affected by the project;
    (b) surface water and stream health impact assessment criteria;
    (c) a program to monitor the impact of the project on surface water flows in Nowra Creek, water quality and stream health, including monitoring for major cations and anions; and
    (d) reporting procedures for the results of the monitoring program.

Groundwater Monitoring

23. The Ground Water Monitoring Program must include:
    (a) detailed baseline data on ground water levels and quality, based on statistical analysis;
    (b) ground water impact assessment criteria, including trigger levels for investigating any potentially adverse ground water impacts;
    (c) a program to monitor ground water levels and quality;
    (d) a protocol for further ground water modelling to confirm the limits to excavation depth across the site would not adversely affect ground water availability for the environment or local users; and
    (e) a protocol for the investigation, notification and mitigation of identified exceedances of the ground water impact assessment criteria.

Surface and Groundwater Response Plan

24. The Surface and Groundwater Response Plan must describe the measures and/or procedures that would be implemented to:
    (a) investigate, notify and mitigate any exceedances of the surface water, stream health and ground water impact assessment criteria, including an increase in salinity levels for Nowra Creek; and
    (b) mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.

REHABILITATION AND LANDSCAPE MANAGEMENT

Biodiversity Offset Strategy

25. The Proponent must:
    (a) review its proposed Biodiversity Offset Strategy (see Table 8), in consultation with OEH and the Secretary, to seek to identify a replacement for the proposed Southern Biodiversity Offset Area that:
        - is located in the vicinity;
        - is not affected by identified future public infrastructure proposals; and
        - has equivalent (or better) biodiversity values;
    (b) implement the Biodiversity Offset Strategy (as amended under (a) above, if applicable);
    (c) ensure that adequate resources are dedicated towards the implementation of the strategy;
    (d) provide appropriate long term security for the offset areas; and

(e) provide a timetable for the implementation of the offset strategy prior to the clearing of any forested area of the site, or as otherwise agreed by the Secretary,

to the satisfaction of the Secretary.

Table 8: Biodiversity Offset Strategy

Offset Areas	***Minimum Size***
Northern Biodiversity Offset Area	21.5 hectares
Southern Biodiversity Offset Area	16.19 hectares
Total	37.69 hectares

Landscape and Biodiversity Management Plan

26. The Proponent must prepare a Landscape and Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:
    (a) be prepared by suitably qualified person(s), approved by the Secretary;
    (b) be submitted to the Secretary for approval prior to the 30 June 2010; and
    (c) include a:
        - Rehabilitation and Biodiversity Offset Strategy Management Plan; and
        - Long Term Management Strategy.

    The Proponent must implement the Landscape and Biodiversity Management Plan as approved by the Secretary.

    Note: The Department accepts that the initial Landscape and Biodiversity Management Plan may not include the detailed Long Term Management Strategy. However, a conceptual strategy must be included in the initial plan, along with a timetable for augmentation of the strategy with each subsequent review of the plan.

27. The Rehabilitation and Biodiversity Offset Strategy Management Plan must include:
    (a) the rehabilitation objectives for the site and offset areas;
    (b) a description of the measures that would be implemented to:
        - rehabilitate and stabilise the site;
        - minimise the removal of mature trees;
        - implement the Biodiversity Offset Strategy; and
        - manage the remnant vegetation and habitat on the site and in the offset areas;
    (c) detailed performance and completion criteria for the rehabilitation and stabilisation of the site;
    (d) a detailed description of how the performance of the rehabilitation of the quarry areas would be monitored over time to achieve the stated objectives;
    (e) a detailed description of what measures would be implemented to rehabilitate and manage the landscape of the site including the procedures to be implemented for:
        - progressively rehabilitating and stabilising areas disturbed by quarrying;
        - implementing revegetation and regeneration within the disturbance areas;
        - protecting areas outside the disturbance areas, including the Biodiversity Offset Strategy areas;
        - vegetation clearing protocols, including a protocol for clearing any trees containing hollows and the relocation of hollows from felled trees;
        - managing impacts on fauna, in particular threatened species;
        - controlling weeds and pests;
        - controlling access;
        - bushfire management; and
        - reducing the visual impacts of the project;
    (f) a description of the potential risks to successful rehabilitation and a description of the contingency measures that would be implemented to mitigate these risks; and
    (g) details of who is responsible for monitoring, reviewing, and implementing the plan.

28. The Long Term Management Strategy must:
    (a) define the objectives and criteria for quarry closure and post-extraction management;
    (b) be prepared in consultation with DoI Water, DRG and Council;
    (c) investigate and/or describe options for the future use of the site;
    (d) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
    (e) describe how the performance of these measures would be monitored over time.

Rehabilitation

29. Backfilling of the quarry void and water storage facility is restricted to the use of materials which are VENM or ENM, to the satisfaction of the Secretary. The Proponent must consult with the Council to identify the proposed alignment of the link road from Warra Warra Road to the Flinders Industrial Estate.

Backfilling within the proposed alignment must use materials and a compaction standard suitable for the future construction of the link road, to the satisfaction of the Secretary.

Note: the conceptual final landform is shown in Appendix 4.

HERITAGE

Aboriginal Cultural Heritage Management Plan

30. The Proponent must prepare and implement an Aboriginal Cultural Heritage Management Plan to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with OEH and Registered Aboriginal Parties;
    (b) be submitted to the Secretary for approval prior to 30 June 2010; and
    (c) include a description of the measures that would be implemented to:
        (i) manage the discovery of previously unidentified Aboriginal objects or Aboriginal places on the site; and
        (ii) facilitate ongoing consultation with and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site.

    The Proponent must implement the Aboriginal Cultural Heritage Management Plan as approved by the Secretary.

30A. If human remains are discovered on the site, then all work in the area surrounding the discovery must cease, and the area must be secured. The Proponent must immediately notify NSW Police Force and OEH, and work must not recommence in the area until authorised by NSW Police Force and OEH.

30B. If any potential Aboriginal object or Aboriginal place is identified on the site, or suspected to be on the site:
    (a) all work in the immediate vicinity of the object or place must cease immediately;
    (b) a 10 m buffer area around the object or place must be cordoned off; and
    (c) OEH must be contacted immediately.

30C. Work in the immediate vicinity of a potential Aboriginal object or Aboriginal place may only recommence if:
    (a) the object or place is confirmed by OEH upon consultation with the Registered Aboriginal Parties not to be an Aboriginal object or Aboriginal Place;
    (b) the Aboriginal Cultural Heritage Management Plan is revised to include the object or place and appropriate measures in respect of it; or
    (c) the Secretary is satisfied with the measures to be implemented in respect of the object or place and makes a written direction in that regard.

VISUAL

31. The Proponent must minimise the visual impacts of the project to the satisfaction of the Secretary.

WASTE MANAGEMENT

31A. Except as expressly permitted in an EPL and/or the conditions of this approval, the Proponent must not receive waste on the site for storage, treatment, processing, reprocessing or disposal.

    Note: Under the POEO Act, the Proponent is required to obtain an EPL variation to permit the importation of ENM for blending purposes.

31B. The Proponent must:
    (a) maintain accurate records of all imported materials received at the site (including the type, source, date, time and quantity received and details of the transport contractor); and
    (b) include a copy of this data in the Annual Review.

32. The Proponent must minimise the amount of waste generated by the project to the satisfaction of the Secretary.

TRAFFIC AND TRANSPORT

33. The Proponent must make a monetary contribution of $174,000 to the RMS for the construction of the following elements of the proposed Princes Highway upgrade between Central Avenue and Warra Warra Road:
    - the central median for a length of 60m; and
    - a left turn deceleration lane on the southbound approach to the quarry access road.

34. The Proponent must pay the monetary contribution required by condition 33 according to the following schedule:
    (a) $54,000 paid prior to 30 June 2010; and
    (b) $40,000 paid prior to 30 June in each of the years 2011, 2012 and 2013,
    unless the RMS commences the proposed upgrade prior to the completion of these payments, in which case any remainder of the contribution not yet paid is payable immediately.

35. The Proponent must upgrade the access to the development and land must be dedicated generally in accordance with the RMS's preliminary concept design (see Appendix 5) to ensure the access accommodates swept paths for B-doubles and the future Princes Highway alignment, prior to the completion of the proposed Princes Highway upgrade and to the satisfaction of the RMS.

Road Haulage

36. The Proponent must ensure that:
    (a) all loaded vehicles entering or leaving the site are covered;
    (b) all loaded vehicles leaving the site are cleaned of materials that may fall on the road, before they leave the site; and
    (c) a truck wheel wash facility is constructed on the site prior to ~~to~~ 30 June 2010,
    to the satisfaction of the Secretary.

EMERGENCY AND HAZARDS MANAGEMENT

Dangerous Goods

37. The Proponent must ensure that the storage, handling, and transport of fuels and dangerous goods are conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

Safety

38. The Proponent must secure the project to ensure public safety to the satisfaction of the Secretary.

Bushfire Management

39. The Proponent must:
    (a) ensure that the project is suitably equipped to respond to any fires on-site; and
    (b) assist the rural fire service and emergency services to the extent practicable if there is a fire in the vicinity of the site.

PRODUCTION DATA

40. The Proponent must:
    (a) provide calendar year annual quarry production data to DRG using the standard form for that purpose; and
    (b) include a copy of this data in the Annual Review.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable, and no longer than 7 days, after obtaining monitoring results showing:
   (a) an exceedance of any criteria in Schedule 3, the Proponent must notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the project is again complying with the relevant criteria; and
   (b) an exceedance of any air quality criteria in Schedule 3, the Proponent must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).

INDEPENDENT REVIEW

2. If a landowner considers the project to be exceeding the relevant criteria in Schedule 3, they may ask the Secretary in writing for an independent review of the impacts of the project on their land.

   If the Secretary is not satisfied that an independent review is warranted, the Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 21 days of the request for a review.

   If the Secretary is satisfied that an independent review is warranted, within 3 months, or as otherwise agreed by the Secretary and the landowner, of the Secretary's decision, the Proponent must:
   (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
      - consult with the landowner to determine his/her concerns;
      - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and
      - if the project is not complying with these criteria, then identify measures that could be implemented to ensure compliance with the relevant criteria;
   (b) give the Secretary and landowner a copy of the independent review; and
   (c) comply with any written requests made by the Secretary to implement any findings of the review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent must prepare an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:
   (a) be submitted to the Secretary for approval within 6 months of the determination of Modification 2, unless otherwise agreed by the Secretary;
   (b) provide the strategic framework for environmental management of the project;
   (c) identify the statutory approvals that apply to the project;
   (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
   (e) describe the procedures to be implemented to:
      - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
      - receive, record, handle and respond to complaints;
      - resolve any disputes that may arise during the course of the project;
      - respond to any non-compliance; and
      - respond to emergencies; and
   (f) include:
      - references to any strategies, plans and programs approved under the conditions of this approval; and
      - a clear plan depicting all the monitoring to be carried out under the conditions of this approval.

   The Proponent must implement any Environmental Management Strategy as approved by the Secretary.

Evidence of Consultation

2. Where the conditions of this approval require consultation with an identified party, the Proponent must:
   (a) consult with the relevant party prior to submitting the subject document to the Secretary for approval; and
   (b) provide details of the consultation undertaken, including:
      - a description of how matters raised by those consulted have been resolved; and
      - details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed any unresolved matters.

   However, if the Secretary agrees, a strategy, plan or program may be prepared without consultation being undertaken with an identified party required under a condition of this approval.

Management Plan Requirements

3. The Proponent must ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:
   (a) a summary of relevant background or baseline data;
   (b) a description of:
      - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
      - any relevant limits or performance measures/criteria; and
      - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
   (c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
   (d) a program to monitor and report on the:
      - impacts and environmental performance of the development; and
      - effectiveness of any management measures (see (c) above);
   (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
   (f) a program to investigate and implement ways to improve the environmental performance of the project over time;
   (g) a protocol for managing and reporting any:
      - incidents;
      - complaints; and
      - non-compliances with statutory requirements;

(h) a protocol for periodic review of the plan; and
(i) a document control table that includes version numbers, dates when the management plan was prepared and reviewed, names and positions of the person/s who prepared and reviewed the management plan, a description of any revisions made and the date of the Secretary's approval.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Application of Existing Strategies, Plans and Programs

4. The Proponent must continue to apply existing management plans, strategies or monitoring programs approved prior to the approval of Modification 2, until the approval of a similar plan, strategy or program following the approval of Modification 2.

Revision of Strategies, Plans & Programs

5. Within 3 months of:
(a) the submission of an incident report under condition 10 below;
(b) the submission of an Annual Review under condition 12 below;
(c) the submission of an Independent Environmental Audit report under condition 14 below; and
(d) the approval any modifications to this approval,
the Proponent must review the suitability of all strategies, plans and programs required under this approval. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.

Notes:
- *The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project.*
- *In the event of an inconsistency between condition 5(d) above and any condition in Schedule 3 of this approval, the latter prevails.*

Updating and Staging of Strategies, Plans or Programs

6. With the approval of the Secretary, the Proponent may:
(a) prepare and submit any strategy, plan or program required by this approval on a staged basis (if a clear description is provided as to the specific stage and scope of the project to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
(b) combine any strategy, plan or program required by this approval (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
(c) update any strategy, plan or program required by this approval (to ensure the strategies, plans and programs required under this approval are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the project).

Adaptive Management

7. The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Proponent must as soon as becoming aware of any exceedance:
(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur;
(b) consider all reasonable and feasible options for remediation (where relevant);
(c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and
(d) implement remediation measures as directed by the Secretary;
to the satisfaction of the Secretary.

COMMUNITY CONSULTATIVE COMMITTEE

8. If directed by the Secretary, the Proponent must establish and operate a Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary. Any such CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines, November 2016* (or later version).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- *In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council and the local community.*
- *The Proponent may, with the approval of the Secretary, combine the function of this CCC with the functions of other CCCs in the area.*

REPORTING

Incident Reporting

9. The Proponent must immediately notify the Secretary (using the contact name, email address and phone number provided by the Department from time to time) and any other relevant agencies of any incident.

10. Within 7 days of the date of the incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify any non-compliance with this approval.

Regular Reporting

11. The Proponent must provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

Annual Review

12. By the end of March each year, or other timing as may be agreed by the Secretary, the Proponent must submit a review to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must:
    (a) describe the project (including any progressive rehabilitation) that was carried out in the previous calendar year, and the project that is proposed to be carried out over the current calendar year;
    (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against the:
        - relevant statutory requirements, limits or performance measures/criteria;
        - requirements of any plan or program required under this approval;
        - monitoring results of previous years; and
        - relevant predictions in the documents listed in condition 2 of Schedule 2;
    (c) evaluate and report on:
        - the effectiveness of the air quality and noise management systems; and
        - compliance with the performance measures, criteria and operating conditions in this approval.
    (d) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;
    (e) identify any trends in the monitoring data over the life of the project;
    (f) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
    (g) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.

    The Proponent must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 8 of Schedule 5) and any interested person upon request.

INDEPENDENT ENVIRONMENTAL AUDIT

13. Within 3 years of the date of this approval, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent must commission, commence and pay the full cost of an Independent Environmental Audit of the project. This audit must:
    (a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
    (b) include consultation with the relevant agencies and the CCC;
    (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL or necessary water licences for the project (including any assessment, strategy, plan or program required under these approvals);
    (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;

(e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
(f) be conducted and reported to the satisfaction of the Secretary.

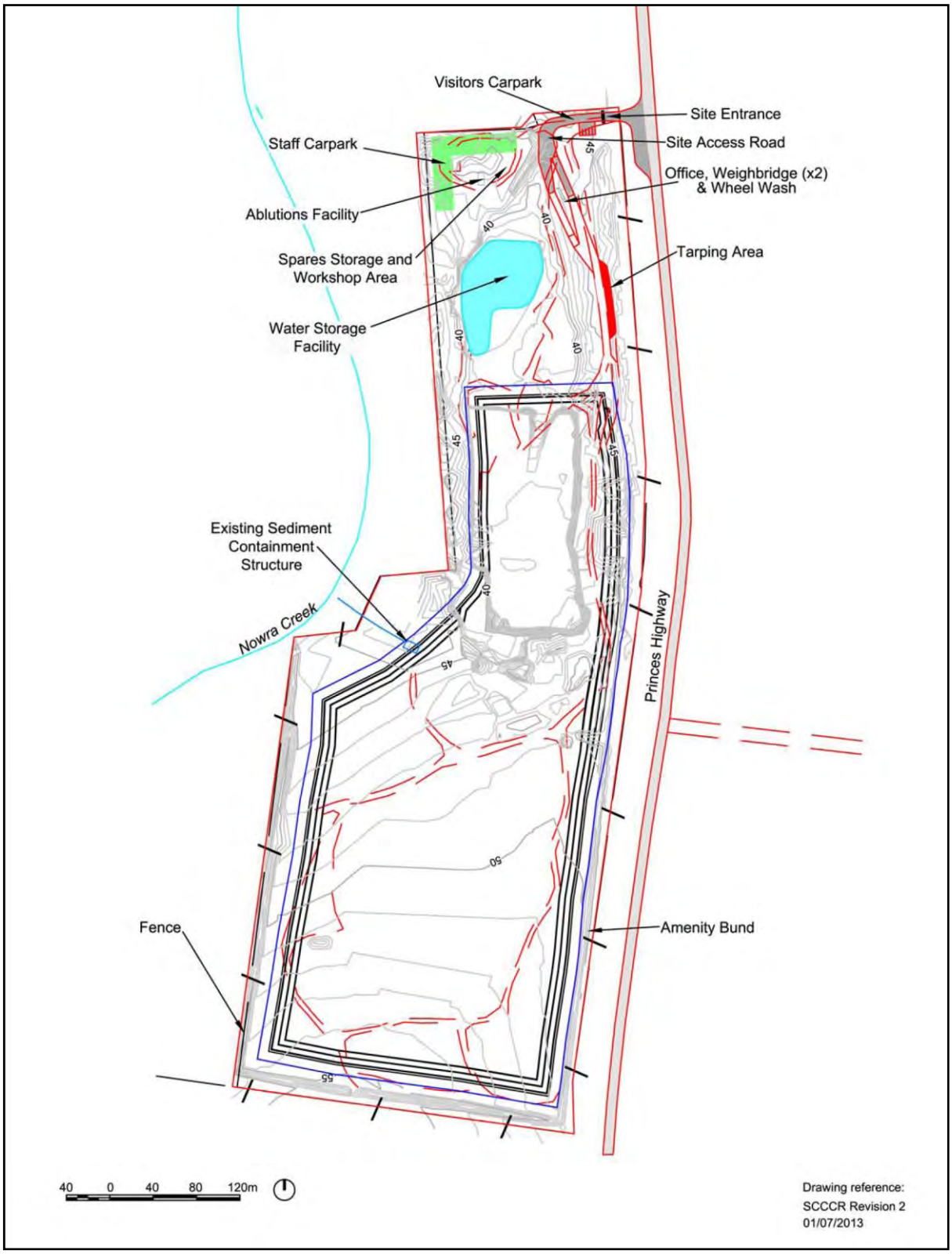
14. Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Proponent must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Proponent must implement these recommendations, to the satisfaction of the Secretary.

ACCESS TO INFORMATION

15. Within 3 months of the determination of Modification 2, until the completion of all works, including rehabilitation and remediation, the Proponent must:
(a) make the following information publicly available on its website:
- the documents listed in condition 2 of Schedule 2;
- current statutory approvals for the project;
- all approved strategies, plans and programs required under the conditions of this approval;
- regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval;
- a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
- summary of the current stage and progress of the project;
- contact details to enquire about the project or to make a complaint;
- a complaints register, updated at least monthly;
- the Annual Reviews of the project;
- any Independent Environmental Audit as described in condition 13 above, and the Proponent's response to the recommendations in any audit; and
- any other matter required by the Secretary; and

(b) keep this information up-to-date,
to the satisfaction of the Secretary.

APPENDIX 1
PROJECT LAYOUT PLAN



APPENDIX 2
STATEMENT OF COMMITMENTS

Final Statement of Commitments for the Nowra Brickworks Quarry

Desired Outcome	Action	Timing
1. Environmental Management		
Compliance with all conditional requirements in all approvals, licences and leases.	1.1 Comply with all commitments recorded in **Table 5.1** 1.2 Comply with all conditional requirements included in the: Project Approval; Environment Protection Licence; Mining Leases; and any other approvals.	Continuous and as required.
All operations conducted in accordance with all relevant documentation.	1.3 Undertake all activities in accordance with the accepted Mining Operations Plan, environmental procedures, safety management plan and/or site-specific documentation. 1.4 provide annual production data to DRG	Continuous and as required.
2. Area of Activities		
All approved activities are undertaken generally in the location(s) nominated on the figures shown in Sections 2 and 4.	2.1 Mark, and where appropriate, survey the boundaries of the areas of proposed disturbance.	Prior to the commencement of the relevant activity.
3. Hours of Operation		
All operations are undertaken within the approved operating hours.	3.1 Extraction, processing and VENM/ENM backfilling-related activities. • 7:00am to 6:00pm, Monday to Friday. • 7:00am to 4:00pm, Saturday 3.2 Product despatch. • 7:00am to 6:00pm, Monday to Saturday. • Up to three unladen trucks would arrive at the Project Site between 6:00am and 7:00am, Monday to Saturday and may return to the Project Site between 6:00pm and 8:00pm, Monday to Friday and between 4:00pm and 6:00pm Saturday. 3.3 Maintenance-related activities • 7:00am to 6:00pm, Monday to Saturday.	Continuous

Desired Outcome	Action		Timing
4. Hydrology (Surface Water and Groundwater)			
All surface water and ground water managed such that water to be discharged from the Project Site complies with all assessment criteria	4.1	Maintain and progressively relocate the existing surface water diversion and sediment containment structures.	As required
	4.2	Construct, maintain and relocate, as required, surface water diversion structures to ensure that all surface water flows within disturbed sections of the Project Site are directed to the extraction area. The maximum catchment area would be required to be less than 5.9ha. To achieve this, the Proponent would ensure that progressive rehabilitation is undertaken as soon as practicable on sections of the Project Site no longer required for extraction-related operations.	
	4.3	Construct temporary surface water diversion structures on the upslope side of all soil stockpiles or other disturbed areas to limit erosion.	
	4.4	Install sediment fencing adjacent to the down-slope toe of all soil stockpiles or other disturbed areas.	
	4.5	Regularly inspect all surface water and sediment control structures for adequacy and repair or upgrade, where required.	Six monthly and following significant rainfall events
	4.6	Install and maintain a suitably sized sump within the active extraction area to collect all surface water runoff and groundwater inflows to the extraction area.	Following receipt of project approval
	4.7	Preferentially use water within the extraction area sump for dust suppression-related activities. Surplus water within the extraction area sump would be pumped to the water storage facility.	As required
	4.8	Preferentially use water within the water storage facility for rehabilitation-related activities or for irrigation within the irrigation area.	
	4.9	Construct 'grassed buffer areas' adjacent to the site access road and other sealed sections of the Project Site.	Within 6 months of receipt of project approval

Desired Outcome	Action		Timing
5. Ecology			
Minimise Project-related impacts on flora and fauna within and surrounding the Project Site.	5.1	Stage extraction activities such that they preferentially progress from disturbed sections of the Project Site to undisturbed sections.	Continuous
	5.2	Remove native vegetation only from those areas required for operational purposes during the subsequent 12 months.	
	5.3	Mark hollow-bearing trees to ensure they are readily identifiable.	
	5.4	Mark the boundaries of areas of native vegetation to be cleared.	Prior to clearing operations
	5.5	Erect cage traps in the vicinity of hollow-bearing trees for three consecutive nights.	
	5.6	Keep any trapped animal in captivity by animal for the period of clearing of native vegetation.	During clearing operations
	5.7	Clear non-hollow-bearing trees before clearing other vegetation.	During clearing operations
	5.8	Ensure a qualified fauna consultant is present during clearing of hollow-bearing trees.	
	5.9	Release any trapped animal adjacent to the Project Site.	Following clearing operations
	5.10	Break or cut cleared vegetation into manageable sections to be placed on areas undergoing rehabilitation or within other areas of native vegetation surrounding the Project Site.	Following clearing operations
	5.11	Undertake weed control programs within the Project Site.	Annually
	5.12	Strip, stockpile and spread topsoil and subsoil in accordance with Section 2.3.5.	During soil stripping programs
	5.13	Progressively rehabilitate all areas of disturbance no longer required for extraction or placement activities.	Following completion of extraction operations
	5.14	Implement the proposed biodiversity offset strategy	

Desired Outcome	Action	Timing
6. Traffic and Transportation		
Limit the impact of Project-related traffic	6.1. Adhere to the approved hours of operation.	Continuous
	6.2. Adhere to all speed limits.	
Allow concerned residents or motorists to report any traffic-related incidents, unsafe operation or general concerns.	6.3. Establish a complaints register, advertised in the local telephone directory.	On receipt of project approval
	6.4. Investigate all complaints and act decisively on substantiated incidents.	
Ensure all weight restrictions are adhered to	6.5. Weigh all entering and exiting laden trucks.	Continuous
Limit the tracking of material onto the Princes Highway to minimise dust, particulate matter and debris emissions.	6.6. Seal a 150m section of the site access road from the entrance gate and construct a wheel wash facility.	Prior to the amount of quarry products despatched from the Project Site exceeding 250 000t per year
	6.7. Ensure all loads are covered.	Continuous
	6.8. Provide a safe area for covering loads.	
Ensure all drivers adhere to the Projects Code of Conduct	6.9. Require all truck drivers to sign a Driver's Code of Conduct.	Prior to each driver leaving site for the first time
7. Air Quality		
Site activities are undertaken without exceeding EPA air quality criteria or goals.	7.1. Utilise water sprays and water trucks in all areas of potential dust lift-off to minimise potential dust emissions.	Continuous
	7.2. Utilise a chemical dust lift-off suppression system along unsealed roads, tracks and working areas, as well as with the mobile processing plant(s).	
	7.3. Utilise efficient mist sprays and wind sheltering equipment on processing equipment.	
	7.4. Maintain a maximum speed limit within the Project Site of 10km/h.	
	7.5. Stabilise the unsealed shoulders of the site assess road.	Prior to the amount of quarry products despatched from the Project Site exceeding 250 000t per year
	7.6. Install a wheel wash on the site access road to limit tracking of material onto the Princes Highway	
	7.7. Disturb only the minimum area required for operation of the quarry during the subsequent 12 months.	Continuous
	7.8. Stabilise soil stockpiles to be in place for more than 10 days through the application of cleared vegetation, hydroseeding, hydromulching or equivalent.	Following soil stripping activities

Desired Outcome	Action	Timing
7. Air Quality (Cont'd)		
Site activities are undertaken without exceeding EPA air quality criteria or goals. (Cont'd)	7.9. Minimise the creation of minor roads and access tracks.	Continuous
	7.10. Utilise dust aprons, dust extraction systems and/or water injection or sprays during drilling operations.	During drilling operations
	7.11. Adequately stem all blast holes with aggregates.	During blasting operations
	7.12. Commence rehabilitation as soon as practicable.	Once an area is no longer required for extraction or placement-related operations
8. Noise		
Project-related noise impacts on surrounding residences minimised.	8.1. Adhere to the approved hours of operation.	Continuous
	8.2. Use noise-mitigated mobile and processing equipment.	
	8.3. Undertake all processing operations within the deepest section of the quarry.	
	8.4. Maintain all mobile and processing equipment in accordance with the manufacturer's specifications.	
	8.5. Preferential selection of equipment with lower sound power levels over equipment with higher sound power levels.	As equipment renewal is required
	8.6. Progressively install frequency modulated reversing alarms on mobile equipment.	
9. Blasting		
Project-related blasting impacts within assessment guidelines.	9.1. Design and implement blasts by a suitably qualified blasting engineer and experienced shot-firer.	Each blast
	9.2. Design blasts to ensure the assessment criteria described in Section 4.7.4.5 are complied with at all residential and commercial receivers.	
	9.3. Modify blast designs, mitigation measures and operating procedures on the basis of monitoring results.	As required
	9.4. Limit blasting operations to between the hours of 9:00am and 4:00pm, Monday to Saturday.	Each blast
	9.5. Negotiate an appropriate arrangement with the owner of Residence A.	Prior to completion of Stage 1 of the Project

Desired Outcome	Action	Timing
9. Blasting (Cont'd)		
Project-related blasting impacts within assessment guidelines. (Cont'd)	9.6. Notify the following organisations verbally of each blast. • Shoalhaven City Council. • NSW Police. • NSW Roads and Maritime Services. • The owner of Residence A. • Environment Protection Authority. • The South Coast Correctional Facility (when constructed).	On the working day prior to the blast being initiated
	9.7. Maintain the existing main telephone number (02 4421 7766) for the quarry as an environmental complaints line.	Continuous
	9.8. Maintain a register of complaints.	
	9.9. Respond promptly to any issue of concern.	
10. Aboriginal Cultural Heritage		
Unidentified Aboriginal sites are not disturbed by the Proponent's activities.	10.1. Ensure representatives of the Aboriginal community are present during activities that would disturb the upper 10cm of soil in the area marked on **Figure 5.1.**	During soil stripping operations in the area indicated
	10.2. Cease all work in the event that an item of suspected Aboriginal cultural heritage is discovered, establish a 20m x 20m buffer around the item and consult with the Department of Environment, Climate Change and Water.	As required
	10.3. Cease all work in the event that suspected human remains are discovered, establish a 50m x 50m buffer around the item(s) and consult with NSW Police and the Department of Environment, Climate Change and Water.	As required
11. Soils		
The Proponent's activities do not result in soil degradation or loss.	11.1. Strip soils only when they are moist.	During soil stripping operations
	11.2. Strip topsoils using a scraper, excavator or bulldozer to a depth of between 180mm and 250mm below the surface.	
	11.3. Strip subsoils to a depth of between 175mm and 500mm below the base of the topsoil.	
	11.4. Place soils directly on areas undergoing progressive rehabilitation, where practicable.	During rehabilitation operations

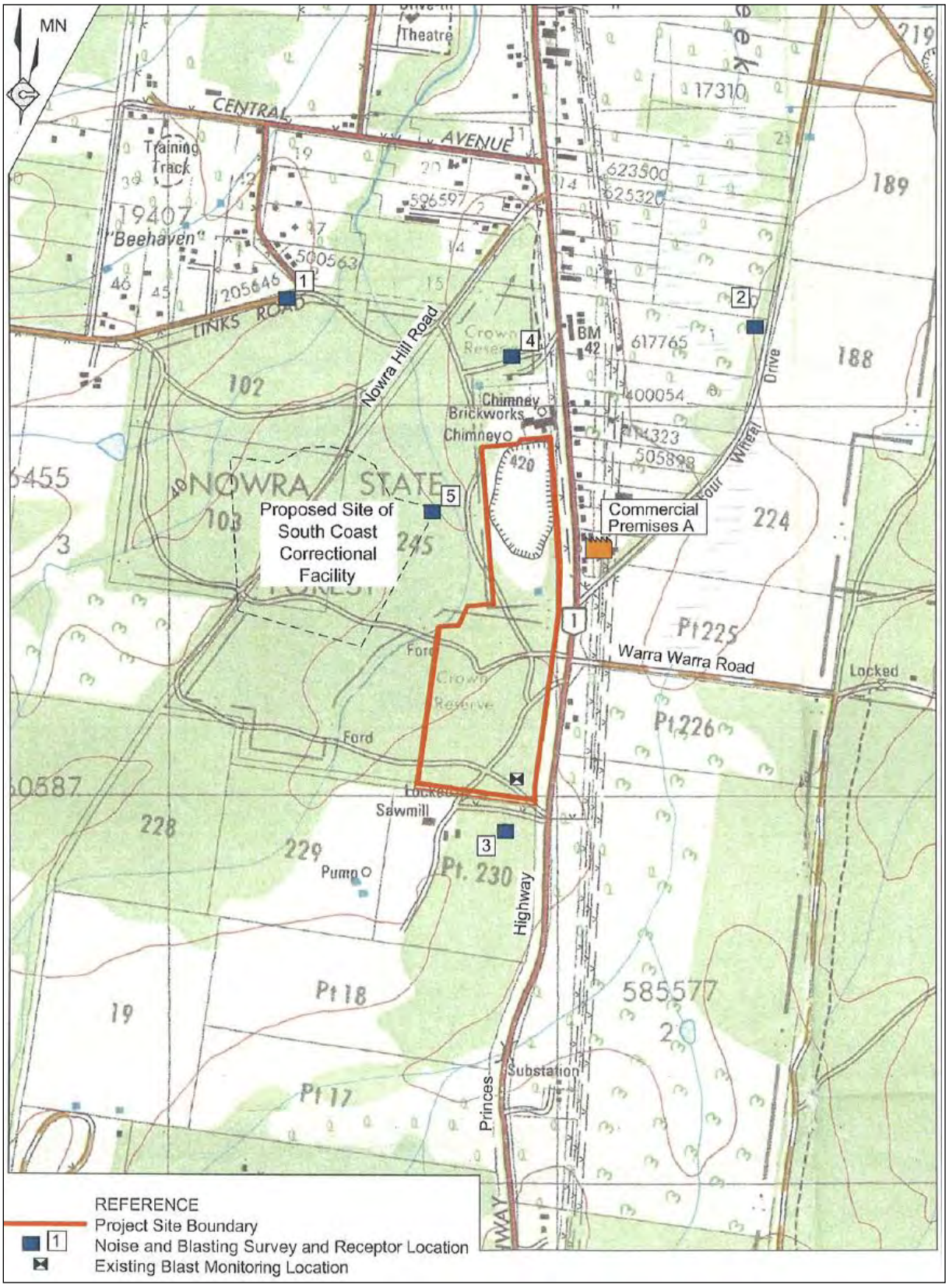
Desired Outcome	Action	Timing
11. Soils (Cont'd)		
The Proponent's activities do not result in soil degradation or loss. (Cont'd)	11.5. Place VENM/ENM in the manner described in Section 2.9.5.	During VENM/ENM placement operations
	11.6. Place subsoil over the VENM/ENM to a thickness of approximately 250mm.	During soil placement operations
	11.7. Place topsoil to a thickness of approximately 200mm.	
	11.8. Apply biosolids to the topsoil at a rate of less than 20 dry tonnes per hectare.	
	11.9. Spread between 20mm to 40mm of mulched native vegetation, broken tree debris or bitumen sprayed straw mulch over the topsoil.	
	11.10. Locate soil stockpiles, where required, at least 2m from existing vegetation, areas of concentrated surface water flows, roads or other hazardous areas.	During soil stockpiling operations
	11.11. Construct soil stockpiles as low (less than 2m high), flat, elongated mounds with side slopes no greater than 1:3(V:H). Where practicable, topsoil stockpiles would be less than 1m high.	
	11.12. Stabilise stockpiles to be in place for more than 10 days through the application of mulched or broken vegetation, hydroseeding, hydromulching or equivalent.	During soil stockpiling operations
	11.13. Erect a sediment fence approximately 1m from the toe on the downslope side of soil stockpiles.	
	11.14. Use stockpiled soil material for rehabilitation-related operations within 6 months of being stockpiled.	
Ensure sediment-laden surface water is not permitted to flow off site.	11.15. Maintain and relocate an earth bank to divert all 'clean' surface water to a sediment retention structure and level spreader.	Continuous
	11.16. Divert all surface water flows from disturbed areas to the water storage facility where practicable.	
	11.17. Divert all other potentially sediment-laden surface water flows to a sump within the extraction area.	

Desired Outcome	Action	Timing
11. Soils (Cont'd)		
Ensure sediment-laden surface water is not permitted to flow off site. (Cont'd)	11.18. Preferentially use water from the extraction area sump for dust suppression and watering of roads and other areas.	
	11.19. Construct a bio-infiltration facility in accordance with the specifications in Section 4.9.3.	Prior to discharge of surface water to Nowra Creek
	11.20. Preferentially use water within the water storage facility for rehabilitation-related activities.	Continuous
	11.21. Pump excess water from the extraction are sump to the water storage facility.	As required
	11.22. Pump water from the water storage facility to a bio-infiltration facility when the concentration of total suspended solids within the water storage facility is less than 50mg/L.	
	11.23. Pump water from the bio-infiltration facility to Nowra Creek.	
12. Visibility		
Limit impacts to the visual amenity of the area surrounding the Project Site.	12.1. Maintain the existing perimeter bunds.	Continuous
	12.2. Maintain the existing mature trees on the eastern boundary of the Project Site.	
	12.3. Adopt a high standard of house keeping.	
13. Socio-Economic		
Ensure Project-related adverse impacts are minimised and benefits are maximised.	13.1. Give preference to suppliers of equipment, services or consumables located within the Shoalhaven Local Government Area or Illawarra Region, where ever practicable.	Continuous
	13.2. Give preference, where reasonable to do so, when engaging new employees to candidates who live within the Shoalhaven Local Government Area.	
	13.3. Continue to support local junior sporting clubs through sponsorship or in kind support.	
	13.4. Review any request by a community organisation for support or assistance during the life of the Project.	As required

Desired Outcome	Action	Timing
13. Socio-Economic (Cont'd)		
Ensure Project-related adverse impacts are minimised and benefits are maximised. (Cont'd)	13.5. Consult with the residents and community surrounding the Project Site.	Continuous
	13.6. Advertise and maintain a community complaints telephone line.	
	13.7. Develop and maintain a Complaints Management Plan to ensure prompt response to issues identified by the public.	
14. Environmental Monitoring		
Ongoing monitoring of surface and groundwater-related impacts.	14.1. Monitor groundwater levels within Piezometers P1 to P8 (**Figure 5.1**).	Monthly.
	14.2. Monitor and record groundwater quality within piezometers P2, P3, P5, P6 and P7 (**Figure 5.1**).	Quarterly
	14.3. Monitor and record groundwater seepage on rock faces. To be undertaken by a geotechnical engineer.	Six monthly
	14.4. Monitor and record surface water quality within the extraction area sump, the water storage facility, the sediment containment structure and within Nowra Creek upstream and downstream of the Project-site discharge point.	Monthly
	14.5. Determine and record the quality of water pumped from the water storage facility to the bio-infiltration facility.	During each pumping campaign
	14.6. Determine and record the quality of water discharged from the bio-infiltration facility to Nowra Creek.	
	14.7. Determine and record the quality of water flowing from the sediment containment structure to Nowra Creek.	During or immediately following significant rainfall events
	14.8. Determine, using in-line meters, and record the volumes of water pumped: • from the extraction area sump to the water storage facility; • from the water storage facility to the bio-infiltration facility; and • from the bio-infiltration facility to Nowra Creek.	During pumping programs

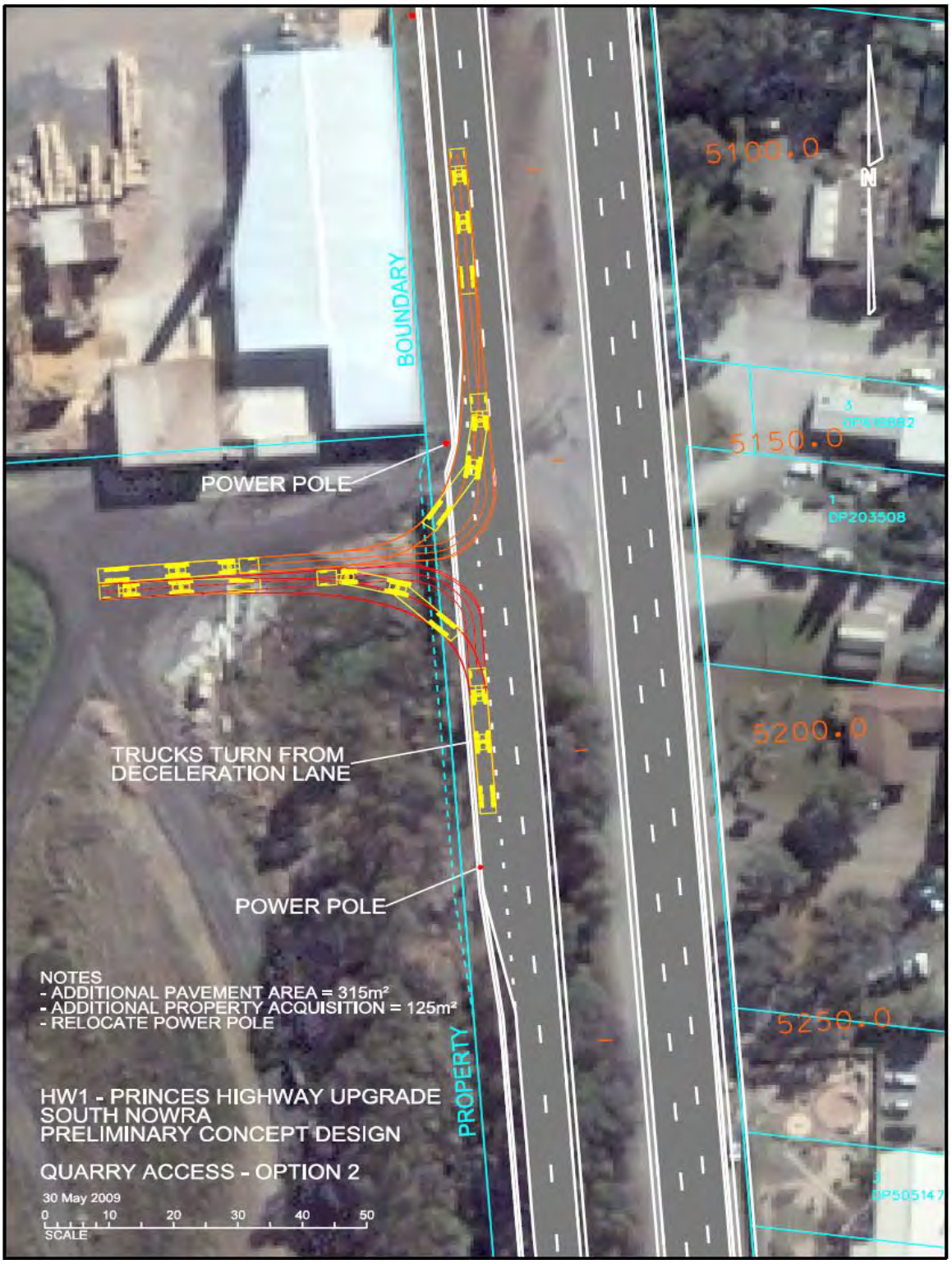
Desired Outcome	Action		Timing
14. Environmental Monitoring (Cont'd)			
Ongoing monitoring of surface and groundwater-related impacts. (Cont'd)	14.9.	Determine and record the volume of water used for extraction, processing, placement and rehabilitation-related operations.	Daily
Ongoing monitoring of ecology-related impacts.	14.10.	Undertake regular monitoring of areas undergoing rehabilitation to determine the success or otherwise of the management, mitigation and ameliorative measures and the rehabilitation programs.	Six monthly
	14.11.	Take photographs from fixed points to document activities within the Project Site, including rehabilitation progress.	Six monthly
	14.12.	Undertake weed inspection programs.	Annually
Ongoing monitoring of air quality-related impacts.	14.13.	Maintain the existing network of deposited dust monitoring gauges and determine and record dust deposition rates.	Monthly
	14.14.	Establish a meteorological station capable of measuring temperature at the surface and at a height of 10m, wind direction and speed and rainfall.	Within 3 months of receipt of project approval
Ongoing monitoring of blasting-related impacts.	14.15.	Monitor all blasts at the blast monitoring locations indicated on **Figure 5.1**.	Each blast
15. Environmental Documentation			
A systematic set of documents are in place to guide the planning and implementation of all environmental management strategies.	15.1	Incorporate the environmental procedures in an on-site management system.	Prior to relevant activity.
	15.2	Update the Mining Operations Plan.	As required.
	15.3	Incorporate relevant environmental data / information in Annual Environmental Management Reports.	Annually.
	15.4	Prepare the following environmental plans for the Project. - Air Quality Monitoring Program. - Noise Monitoring Program. - Blast Monitoring Program. - Flora and Fauna Management Plan. - Site Water Management Plan. - Groundwater Management Plan. - Rehabilitation and Landscape Management Plan	Variously.
	15.5	Incorporate the environmental procedures in an on-site management system.	Prior to relevant activity.

APPENDIX 3
NOISE AND DUST MONITORING LOCATIONS



APPENDIX 4
CONCEPTUAL FINAL LANDFORM

APPENDIX 5
QUARRY ACCESS – RMS PRELIMINARY CONCEPT DESIGN



APPENDIX 6
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:
   (a) wind speeds greater than 3 m/s at 10 m above ground level; or
   (b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
   (c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 16A of Schedule 3.

Compliance Monitoring

3. A noise compliance assessment must be undertaken within six months of the approval of Modification 2. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with the noise criteria in Table 2. A report must be provided to the Secretary and EPA within 1 month of the assessment.

4. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
   (a) monitoring locations for the collection of representative noise data;
   (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
   (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
   (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the *NSW Industrial Noise Policy*) and before comparison with the specified noise levels in the approval.

Appendix B – EMS

South Coast Concrete Crushing and Recycling

Nowra Brickworks Quarry

Environmental Management Strategy

June 2010

Revision 2 – May 2018

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I Air Quality Management Plan
J Aboriginal Heritage Management Plan
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L Maps

Abbreviations

AEMR	Annual Environmental Monitoring Report
CCC	Community Consultative Committee
DA	Development Application
DDG	Dust Deposition Gauges
EMS	Environmental Management Strategy
EOI	Expression of interest
DECCW	Department of Environment, Climate Change and Water
dB(A)	Decibels (A—weighted filter)
EPA	Protection Authority
EPL	Environmental Protection Licence
HVAS	High Volume Air Sampler
MSDS	Material Safety Data Sheets
NOW	NSW Office of Water
NSW	New South Wales
PM	Particulate Matter
SCCCR	South Coast Concrete Crushing and Recycling
TSP	Total Suspended Particulate
VENM	Virgin Excavated Natural Material

1. Introduction

1.1 Background

The Nowra Brickworks Quarry (the quarry) is located in South Nowra, approximately five kilometres south of the central business district, next to the Princes Highway (Figure 1-1). South Coast Concrete Crushing and Recycling (SCCCR) have operated the quarry since 2002, carrying out the following operations:

- Extraction of weathered and unweathered shale material;
- Importation of construction, concrete and waste bitumen material for crushing and recycling;
- Importation of quarry products from other quarries for blending operations;
- Crushing, screening and blending of extracted, recycling and blending materials to produce general and specialised quarry products;
- Stockpiling, loading and despatching quarry products; and
- Progressive rehabilitation of areas no longer required for extraction-related purposes.

The Minister for Planning approved the continuation and expansion of extractive operations at the quarry pursuant to section 75J of the *Environmental Planning and Assessment Act 1979* on 1 December 2009 (the Project Approval).

This Environmental Management Strategy (EMS) has been prepared to satisfy Schedule 5 Condition 1 of the Project Approval (refer to Section 1.3), attached as Appendix A.

1.2 Summary of the Project

The Project is the continuation and expansion of the extractive operations at the quarry and includes the following operations and works (Corkery and City Plan Services 2009):

i. Continued operation of the quarry and its expansion to the south;
ii. Realignment and sealing of the section of the site access road from the site entrance from the Princes Highway for a distance of 150 metres;
iii. Construction of a wheel-wash facility, dual weighbridge and office and a sealed visitor carpark;
iv. Extract more than 364,000 tonnes per year of clay/shale (using drill and blast methods), structural clay and associated materials (in total) from the site using an excavator for direct sale to customers or stockpiling for later sale without processing;
v. Importation and stockpiling of up to approximately 50,000 tonnes per year of recycling materials;
vi. Importation and stockpiling of up to approximately 125,000 tonnes per year of blending materials;
vii. Processing and blending of extracted, recycling and blending material to produce general and specialised products using a mobile processing plant;
viii. Stockpiling of quarry products;
ix. Loading, sale and despatch of an average of approximately 300,000 tonnes per year, to a maximum of approximately 500,000 tonnes per year, of quarry products using road registered heavy vehicles;

x. Importation and placement of up to 200,000 tonnes per year of Virgin Excavated Natural Material (VENM). A proportion of this material may be processed and blended with other materials to produce saleable products. The remainder will be placed within completed sections of the extraction area to establish a final landform that mimics the pre-extraction landform within the Project site; and

xi. Progressive rehabilitation of areas no longer required for extraction or VENM placement-related activities.

1.3 Project Approval Conditions

The Minister for Planning approved the continuation and expansion of extractive operations at the Nowra Brickworks Quarry in South Nowra pursuant to section 75J of the *Environmental Planning and Assessment Act 1979* on 1 December 2009 (the Part 3A Approval). In accordance with Schedule 5, Conditions 1 and 4 of the Part 3A Approval, SCCCR is required to prepare and implement an Environmental Management Strategy (EMS) for the project. Condition 1 of Schedule 5 states:

"The Proponent will prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:

a) be submitted to the Director-General for approval by 30 June 2010;

b) provide the strategic framework for environmental management of the project;

c) identify the statutory approvals that apply to the project;

d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;

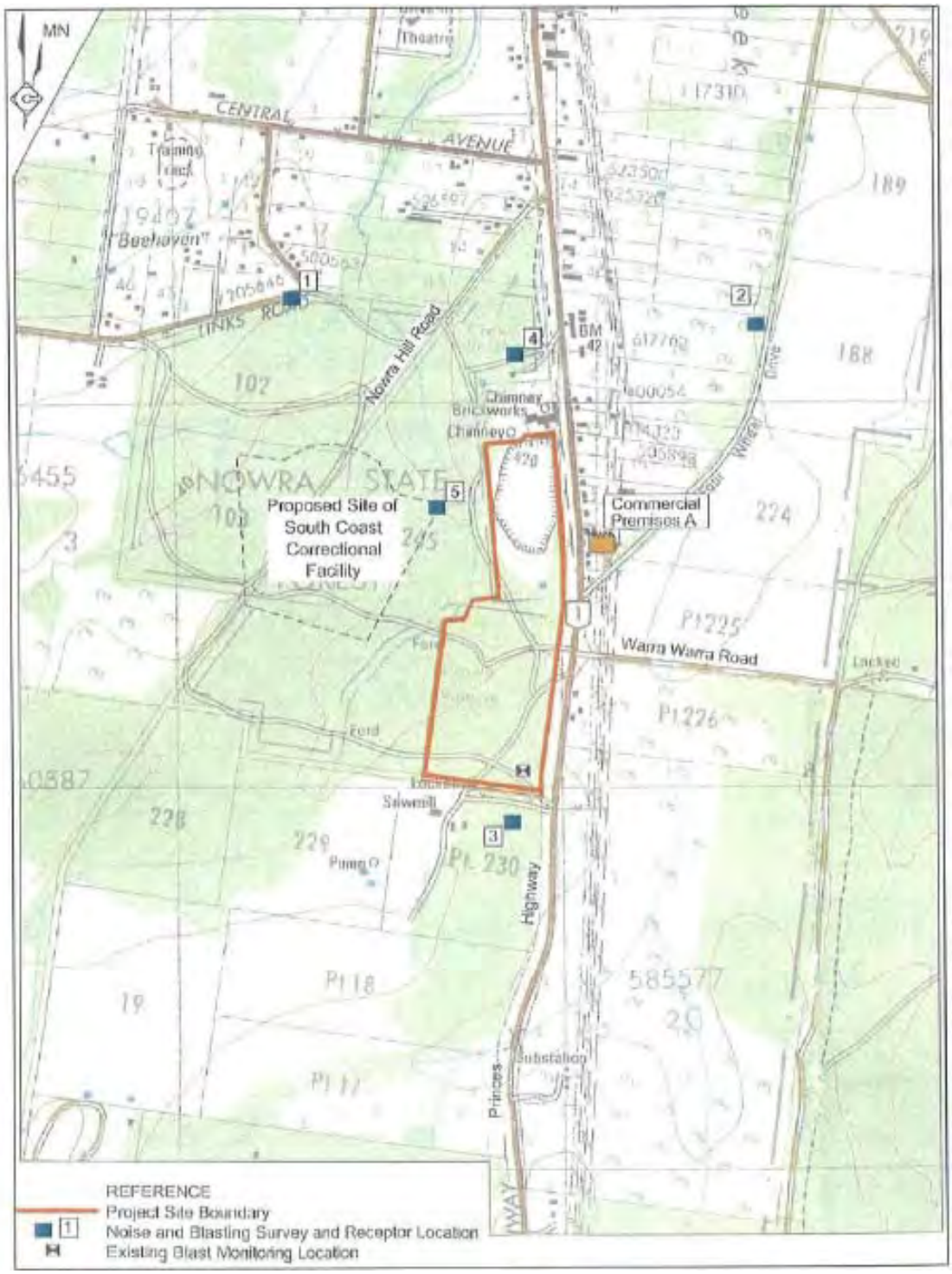
e) describe the procedures that will be implemented to:

- *keep the local community and relevant agencies informed of the operation and environmental performance of the project;*
- *receive, handle, respond to, and record complaints;*
- *resolve any disputes that may arise during the course of the project;*
- *respond to any non-compliance; and*
- *respond to emergencies; and*

f) include:

- *copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and*
- *a clear plan depicting all the monitoring currently being carried out within the project area."*

Figure 1-1 Location of Nowra Brickworks



Source: Appendix 3, Project Approval for Nowra Brickworks Proposal

1.4 The Quarry's Environmental Management Strategy (EMS)

1.4.1 Objectives and Scope

The EMS has been developed to specifically address the requirements of Schedule 5, Condition 1 of the Project Approval (refer to Section 1.3 above). It describes the management procedures associated with the quarry relevant to managing the project's impact on the environment and incorporates matters required to be implemented or documented as well as the various strategies, plans and programs, and reporting mechanisms required by the Project Approval. Specifically the objectives of the EMS are to:

- Provide the strategic framework for environmental management of the project;
- Identify the statutory approvals that apply to the project; and
- Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
- Describe the procedures that would be implemented to:
  - Keep the local community and relevant agencies informed about the operation and environmental performance of the project;
  - Receive, handle, respond to, and record complaints;
  - Resolve any disputes that may arise during the course of the project;
  - Respond to any non-compliance; and
  - Respond to emergencies.

In addition, the Project Approval required the preparation of a number of strategies, plans and programs relevant to environmental management of the quarry. Consequently, the EMS incorporates these in their entirety and by summary of actionable items, as follows:

- Environmental Response Plan (attached as Appendix C);
- Noise Monitoring Program/Blast Management Plan (attached as Appendix D);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Surface Water and Groundwater Monitoring and Response Plan (attached as Appendix F);
- Site Water Balance Report (attached as Appendix G);
- Landscape and Biodiversity Management Plan (attached as Appendix H);
- Air Quality Management Plan (attached as Appendix I); and
- Aboriginal Heritage Management Plan (attached as Appendix J).

This EMS, in concert with the above plans, provides for the environmental management of the operation of the quarry for use by the Mine Manager. Table 1-1 outlines how the specific environmental aspects relate to each activity and hence where they are addressed by the EMS.

Table 1-1 EMS Organisation Matrix

Key activities associated with the operations at the quarry	EMS section	Environmental Plans and Reports							Community consultation	Environmental monitoring	Reporting
		Noise and Blast	Erosion and Sediment Control	Surface Water and Groundwate	Landscape and Biodiversity	Air Quality	Aboriginal Heritage	Emergency and hazards			
Community Consultation	**3**	✓				✓			✓		✓
Emergency Response	**4**							✓			✓
Vegetation removal and soil stripping	**5**	✓	✓		✓	✓	✓			✓	✓
Soil placement and stockpiling (post-stripping)	**6**	✓	✓		✓	✓					
Drilling and blasting	**7**	✓				✓			✓	✓	✓
Extracting, importing and processing	**8**	✓	✓			✓					
Stockpiling	**9**	✓	✓		✓	✓					
Loading, dispatch and transportation	**10**	✓	✓			✓					
Importation and use VENM	**11**	✓	✓		✓	✓				✓	✓
Soil and Water management and use	**12**		✓	✓						✓	✓
Rehabilitation	**13**	✓	✓		✓	✓				✓	✓
Environmental Monitoring	**14**	✓	✓	✓	✓	✓	✓			✓	✓
Reporting	**15**	✓	✓	✓	✓	✓	✓		✓	✓	

1.4.2 Framework of EMS

The quarry is a small operation with a limited number of operation personnel. This EMS will be implemented by the Mine Manager, and as such the EMS has been structured to focus on the environmental management as it relates to operational activities at the quarry.

1.4.3 Commencement and implementation of the EMS

The EMS is to commence when all existing development consents for the site have been surrendered to Shoalhaven City Council (anticipated to be prior to 30 June 2010).

The EMS is to be implemented through the following means:

- The preparation of detailed work instructions which address the environmental requirements of the EMS;
- Assigning individual responsibilities for implementing, maintaining, monitoring, and reporting each environmental requirements and safeguards;
- Ensuring that all works are conducted in compliance with the EMS, legislative requirements, and the site's Environment Protection Licence and Project Approval;
- Ensuring appropriate monitoring, corrective actions and reporting of environmental incidents; and
- Ensuring that all employees conduct their work in accordance with the requirements of the EMS.

1.5 Management Responsibilities

1.5.1 Roles and Responsibilities

The Mine Manager is responsible for the implementation of this EMS. The Mine Manager's authority has been provided for by the leaseholder (Abib Pty Ltd) and the Mine Operator (South Coast Concrete Crushing and Recycling Pty Ltd).

The Mine Manager, in the implementation of the EMS, will be accountable to the Mine Operator, Department of Mineral Resources (NSW Dept of Industry and Investment) and the Department of Planning.

1.6 Distribution

The EMS is to be distributed in accordance with Table 1-2.

Table 1-2 EMS Distribution

Organisation	No of copies	Timing
SCCCR Mine Manager	1	Within one month of receipt of approval of the EMS
Shoalhaven City Council	1	
Land and Property Management Authority (formerly Department of Land)	1	
Members of the Community Consultative Committee	1 per member	
DECCW	1 copy	

The document will also be available at the quarry.

1.7 Review of the EMS

The EMS is a perpetual document that can be reviewed and amended or updated as needed to take account of changes occurring from time to time. In addition, a review of the EMS will be conducted at least every two years to promote opportunities for continual improvement. Further reviews and alterations to the EMS may also be required in the circumstances listed in Table 1-3 below.

Table 1-3 Circumstances that may require alterations to the EMS

Circumstance	Potential changes required
New Environmental Protection Licence issued	Any licence conditions will be incorporated into the EMS.
Water Access Licence obtained (Part 2, *Water Act 1912*)	
Aquifer Interference Licence obtained(Part 5, *Water Act 1912*)	
After each Independent Environmental Audit	The EMS may be changed, where appropriate, to reflect the audit's review of the adequacy of any strategy/plan/program required under the Part 3A Approval and reflected in the EMS.
Exceedance of limits/performance criteria in the Project Approval / EMS	Additional measures to address an exceedance/incident may be incorporated into the EMS.

Table 1- 4 Project Approval Conditions Reference Table

Schedule (Cond. No)	Condition Requirement	Section (Document)
Environmental Management		
5 (1)	**Environmental Management Strategy** The applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Director-General. This Strategy must: *a)* Be submitted to the Director-General for approval by the 30 June2010	This document
	b) Provide the strategic framework for the environmental management of the project	This document
	c) Identify the statutory approvals that apply to the project	2.1, 2.2, 2.3, 2.4 and Tables 2.1 and 2.2
	d) Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project	1.5, Tables 14.10 and 15.2
	e) Describe the procedures that would be implemented to: • Keep the local community and relevant agencies informed about the operation and environmental performance of the project • Receive, handle, respond to, and record complaints • Resolve any disputes that may arise during the course of the project • Respond to any non-compliance and • Respond to emergencies	3, Table 3.1 3.3, Table 3.1 3.3, Table 3.1 4, and *Nowra Brickworks Mine Safety Management Plan*
	f) Include • copies of the various strategies, plans, programs that are required under the conditions of this approval once they have been approved; and • a clear plan depicting all the monitoring currently being carried out within the project area	*Appendices* Table 14.10
Incident Reporting		
5 (2)	Within 24 hrs of detecting an exceedance of the limits/performance criteria in this approval of the occurrence of an incident that causes (or may cause) material harm to the environment, the proponent shall notify the Department and other relevant agencies of the exceedance/incident	3.4
5 (3)	Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that must: (a) describe the date, time, and nature of the exceedance/incident; (b) identify the cause (or likely cause) of the exceedancelincident; (c) describe what action has been taken to date; and (d) describe the proposed measures to address the exceedance/incident.	3.4

Annual Reporting		
5 (4)	Within 12 months of the date of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General and relevant agencies. This report must: (a) identify the standards and performance measures that apply to the project; (b) describe the works carried out in the last 12 months, and the works that will be carried out in the next 12 months; (c) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years; (d) include a summary of the monitoring results for the project during the past year; (e) include an analysis of these monitoring results against the relevant: • impact assessment criteria/limits; • monitoring results from previous years; and • predictions in the EA; (f) identify any trends in the monitoring results over the life of the project; (g) identify any non-compliance during the previous year; and (h) describe what actions were, or are being, taken to ensure compliance.	15, Table 15.1
Independent Environmental Audit		
5 (5)	Within 3 years of the date of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been approved by the Director-General; (b) assess the environmental performance of the project, and its effects on the surrounding environment; (c) assess whether the project is complying with the relevant standards, performance measures and statutory requirements; (d) review the adequacy of any strategy/plan/program required under this approval; and, if necessary, (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.	15, Table 15.1
5 (6)	Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Director-General and relevant agencies, with a response to any of the recommendations in the audit report.	15, Table 15.1
5 (7)	Within 3 months of submitting a copy of the audit report to the Director-General, the Proponent shall review and if necessary revise the: (a) strategies/plans/programs required under this approval; and (b) rehabilitation bond, to consider the: • effects of inflation; • changes to the total area of disturbance; and • performance of the rehabilitation against the completion criteria of the Landscape and Biodiversity Management Plan, to the satisfaction of the Director-General.	15, Table 15.1
Community Consultative Committee		
5 (8)	Within 3 months of the commencement of quarrying operations, the Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General, in accordance with the Department's *Guideline for Establishing and Operating Community Consultative Committees for Mining Projects*.	3.1.1 and 3.1.2

Access to Information		
5 (9)	Within 1 month of the approval of any strategies/plans/programs required under this approval (or any subsequent revision of these strategies/plans/programs), or the completion of the audits or AEMR required under this approval, the Proponent shall: (a) provide a copy of the relevant document/s to the relevant agencies and to members of the general public upon request; and (b) ensure that a copy of the relevant document/s is made publicly available on its website and at the site.	3.1.3
5 (10)	During the project, the Proponent shall: (a) make a summary of monitoring results required under this approval publicly available on its website; and (b) update these results on a regular basis (at least every 6 months).	3.1.3
NOISE (Schedule 3 Specific Environmental Conditions)		
Schedule (Cond. No)	**Condition Requirement**	**Section (Document)**
Noise Impact Assessment Criteria		
3 (1)	The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1:	14.4, Table 14.4 and *Noise Management Program Appendix D*
Operating Hours		
3 (2)	The Proponent shall comply with the operating hours in Table 2.	14.4.3
Continous Improvement		
3 (3)	The Proponent shall: (a) implement all reasonable and feasible noise mitigation measures; (b) investigate ways to reduce the noise generated by the project; and (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR, to the satisfaction of the Director-General.	14.4.4
Monitoring		
3 (4)	The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. The Program must: (a) be prepared in consultation with DECCW and be submitted to the Director-General for approval within 6 months of the date of this approval; (b) include annual attended noise monitoring; (c) include details of how the noise performance of the project would be monitored; and (d) include a noise monitoring protocol for evaluating compliance with the noise criteria in this approval.	*Noise Management Program Appendix D*
BLASTING AND VIBRATION (Schedule 3 Specific Environmental Conditions)		
Schedule (Cond. No)	**Condition Requirement**	**Section (Document)**
Airblast Overpressure Limits		
3 (5)	The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 3 of the project approval	14.3 and *Appendix D Blast Management Plan*
Ground Vibration Impact Assessment Criteria		
3 (6)	The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the levels in Table 4 of the project approval	14.3 and *Appendix D Blast Management Plan*

Blasting Hours and Frequency		
3 (7)	The Proponent shall carry out blasting on site only between 9 am and 3 pm Monday to Friday. No blasting is allowed on weekends and Public Holidays.	7.2.3
3 (8)	The Proponent shall not carry out more than one blast per week on site. *Note: In the case of a documented misfire, the Proponent may carry out a second blast in the relevant week.*	7.2.3
Operating Conditions		
3 (9)	The Proponent shall not undertake blasting within 200 metres of any privately-owned land, unless suitable arrangements have been made with the landowner and any tenants to minimise the risk of fiyrock-related impact to the property and to human safety to the satisfaction of the Director-General.	3.1
Property Inspections		
3(10) 3(11)	Prior to 30 June 2010, the Proponent shall advise all landowners within 500 m of proposed blasting activities, and any other landowner nominated by the Director-General, that they are entitled to a property inspection to establish the baseline condition of the property. If the Proponent receives a written request for a property inspection from any such landowner, the Proponent shall: (a) commission a suitably qualified person, whose appointment has been approved by the Director-General, to inspect and report on the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and (b) give the landowner a copy of this property inspection report. *Note: It is preferable for the property inspection to be carried out prior to the commencement of blasting activities on the site, and the Proponent should facilitate this occurring wherever possible.*	3.1, 3.3
Property Investigations		
3(12)	If any landowner within 500 m of proposed blasting activities, or any other landowner nominated by the Director-General, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this request: (a) commission a suitably qualified person whose appointment has been approved by the Director-General to investigate the claim and prepare a property investigation report; and (b) give the landowner a copy of the report. If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damage to the satisfaction of the Director-General.	3.3
Management		

3(13)	Prior to 30 June 2010, the Proponent shall prepare and implement a detailed Blast Management Plan for the project to the satisfaction of the Director-General. The Plan must (a) be prepared in consultation with DECCW; (b) substantiate blast design to ensure compliance with blast criteria; (c) include protocols for communicating with all neighbouring landholders regarding scheduled blasts; (d) include details of how and at what locations blasting performance would be monitored; and include a blast monitoring protocol for evaluating compliance with the blast criteria in this approval.	*Appendix D*
AIR QUALITY (Schedule 3 Specific Environmental Conditions)		
Schedule (Cond. No)	**Condition Requirement**	**Section (Document)**
Continous Improvement		
3 (14)	The Proponent shall: (a) implement all reasonable and feasible dust mitigation measures; (b) investigate ways to reduce the dust generated by the project; and (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR, to the satisfaction of the Director-General.	14.6 and *Appendix I*
Impact Assessment Criteria		
3(15)	The Proponent shall ensure that dust em1ss1ons generated by the project do not cause additional exceedances of the criteria listed in Tables 5 to 7 at any residence on privately owned land, or on more than 25 percent of any privately-owned land.	14.6 and *Appendix I*
Air Quality Monitoring		
3 (16)	The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must: (a) be prepared in consultation with DECCW, and be submitted to the Director-General for approval prior to 30 June 2010; and (b) include details of how the air quality performance of the project will be monitored, and include a protocol for evaluating compliance with the relevant air quality criteria in this approval.	*Appendix I*
WATER MANAGEMENT (Schedule 3 Specific Environmental Conditions)		
Water Management Plan		
3(19), 3(20), 3(21), 3(22), 3(23), 3(24).	The Proponent shall prepare and implement a Soil and Water Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with DECCW and NOW, and be submitted to the Director-General for approval prior to 30 June 2010; and (b) include a: • Site Water Balance; • Erosion and Sediment Control Plan; • Surface Water Monitoring Program; • Ground Water Monitoring Program; and • Surface and Groundwater Response Plan.	14.7, 14.10, 14.11, 14.12 *and Appendices E, F and G*
REHABILITATION AND LANDSCAPE MANAGEMENT PLAN (Schedule 3 Specific Environmental Conditions)		
Biodiversity offset Strategy		

3(25)	The Proponent shall: (a) review its proposed Biodiversity Offset Strategy (see Table 8), in consultation with DECCW and the Director-General, to seek to identify a replacement for the proposed Southern Biodiversity Offset Area that: • is located in the vicinity; • is not affected by identified future public infrastructure proposals; and • has equivalent (or better) biodiversity values; (b) implement the Biodiversity Offset Strategy (as amended under (a) above, if applicable); (c) ensure that adequate resources are dedicated towards the implementation of the strategy; (d) provide appropriate long term security for the offset areas; and (e) provide a timetable for the implementation of the offset strategy prior to the clearing of any forested area of the site, or as otherwise agreed by the Director-General, to the satisfaction of the Director-General.	13, 14.8, and *Appendix H*
3(26), 3(27), 3 (28)	The Proponent shall prepare and implement a Landscape and Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared by suitably qualified person(s), approved by the Director-General; (b) be submitted to the Director-General for approval prior to the 30 June 2010; and (c) include a: • Rehabilitation and Biodiversity Offset Strategy Management Plan; and • Long Term Management Strategy.	*Appendix H*
Rehabilitation		
3(29)	Backfilling of the quarry void and water storage facility is restricted to the use of materials which are "Virgin Excavated Natural Materials" as defined in the *Protection of the Environment Operations Act 1997,* to the satisfaction of the Director-General. The Proponent must consult with the Council to identify the proposed alignment of the link road from Warra Warra Road to the Flinders Industrial Estate. Backfilling within the proposed alignment must use materials and a compaction standard suitable for the future construction of the link road, to the satisfaction of the Director-General.	11
HERITAGE (Schedule 3 Specific Environmental Conditions)		
Aboriginal Cultural Heritage Management Plan		
3(30)	The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with DECCW and local Aboriginal communities; (b) be submitted to the Director-General for approval prior to 30 June 201O; and (c) include a description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the project.	14.9 *and Appendix J*

2. Statutory Approvals

2.1 Project Approval Conditions

The *Continuation and Expansion of the Extractive Operations at the Nowra Brickworks Quarry, South Nowra* (the project) was given conditional approval by the Director-General as Delegate for the Minister for Planning on 1 December 2009 (Project Application No: 07_0123) (attached as Appendix A).

Approval for the project was subject to conditions in Schedules 2 to 5 of the Project Approval. These conditions require that the operation be conducted to:

- Prevent and/or minimise adverse environmental impacts;
- Set standards and performance measures for acceptable environmental performance;
- Require regular monitoring and reporting; and
- Provide for the ongoing environmental management of the Project.

Schedule 2, Condition 2 requires that the project be carried out generally in accordance with the:

- Environmental Assessment submitted as part of the Major Projects Application (Corkery and City Plan Services 2009);
- Statement of Commitments (attached as Appendix 2 to the Project Approval); and
- The Project Approval.

This EMS provides direction on the implementation and reporting required by the environmental strategies, plans and programs. The strategies, plans and programs are attached as appendices to this EMS and should be referred to regularly and when updating the EMS.

2.2 Relevant Environmental Legislation

Other relevant Acts that operate independently of the Project Approval and which are of relevance to the quarry operations are listed in Table 2-1 below. The quarry's Mine Manager must be cognisant of the requirements of each of these Acts.

Table 2-1 Environmental legislation relevant to the quarry operations

Act	Requirement
Environmental Planning and Assessment Act 1979	All activities are to be carried out in accordance with the Project Approval.
Protection of the Environment Operations Act 1997 (Chapter 5)	Except as provided by EPL, the operations of the quarry will not: ◗ Dispose of waste or cause any leak or spill or similar in a matter that causes harms or likely to harm the environment. ◗ Result in land, air, or water pollution. ◗ Result in noise pollution. Pollution incidents causing or threatening material harm must be reported to the EPA.
Noxious Weeds Act 1993 (Part 3)	The quarry must control any plant declared noxious in the Shoalhaven Local Government Area in accordance with the relevant control order (refer to http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/noxweed).
Rural Fires Act 1994 (Part 4)	It is the duty of the owner or occupier of land to take steps to prevent the occurrence of bush fires on, and to minimise the danger of the spread of bush fires on or from, that land.
National Parks and Wildlife Act 1974 (Part 6)	A permit, granted pursuant to the provision of this Act, must be obtained to disturb or move any Aboriginal object within the quarry land.
Waste Avoidance and Resource Recovery Act 2001	The Act encourages the most efficient use of resources, to minimise the consumption of natural resources and the final disposal of waste, and to reduce environmental harm in accordance with the principles of ecologically sustainable development. Resource management options should be considered against a hierarchy of the following order: (i) Avoidance of unnecessary resource consumption; (ii) Resource recovery (including reuse, reprocessing, recycling and energy recovery); and then (iii) Disposal. Avoid unnecessary water consumption in buildings and grounds maintenance. Recycle water where appropriate.

2.3 Other Statutory Approvals and Licences

In addition to meeting the conditions set out in the Project Approval, the project requires additional statutory instruments to carry out certain activities. These are listed in Table 2-2 below and further described in subsequent sections.

Each licence and/or approval contains various conditions that need to be adhered to. An amendment to the existing EPL to increase the annual extraction limit to 500,000 tonnes has been submitted to DECCW. Through the review process outlined in Section 1.6, any additional

environmental strategies, conditions, monitoring and reporting requirements specified in these licences/approvals will be incorporated into the EMS, when received.

Table 2-2 Statutory Approvals and Licences

Licence / Approval and Relevant Legislation	Relevant Authority	When is it required?	Responsibility
Environmental Protection Licence (EPL) *Protection of the Environment Operations Act 1997*	NSW Environmental Protection Authority (within the DECCW)	An EPL is required for a maximum extraction of 500,000 T and processing a maximum of 500,000 T of quarrying material annually. A review of the EPL is required either: ◗ When existing EPL is to be reviewed (07 April 2011), or ◗ When operations are expected to exceed current extraction limit	Mine Manager
Water Access Licence *Water Act 1912* (Part 5)	NSW Office of Water (within the DECCW)	A water access licence is required to extract water from the dam.	Mine Manager
Aquifer Interference Approval *Water Act 1912* (Part 2)	NSW Office of Water (within the DECCW)	An Aquifer interference Approval is required for quarry pit dewatering and groundwater interception.	Mine Manager

2.3.1 Environment Protection Licence

Under the NSW *Protection of the Environment Operations Act 1997* (POEO Act) the project activities require an Environment Protection Licence (EPL) for the following "Scheduled Activities" as listed in Schedule 1 of the POEO Act:

- Crushing, Grinding or Separating; and
- Extractive activities.

The Quarry operates under EPL No. 11765 (attached as Appendix B). This EPL covers "Hard-Rock Gravel Quarrying" of between 50,000 tonnes and 100,000 tonnes per annum and "Crushing, Grinding or Separating Works" between 30,000 tonnes and 100,000 tonnes per annum.

The project requires a modification to the EPL to reflect the increased extraction and processing tonnages.

2.3.2 Water Access Licences

The maximum harvestable right dam capacity for the property has been calculated by the NSW Office of Water (NOW) as 2.15 ML megalitres. This is based on the understanding that the Nowra Brickworks lease is 21.5 hectares in area and is located in a rainfall runoff area with a multiplier of 0.10 ML/ha.

As the 50 ML storage dam is in excess of the property's harvestable right and the intention is to extract water from the dam for onsite reuse (ie approx 50 ML/year) for the purposes of dust suppression and material processing, a licence under Part 2, Section 10 of the *Water Act 1912* is required for this dam. This licence would authorise the storage dam and associated pump for the stated purposes.

Groundwater inflows need to be accounted for separately. Based on the estimated inflows of 0.04 ML/day, this equates to approximately 14.6 ML/year. A Licence under Part 5 of the *Water Act 1912* is required for quarry pit dewatering and groundwater interception.

The site contains eight existing piezometers which are licensed under the *Water Act 1912* with Licence Number 10BL602172. Any new piezometers will also be required to be licensed accordingly.

2.4 Inconsistencies and Discrepancies

In accordance with Schedule 2, Condition 3 of the Project Approval, in the event of an inconsistency between the documents listed in section 2.1 above, the conditions of the Project Approval will prevail to the extent of any inconsistency.

Where there is consistency between the conditions contained within the Project Approval, EPL and the Water Access Licences, the more stringent conditions will apply.

3. Community Consultation

In accordance with Schedule 5, Condition 1(e) of the Project Approval, a community consultation strategy will be implemented by the SCCCR to:

- Keep the local community and relevant agencies informed about the operation and environmental performance of the project;
- Receive, handle, respond to, and record complaints;
- Resolve any disputes that may arise during the course of the project;
- Respond to any non-compliance; and
- Respond to any emergencies.

The quarry's strategy for keeping the local community and relevant agencies informed is provided below and summarised in Figure 3-1 with the community consultation schedule provided as Table 3-1.

3.1 Local Community

The primary community notification mediums that will be used include the *South Coast Register* (local newspaper) and the Nowra Brickworks Quarry website. Notification of nearby landowners of planned activities such as blasting will be by written correspondence, telephone call or personal visit to inform them of the date and time of the intended blast.

Regular articles will be submitted to the *South Coast Register* for publishing. These articles will provide updates on the operations at the quarry including the ongoing implementation of environmental strategies, plans and monitoring.

A Nowra Brickworks Quarry Website will be established. Information will be made available on the Website and will include:

- An overview of the operations at the quarry;
- Information on the environmental management of the quarry;
- A summary of environmental monitoring results;
- Copies of the Annual Environmental Management Reports; and
- Copies of the completed audits.

Note: Nowra Brickworks Quarry, in accordance with Schedule 3 (Condition 10) of the Project Approval, advised landowners within 500 metres of the proposed blasting activities that they are entitled to a property inspection to establish the baseline condition of the property. Some responses were received and the property inspections have been undertaken.

3.1.1 Community Consultative Committee

A Community Consultative Committee (CCC) is to be established for the project to the satisfaction of the Director-General and in accordance with the Department's *Guideline for Establishing and Operating Community Consultative Committees for Mining Projects*. The CCC will provide a forum for open discussion on issues directly relating to the quarry's operations, environmental performance and community relations. Items to be discussed at CCC meetings will include:

- Implementation of conditions of approval, the mining operations plan and other plans;
- The results of environmental monitoring;
- Annual environmental management reports (AEMRs);
- Outcomes of audit reports; and
- Community concerns and resolution of complaints.

The CCC will comprise:

- An independent chairperson to be appointed by the Director-General;
- Three to five representatives of the local community and other stakeholders. These representatives will be appointed by the Director-General, following advertisement in the *South Coast Register* and direct invitation to the Department of Corrective Services, NSW Department of Industry and Investment, NSW Department of Planning and immediate landowners and businesses;
- One representative from the Shoalhaven City Council; and
- The Mine Manager.

At the inaugural meeting of the CCC, the committee will determine the frequency of its meetings. The Department's Guideline suggests that the committee meet at least four times per year during the first two years following commencement of operations. After the first two years of operations under the Project Approval, it is suggested that the committee will meet at least twice per year.

Minutes of all meetings will be kept and will record issues raised and actions to be undertaken, who is responsible for taking those actions and by when.

3.1.2 Establishment of a Community Consultative Committee

In accordance with Schedule 5 condition 8 of the conditions of consent in order to establish a community consultative committee SCCCR will

- Advertise every 6 months in the local paper (South coast register)
- Maintain a link on our website for interested members of the community to become involved to establish the CCC

3.1.3 Access to information

Copies of the strategies, plans, programs, completed audits and AEMRs would be provided to the relevant agencies and the CCC. In addition, copies of the relevant documents will be made publicly available at the quarry.

A summary of the monitoring results will be made publicly available at the quarry, and will be updated on a regular basis (quarterly) to the SCCCR website.

COMMUNITY NOTIFICATION STRATEGY

Consultation management

Keeping the local community and relevant agencies informed about the operation and environmental performance

- Exceedance of environmental monitoring criteria
  - Notify the Director-General and other relevant agenices, affected landowners and tenants (within 24hrs)
    - Provide written report within 6 days to the Department and relevant agencies
      - Describe the date, time and nature of the exceedance
        - Identify the cause (or likely cause) of the exceedance
          - Describe what action has been taken to date
            - Describe the proposed measures to address the exceedance
    - Provide quarterly monitoring results to Director-General, affected landowners and tenants until compliance with relevant criteria
- Community Consultative Committee (CCC)
  - Creation and operation of CCC according to Departments Guidelines
    - Minutes to be kept
- Quarterly updates and provision of information
  - Copies of information provided to relevant agencies and members of general public on request
    - Copies of relevant information made publicly available on site at the quarry
  - Creation and thereafter quarterly updates to website
    - Include information on environmental management, strategies, plans, monitoring results, AEMRs and completed audits
      - Included contact telephone line
- Notification of planned blasting acitivites
  - The following people will be notified on the working day prior to the blast being initiated:
    - Shoalhaven city council
    - NSW Police
    - RMS
    - The Resident of 243 Princes Highway
    - EPA (of the DECCW)
    - South Coast Correctional Facilty

Response management

Receive, handle, record and respond to complaints, any non-compliance, and emergencies

- Emergency Management
- Complaint Management
  - Complaints telephone line
    - Complaint made
      - Mine Manager
        - Initial Response within 24hrs
          - Record date and time of complaint, nature of complaint, date and time of response, initial response and follow up action taken in log book
            - NOT RESOLVED
              - Director-General
                - NOT RESOLVED
                  - Independent dispute resolution process
                - Resolved
            - Resolved
- Non-compliance Management
  - Non-compliance identified
    - Mine Manager for resolution and appropriate steps to ensure compliance is maintained in the future
      - Annual Environmental Monitoring Report

Table 3-1 Program for community consultation

Consultation Requirement	Timing	Action and Responsibility
Pre-blasting property inspections	Prior to any blasting activities undertaken under the Project Approval and this EMS	Consultation was undertaken prior to blasting in accordance with the Project Approval. Responsibility of the Mine Manager
Establish a complaints register	Prior to the commencement of this EMS (refer to Section 3.3)	Complaints received are to be recorded in the complaints register Responsibility of the Mine Manager
Website development	Prior to the commencement of this EMS (refer to Section 3.1)	Responsibility of the Mine Manager
Establish Community Consultation Committee. ◗ A further advertisement calling for expressions of interested to be placed in the *South Coast Register* ◗ Circulation of newsletter to surrounding landowners to advise of the difficulty in finding representatives for the CCC (including an invitation to submit an EOI for CCC membership) ◗ Forward the newsletter to when distributed to the Department of Planning and advise the Department of the progress of CCC membership applications.	August 2010 30 September 2010	Effort has been made to establish the CCC, however there was a lack of response (early 2010). Responsibility of the Mine Manager
The following people will be notified on the working day prior to the blast being initiated: – Shoalhaven City Council – NSW Police – NSW RMS – The resident of 243 Princes Highway – EPA (of the DECCW) – The South Coast Correctional Facility	Prior to blasting	Responsibility of the Mine Manager

3.2 Relevant Agencies

The reporting program, detailed in Section 15 of this EMS, is to be implemented to inform relevant agencies about the operation and environmental performance of the project.

3.3 Complaints and Dispute Resolution

The quarry will maintain a community complaints telephone line and complaint register. The telephone number will be advertised in the Yellow Pages, on signage at the entrance to the quarry and on their website.

Complaints will be received by the quarry Mine Manager. The Mine Manager will:

- Receive, log, track and respond to complaints in the complaint register.
- Record the following:
  - The date and time of complaint.
  - The method by which the complaint was made.
  - Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
  - The nature of the complaint.
  - The action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant (including the date of response).
  - If no action was taken, the reasons why no action was taken.

The record of a complaint will be kept for at least four years after the complaint was made.

The quarry will endeavour, as far as possible, to resolve any disputes arising out of the implementation of the Project Approval with relevant public authorities or landowners. In the instance that an agreeable outcome (by all concerned parties) cannot be reached, the matter will be referred to the Director-General for resolution. If the matter cannot be resolved within 21 days, the Director-General will refer the matter to an Independent Dispute Resolution Process.

3.4 Non-compliance and Corrective Actions

If the results of environmental monitoring (provided in Section 14) identify that impacts generated by the project are greater than the relevant impact assessment criteria, then the Mine Manager will notify the Director-General and affected landowners and tenants, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the relevant criteria.

In accordance with Schedule 5 Condition 2 of the project consent SCCCR will notify the Department of Planning and the relevant agencies of the exceedance/incident within 24hrs.

In accordance with Schedule 5 Condition 3 of the project consent SCCCR will provide a written report within 6 days that must

a) Describe the date, time, and nature of the exceedance/incident

b) Identify the cause (or likely cause) of the exceedance/incident

c) Describe what action has been taken to date; and

d) Describe the proposed measures to address the exceedance/incident.

4. Emergency Response

Response to an emergency is to be in accordance with the *Nowra Brickworks Quarries Mine Safety Plan*, prepared in accordance with the NSW *Mine Health and Safety Act 2004.* Emergency procedures are located in the SCCCR main office.

The following procedures relate to environmental emergencies which are not covered by the quarry's emergency plan and procedures, *i.e.* spills and environmental harm.

4.1 Spills

The principal potential sources of soil or land contamination at the quarry is from spills or leaks of hydrocarbons (fuel, oil, grease, etc). The following pollution control measures will be implemented during the life of the Project:

- Employees will read the quarry's Environmental Response Plan (attached as Appendix C) for fuel and oil spills, and will refer to the Material Safety Data Sheets (MSDS) located next to the first aid kit located in SCCCR main office.
- During fuelling, the following will be observed:
  - Fuelling will be undertaken carefully to minimise drips on the ground;
  - Fuelling will be undertaken in a suitable area away from access areas and drainage lines or water courses;
  - Persons undertaking the fuelling will remain present during the entire fuelling operation;
  - If necessary, the emergency shut off switch for plant and machinery is to be used;
  - A spill kit will be kept at or near each fuelling area and on the fuel truck;
  - Spills and dirty absorbent materials will be cleaned up;
  - Fuelling equipment will be inspected for cracks, leaks, corrosion or failure; and
  - Small equipment will be fuelled over a paved or concrete area, away from any stormwater drains or ditches, and a funnel will be used when pouring fuel from a portable can.
- Any stormwater drains on site will be located and blocked. Spilled fuel will be prevented from reaching drains or waterways.
- Any spills will be cleaned up thoroughly and promptly. The Dry Method (refer to the Emergency Response Plan attached as Appendix C) will be used for cleaning up fuel spills (diesel or kerosene).
- If fuels are leaking or have spilled on an impermeable surface, the nearest down gradient drain will be diked or bermed to prevent fluids from flowing. Absorbent material from the spill kit will be applied on the spill area, and after cleaning up the contaminated absorbent material will be swept up, and the berm or dike will be removed from the stormwater drain.

- If fluids are leaking or have spilled on a permeable surface, the area will be marked and assistance will be sought to clean up.
- Spills or leaks will never be hosed down.
- Any spill kit materials will be disposed of in accordance with EPA guidelines.
- Any spill or discharge of any pollutant will be reported to the Mine Manager. If a spill or leak is of a hazardous substance that exceeds 500 mL, is an unknown substance of any amount, or a spill is too great to control, the NSW Fire Brigade will be called on 000.
- All applicable employees will be trained in general water pollution prevention and spill response, and a record of the employees trained will be kept.
- A current copy of the Spill Response Plan will be maintained in the SCCCR main office.

4.2 Notification of Environmental Harm

The EPA and the Department of Planning and Environment will be notified of incidents causing or threatening material harm to the environment as per the conditions of consent Schedule 5 Conditions 2 and 3 as per section 3.4 of the EMS. The definition of material harm is:

> *(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
>
> *(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations)*

Notifications will be made by telephoning the EPA's Pollution Line services on 131 555.

Additional reporting requirements, as required by the EPL (attached as Appendix B), will also be undertaken.

5. Vegetation Removal and Soil Stripping

5.1 Description of Activity

Vegetation removal and soil stripping is required to allow the expansion of the quarry extraction area. Vegetation suitable for commercial timber or firewood and not required for rehabilitation will be harvested and removed from site. Removal of the remaining larger vegetation will be undertaken using a bulldozer. Once felled, logs and branches to be retained for rehabilitation are to be either cut or broken into manageable lengths or coarsely mulched and placed on areas undergoing progressive rehabilitation or stockpiled for later use during rehabilitation. Smaller vegetation will be removed during soil stripping operations.

Top soils will be stripped using a scraper, excavator or bulldozer to a depth of between 180 mm and 250 mm below the surface. Subsoils will be stripped to a depth of between 175 mm and 500 mm below the base of the top soil. Stripped soils will then be either stockpiled or placed directly on areas undergoing progressive rehabilitation.

5.2 Environmental Management and Safeguards

All vegetation removal and soil stripping operations will be undertaken in accordance with the following plans and programs:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix D);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Landscape and Biodiversity Management Plan (attached as Appendix H);
- Air Quality Management Plan (attached as Appendix I); and
- Aboriginal Heritage Management Plan (attached as Appendix J).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to any land preparation, vegetation removal or soil stripping operations. In the event of an inconsistency, the plan (as attached) shall prevail.

5.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 5-1 below along with the controls, monitoring and reporting mechanisms that are to be undertaken to mitigate these risks. Further details are provided in subsequent sections.

Table 5-1 Vegetation Removal and Stripping Key Environmental Issues and Risks

Issue	Risk	Controls
Fauna	Death or injury through clearing of hollow-bearing trees	Implementation of environmental safeguards identified below.
Aboriginal objects	Unknown objects may be damaged through the actions of scrapers, excavators and/or bulldozers.	Implementation of environmental safeguards identified below.
Air quality	Dust and particulates may result in health issues or air pollution.	Dust suppression techniques and implementation of the environmental safeguards identified below.
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	Implementation of environmental safeguards identified below.

5.2.2 General Restrictions

The following general restrictions apply to any land preparation, vegetation removal and soil stripping activities undertaken at the quarry:

- All operations will be limited to the area required for extraction-related activities for the next 12 months. The boundaries will be clearly marked and no additional areas of vegetation or soils will be disturbed or removed prior to the implementation of the Landscape and Biodiversity Management Plan (refer to Appendix H).
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- Cleared land is to be stripped within 10 days of vegetation clearing occurring or else a temporary vegetative cover need be applied to lower C-factors to 0.1 within 20 days (refer to Appendix E).
- Native vegetation and soils within the Biodiversity Offset Areas (refer to Figure 16-1 and Appendix L) will not be impacted by any land preparation and vegetation removal activities.
- Surface water and sediment and erosion controls will be installed prior to or during vegetation removal or soil stripping activities in accordance with the quarry's Erosion and Sediment Control Plan (attached as Appendix E).
- Where practicable, vegetation is to be cleared during winter months to limit the potential for nesting or roosting fauna to be impacted.
- All mobile equipment is to be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels is preferential.
- Progressively install frequency modulated reversing alarms on mobile equipment.

5.2.3 Preparatory Activities

Ecological Conservation

Prior to vegetation removal the following activities are to occur:

1. The footprint of the approved extraction/vegetation removal area is to be surveyed and clearly marked with concrete blocks (approximately 0.5 m^3) placed at 50 m intervals and painted to be highly visible.
2. Hollow-bearing trees (including those previously marked) within the clearing area will be inspected by a suitably qualified ecological consultant for nesting or roosting fauna. Any fauna found will be relocated by the consultant to a suitable location in the vicinity of the area to be cleared.
3. In circumstances where the inspection of hollows is not immediately followed by vegetation removal, works will be undertaken to exclude fauna re-entering the hollows.
4. Cage traps will be set in the vicinity of hollow-bearing trees for three consecutive nights prior to clearing of native vegetation. Any trapped animals will be kept in captivity by animal carers for the period of clearing. Animals are then to be released within native vegetation after the completion of clearing activities.
5. Representatives of the Nowra Local Aboriginal Land Council (LALC) and Durgan Consultancy will be contacted prior to vegetation removal and soil stripping operations in the area marked as “Area to be monitored” in Figure 16-2 (refer also to Appendix L).

5.2.4 Operations

Vegetation and Ecological Management

- Vegetation suitable for commercial timber or firewood and not required for rehabilitation will be harvested and removed from the site.
- Removal of larger vegetation is to be undertaken by a bulldozer, with the blade positioned just above the ground to minimise soil disturbance.
- Any clearing of hollow-bearing trees will be conducted during a time that is outside the breeding season for birds and microbats.
- Vegetation removal and soil stripping will be completed sequentially as listed in the Landscape and Biodiversity Management Plan (attached as Appendix H). This includes the removal of non-hollow-bearing trees first, where practicable, to allow any remaining nesting or roosting animals to leave the area to be disturbed prior to removing hollow-bearing trees.
- A qualified fauna consultant is to be commissioned and brought on to the site to observe the removal of hollow-bearing trees to rescue any remaining nesting or roosting fauna. The management of rescued animals, either injured or not, will be in accordance with the Landscape and Biodiversity Management Plan (attached as Appendix H).

- Hollow-bearing trees will be tapped by an excavator prior to removal in an attempt to make resident fauna vacate hollows, trees will then be lowered to the ground and any wildlife found will be managed by a qualified fauna consultant.
- Once felled, logs and branches to be retained for rehabilitation will be cut or broken into manageable lengths or coarsely mulched and place on areas undergoing progressive rehabilitation or stockpiled for later use.
- No vegetation is to be burnt or removed from the site other than that to be used for firewood or commercial timber.
- No wood piles will be located within 100m of infrastructure to assist in bushfire management.
- Vegetation stockpiles will be kept manageable to assist in bushfire management.

Erosion and Sediment Control

- Soils will be placed and stockpiled in accordance with Section 9 (Stockpiling) of this EMS.
- Works will be planned so that, where practicable, the amount of time that soils are exposed to the forces of erosion is minimised.
- Sediment fencing (in accordance with the Erosion and Sediment Control Plan in Appendix E) will be installed at the downhill edge of cleared areas and in other areas of potential erosion to retain the coarse sediment fraction.
- Soils will only be handled when they are moist (not wet, nor dry) to minimise the risk of soil structural decline.

Air Quality

- Water sprays and water trucks will be utilised in all areas of potential dust lift-off.
- Soils will be stripped only when they are moist enough to preserve their structure and not cause excessive dust generation.
- During windy weather, unprotected areas (including haul roads) will be kept moist (not wet) by sprinkling with water to reduce wind erosion (or use an alternative spray-applied wind-erosion control measure).

5.3 Monitoring and Reporting

The Vegetation Removal and Soil Stripping Record Sheet (attached as Appendix K) has been developed to assist with the preparation and submission of the Annual Environmental Management Report (AEMR) and the independent environmental audit required by the Project Approval. This record sheet is to be filled out prior to any vegetation removal. Completed record sheets are to be filed in a suitable location to facilitate the reporting, auditing, and "access to information" requirements specified in the Project Approval.

Any vegetation removal or soil stripping operations within the area marked as “area to be monitored” in Figure 16-2 (refer also to Appendix L) will be monitored by representatives of the Nowra LALC and Durgan Consultancy.

In addition, noise, air, landscape and biodiversity, and erosion and sediment control monitoring and recording (in accordance with Section 14 and 15 of this EMS) is to be undertaken and records kept.

6. Soil Placement and stockpiling (post-stripping)

6.1 Description of Activity

Soils derived from the stripping operations are to either be placed directly on to areas undergoing progressive filling and rehabilitation or stockpiled for later use. Placement and compaction of this material is be undertaken as described in the SEEC Morse McVey (2007) report

6.2 Environmental Management and Safeguards

All post soil-stripping stockpiling operations are to be undertaken in accordance with the following plans:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix D);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Landscape and Biodiversity Management Plan (attached as Appendix H); and
- Air Quality Management Plan (attached as Appendix I).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to any soil placement and stockpile operations. In the event of an inconsistency, the plan (as attached) shall prevail.

6.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 6-1 below along with the controls, monitoring and reporting mechanisms that are to be undertaken to mitigate these risks. Further details are described in subsequent sections.

Table 6-1 Soil Placement and Stockpiling Key Environmental Issues and Risks

Issue	Risk/s	Controls
Noise	Complaints from adjacent community	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Use of noise-mitigated mobile and processing equipment ◗ Implementation of environmental safeguards identified below

Issue	Risk/s	Controls
Air quality	Complaints from adjacent community Excessive dust generation Dust and particulates may result in health issues.	◗ Utilisation of water sprays, mist sprays and wind sheltering equipment. ◗ Implementation of environmental safeguards identified below
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	◗ Implementation of environmental safeguards identified below.

6.2.2 General Restrictions

The following general restrictions apply to any post soil-stripping placement and stockpiling operations undertaken at the quarry:

- Native vegetation and soils within the Biodiversity Offset Areas (as shown in Figure 16-1 and Appendix L) will not be impacted by any soil stockpiling activities.
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- All mobile equipment is to be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels is preferential.
- Frequency modulated reversing alarms on mobile equipment will be progressively installed.

6.2.3 Operations

Air Quality

- Water sprays and water trucks will be utilised in all areas of potential dust-lift off to minimise dust emissions.
- A maximum speed limit of 10 km/hour is to be maintained within the quarry site.
- Wherever possible, soil is to be placed directly on areas undergoing progressive rehabilitation. The environmental management measures for rehabilitation of soils detailed in Section 13 of this EMS apply.

Erosion and Sediment Control

- In all areas subject to disturbance and requiring permanent vegetative stabilisation, topsoil and subsoil will be replaced to a minimum depth of 250 mm and 200 mm respectively.
- Following placement of subsoil materials, the surface will be left in a loose, rough condition to promote moisture infiltration and the keying-in of the topsoil layer.
- Topsoil will be left in a scarified or ploughed condition once replaced to help moisture infiltration and reduce the risk of soil erosion.

- Compaction of recently topsoiled areas will be avoided, and barrier fencing will be established if necessary to keep vehicles out.
- Works will be planned so that, where practicable, the amount of time that soils are exposed to the forces of erosion is minimised.
- In situations where direct placement of stripped soils in not possible, soils will be stockpiled in accordance with Section 9 of this EMS.
- Soils will only be handled when they are moist (not wet, nor dry) to minimise the risk of soil structural decline.

6.3 Monitoring and Reporting

Noise, air, landscape and biodiversity, and erosion and sediment control monitoring and reporting (in accordance with Sections 14 and 15 of this EMS) will be undertaken.

7. Drilling and Blasting

7.1 Description of Activity

Drilling activities will be undertaken using a hydraulic drill rig which will drill vertical holes of the same length or slightly greater than the proposed face height (approximately 10 m). The drill rig will be equipped with dust and noise suppression equipment, including dust aprons, dust extraction equipment and sound dampened engine compartments. The drilling pattern will be determined by a suitably qualified and experienced blasting engineer to meet specified blasting criteria.

Blasting is to be undertaken by a suitably qualified and experienced blasting engineer or shot-firer. Typically each blast will break between 12,000 and 24,000 bank cubic metres of shale material. Explosives will continue to be brought to the site on the day of the blast by the blasting operator. No explosives are to be stored on the site.

7.2 Environmental Management and Safeguards

All drilling and blasting operations are to be undertaken in accordance with the Quarry's Noise Monitoring Program/Blast Management Plan (attached as Appendix D). The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to any drilling and blasting operations. In the event of an inconsistency, the plan (as attached) shall prevail.

All drilling and blasting operations are also to be undertaken in accordance with the following plans:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix D); and
- Air Quality Management Plan (attached as Appendix I).

7.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 7-1 below along with the controls, monitoring and reporting mechanisms that will be undertaken to mitigate these risks. Further details are described in subsequent sections.

Table 7-1 Drilling and Blasting Key Environmental Issues and Risks

Issue	Risk	Controls
Fly-rock	Broken rock could be projected in an unexpected manner towards persons, equipment or buildings.	◗ Each blast will be designed to contain all fly-rock within the nominated blast envelope ◗ Blasting will be undertaken by appropriately qualified and experienced blasting engineer or shot-firer ◗ Implementation of environmental safeguards identified below.
Noise and vibration	Structural damage and community complaints	◗ Complaints register and responses ◗ Noise and vibrations register ◗ Community and neighbour consultation ◗ Implementation of environmental safeguards identified below.
Air quality	Dust and particulates	Dust suppression techniques and implementation of the environmental safeguards identified below.

7.2.2 Preparatory Activities for Blasting

Prior to blasting, the following activities will occur:

- Suitable arrangements will be made with land owners or tenants on private land within 200 m of the blast site in order to minimise the risk of flyrock-related impact to life and property. These arrangements will be submitted for approval to the Director-General prior to any blasting.
- Appropriate arrangements with the owners and occupiers of 243 Princes Highway will be arranged.
- The following people will be notified on the working day prior to the blast being initiated:
  - Shoalhaven City Council
  - NSW Police
  - NSW Roads and Traffic Authority
  - The resident of 243 Princes Highway
  - EPA (of the DECCW)
  - The South Coast Correctional Facility
- All mobile equipment is to be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels is preferential.
- Frequency modulated reversing alarms on mobile equipment will be progressively installed.

7.2.3 General Restrictions

- Standard hours of operations, as specified in the Project Approval (attached as Appendix A) and Section 14.4, will be observed for drilling activities.
- Blasting hours of operation, as specified in the Project Approval (attached as Appendix A), will be observed as described below:
  - Monday to Friday: 9:00 am to 3:00 pm
  - Saturday, Sunday and Public Holidays: No blasting
  - Note: Only one blast per week is permitted. In the case of documented misfire, a second blast within the week may be carried out.

7.2.4 Operation

Blasting Requirements

- All drilling and blasting-related activities will be supervised by a suitably qualified and experienced blasting engineer or shot-firer. Blasting is to be designed to:
  - Achieve the required degree of fragmentation
  - Satisfy all environmental criteria (especially noise and vibration, refer to Section 14)
  - Contain all blast flyrock within the nominated blast envelope

Air Quality

- Dust aprons, dust extraction systems and/or water injections or sprays will be used during drilling operations.
- All blast holes will be adequately stemmed with aggregates.

7.3 Monitoring and Reporting

The Blast Design Record Sheet (attached as Appendix K) has been developed to assist with the preparation and submission of the Annual AEMR, the Annual Return Documents required by the EPL, and the independent environmental audit required by the Project Approval. This record sheet is to be filled out prior to drilling and blasting.

Completed record sheets are to be stored and filed in a suitable location to facilitate the reporting, auditing, and “access to information” requirements specified in the Project Approval and EPL.

A register of complaints in accordance with Section 3 of this EMS is also to be kept after each blasting event. On the basis of the noise, vibration, and complaints monitoring subsequent blast designs, mitigation measures and operating procedures may need to be modified (if necessary). The register is to be stored in the SCCCR main office in accordance with the EPL and the Community Consultation Strategy (as described in Section 3).

Air monitoring and reporting, in accordance with Section 14 and 15 of this EMS, will be undertaken.

8. Extraction, Importing and Processing

8.1 Description of Activity

Following blasting, fragmented material will be directly loaded into the mobile crushing and processing plant using an excavator. The excavator will then load extracted, recycling and blending materials into the crushing and processing plant in the appropriate proportions to produce quarry products with the required specifications.

The mobile processing plant will be located immediately adjacent to the active extraction area to allow an excavator to directly load extracted, recycling and blending materials in appropriate proportions into one or more primary jaw crushers. A proportion of the crushed material will require further processing and will be stockpiled for use as select fill or other purposes. The remaining crushed material will be transferred to the secondary cone crusher for further crushing and shaping and then a screening plant for final sizing.

Each component of the mobile crushing plant will continue to be equipped with dust and noise suppression equipment to limit the generation of airborne dust and reduce the potential for adverse noise impacts on the surrounding community.

8.2 Environmental Management and Safeguards

All vegetation removal and soil stripping operations are to be undertaken in accordance with the following plans and programs:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (attached as Appendix E); and
- Air Quality Management Plan (attached as Appendix I).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to any land preparation, vegetation removal or soil stripping operations. In the event of an inconsistency, the plan (as attached) shall prevail.

8.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 8-1 below along with the controls, monitoring and reporting mechanisms that are to be undertaken to mitigate these risks. Further details are described in subsequent sections.

Table 8-1 Extraction, Importing and Processing Key Environmental Issues and Risks

Issue	Risk/s	Controls
Noise	Complaints from community	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Use of noise-mitigated mobile and processing equipment ◗ Implementation of environmental safeguards identified below
Air quality	Complaints from adjacent community Excessive dust generation Dust and particulates may result in health issues.	◗ Utilisation of water sprays, mist sprays and wind sheltering equipment. ◗ Implementation of environmental safeguards identified below
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	◗ Implementation of environmental safeguards identified below.
Traffic	Complaints from community Excessive dust generation	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Implementation of environmental safeguards identified below.

8.2.2 General Restrictions

The following general restrictions apply to any extraction, importation and processing operations undertaken within the quarry:

- All activities will be limited to the area required for extraction-related activities for the next 12 months. The boundaries will be clearly marked and no additional areas of vegetation and soils will be disturbed or removed.
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- All processing operations will be undertaken within the deepest section of the quarry.
- All mobile and processing equipment will be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels is preferential.
- Frequency modulated reversing alarms on mobile equipment will be progressively installed.

8.2.3 Operations

Air Quality

A combination of some and/or all of these measures will be used during operation:

- Water sprays and water trucks will be used in all areas of potential dust-lift off to minimise dust emissions.
- Efficient mist sprays and wind sheltering equipment will be used on processing equipment.
- A maximum speed limit of 10 km/hour is to be maintained within the quarry site.
- A chemical dust lift-off suppression system will be used with mobile processing plants.

Erosion and Sediment Control

- Quarry products and material to be processing into quarry products will be stockpiled, as far as practicable, within the processing and extraction area. The management measures for stockpiles as detailed in Section 9 of this EMS will be applied.
- Soils will only be handled when they are moist (neither wet, nor dry) to minimise the risk of soil structural decline.

8.3 Monitoring and Reporting

Noise, air quality and erosion and sediment control monitoring and reporting (in accordance with Section 14 and 15 of this EMS) will also be undertaken.

9. Stockpiling

9.1 Description of Activity

The following materials are likely to be stockpiled:

- Virgin Excavated Natural Material (VENM) for blending and processing into quarry products
- VENM, top-soil, subsoil and weathered shale for quarry backfilling operations
- Blending materials, such as crusher dust and road base, for processing into quarry products
- Recyclable materials, such as select construction waste, concrete and bitumen for processing and blending into quarry products
- Quarry products

As far as practicable, all stockpiling will be undertaken within the extraction area.

9.2 Environmental Management and Safeguards

All stockpiling operations will be undertaken in accordance with the following plans:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Landscape and Biodiversity Management Plan (attached as Appendix H); and
- Air Quality Management Plan (attached as Appendix I).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to and whilst undertaking stockpile. In the event of an inconsistency, the plan (as attached) shall prevail.

9.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 9-1 below along with the controls, monitoring and reporting mechanisms that will be undertaken to mitigate the risks. Further details are described in subsequent sections.

Table 9-1 Stockpiling Key Environmental Issues and Risks

Issue	Risks	Controls
Noise	Complaints from adjacent community	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Use of noise-mitigated mobile equipment ◗ Implementation of environmental safeguards identified below.
Air quality	Complaints from adjacent community Excessive dust generation Dust and particulates may result in health issues.	◗ Use of water sprays, mist sprays and wind sheltering equipment. ◗ Implementation of dust suppression techniques and implementation of the environmental safeguards identified below.
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	Implementation of environmental safeguards identified below.

9.2.2 General Restrictions

The following general restrictions apply to any stockpiling operations undertaken within the quarry:

- Native vegetation and soils within the Biodiversity Offset Areas (refer to Figure 16-1 and Appendix H) will not to be impacted by any stockpiling activities.
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- Surface water and sediment and erosion controls will be installed prior to or during soil stockpiling activities in accordance with the *Erosion and Sediment Control Plan* (attached as Appendix E).
- All mobile equipment will be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels is preferred.
- Progressively install frequency modulated reversing alarms on mobile equipment.

9.2.3 Operations

Air Quality

- Water sprays and water trucks will be used in all areas of potential dust-lift off to minimise dust emissions.
- A maximum speed limit of 10 km/hour is to be maintained within the quarry site.

- Soils will be handled only when they are moist (neither wet, nor dry) to minimise the risk of soil structural decline.

Erosion and Sediment Control

- Quarry products and material to be processed into quarry products will be stockpiled, as far as practicable, within the processing and extraction area (refer to Section 9).
- Non-recyclable wastes (*e.g.* from construction materials) will be extracted and disposed of at a licensed waste facility.
- Wherever possible, soil and VENM is to be placed directly on areas undergoing progressive rehabilitation. Soil placement procedures outlined in Section 13 of the EMS are to be followed.
- Topsoil and subsoil will be stockpiled separately and the details of each stockpile recorded appropriately.
- In situations where direct placement of topsoil is not possible, topsoil will be stockpiled in accordance with the following:
  - Any soil stockpiles will be located at least 2 m from existing vegetation, areas of likely concentrated or high-velocity surface water flows (e.g. creeks, swales, diversion drains etc.), and roads and other hazardous areas such as the margins of the extraction area.
  - Topsoil and subsoil stockpiles will be low (less than 2 m high), flat, elongated mounds with side slopes no steeper than 1(V):2(H) on eastern and southern faces and 1(V):3(H) on western and northern faces. Wherever practicable, top soil stockpiles will be less than 1m high.
  - A sediment fence, approximately 1m from the toe of the downslope side of soil stockpiles is to be erected.
  - Any soil stockpiles anticipated to be in place for more than ten days will be stabilised through the application of mulched or broken vegetation, hydro-seeding, hydro-mulching or equivalent.
  - Any stockpiled soil material is to be utilised for rehabilitation-related operations within six months of stripping and stockpiling.
- Plan works so that, where practicable, the amount of time that soils are exposed to the forces of erosion is minimised.

9.3 Monitoring and Reporting

Noise, air quality, erosion and sediment control, and landscape and biodiversity management monitoring and reporting (in accordance with Section 14 and 15 of this EMS) will be undertaken.

10. Loading, Dispatch and Transportation

10.1 Description of Activity

Quarry product is to be loaded and dispatched using road registered heavy vehicles. An average of approximately 300,000 tonnes per year, to a maximum of approximately 500,000 tonnes per year, of quarry products will be dispatched from the site.

10.2 Environmental Management and Safeguards

All quarry product loading, dispatch and transportation operations will be undertaken in accordance with the following plans and programs:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (attached as Appendix E); and
- Air Quality Management Plan (attached as Appendix I).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to undertaking any loading, dispatch or transportation. In the event of an inconsistency, the plan (as attached) shall prevail.

10.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 10-1 below along with the controls, monitoring and reporting mechanisms that are to be undertaken to mitigate these risks. Further details are described in subsequent sections.

Table 10-1 Loading, Dispatch and Transportation Key Environmental Issues and Risks

Issue	Risk	Controls
Noise	Complaints from adjacent community	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Use of noise-mitigated mobile and processing equipment ◗ Implementation of environmental safeguards identified below
Air quality	Dust and particulates	◗ Dust suppression techniques and implementation of the environmental safeguards identified below.

Issue	Risk	Controls
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	◗ Implementation of environmental safeguards identified below.
Traffic	Complaints from community Excessive dust generation	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Implementation of environmental safeguards identified below.

10.2.2 General Restrictions

- All mobile equipment will be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels is preferred.
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- Frequency modulated reversing alarms on mobile equipment will be progressively install.

10.2.3 Operations

Air Quality

- Water sprays and water trucks will be used in all areas of potential dust lift-off.
- Operation of a wheel-wash facility, to limit tracking of material onto the Princes Highway;
- A maximum speed limit of 10 km/hour is to be maintained within the quarry site.
- The creation of minor roads and access tracks will be minimised.

Erosion and Sediment Control

- The width of haul roads will be limited to that which is safe for heavy vehicle passage to minimise soil erosion hazards.
- During windy weather, unprotected areas (including haul roads) will be kept moist (not wet) by spraying with water to reduce wind erosion (or use an alternative spray-applied wind-erosion control measure).

10.3 Monitoring and Reporting

Noise, air quality, and erosion and sediment control monitoring and reporting (in accordance with Section 14 and 15 of this EMS) will be undertaken.

11. Importation and use of Virgin Excavated Natural Material (VENM)

11.1 Description of Activity

VENM is to be imported to the site for processing and blending to produce quarry products. VENM not used to make quarry products will also be placed within the 'exhausted' extraction area for rehabilitation purposes and to ultimately establish a final landform which mimics the pre-extraction landform.

11.2 Environmental Management and Safeguards

Importation and use of VENM is to be undertaken in accordance with the following plans:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Landscape and Biodiversity Management Plan (attached as Appendix H); and
- Air Quality Management Plan (attached as Appendix I).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to the importation of VENM. In the event of an inconsistency, the plan (as attached) shall prevail.

11.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 11-1 below along with the controls, monitoring and reporting mechanisms that will be undertaken to mitigate these risks. Further details are described in subsequent sections.

Table 11-1 Importation and Use of VENM Key Environmental Issues and Risks

Issue	Risk	Controls
Contaminated materials	Importation of contaminated soils to site and materials originating from industrial, commercial, mining or agricultural activities, manufactured chemicals and sulphidic ores or soils.	VENM confirmation, certification and record procedures and implementation of environmental safeguards identified below.
Air quality	Dust and particulates degrading water quality.	Dust suppression techniques and implementation of the environmental safeguards identified below.
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	Implementation of environmental safeguards identified below.

Issue	Risk	Controls
Traffic	Complaints from community Excessive dust generation	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Implementation of environmental safeguards identified below.

11.2.2 General Restrictions

The following general restrictions apply to the importation and use of VENM:

- Surface water and sediment and erosion controls for the importation, stockpiling, and use of VENM will be implemented in accordance with the Quarry's Erosion and Sediment Control Plan (attached as Appendix E).
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- The use of VENM as part of the rehabilitation process will be restricted to the use of VENM as defined in the NSW *Protection of the Environment Operations Act 1997, i.e.:*

  Natural material (e.g. clay, gravel, sand, soil and rock) that is not mixed with any waste that:

  a) has been excavated from areas that are not contaminated, as the result of industrial, commercial, mining or agricultural activities, with manufactured chemicals and that does not contain sulphidic ores or soils, or

  b) consists of excavated natural materials that meet such criteria as may be approved by the EPA"
- All mobile equipment will be maintained in accordance with the manufacturer's specifications. The selection of equipment with lower sound power levels over higher sound power levels will be preferred.
- Frequency modulated reversing alarms on mobile equipment will be progressively install.

11.2.3 Certificate and Receipt Procedures

- All imported VENM will be certified at its source and certification verified by the Mine Manager (or delegated authority) on receipt in accordance with relevant guidelines current at the time of VENM importation. This is likely to include a visual inspection for signs of contamination and the presence of any other waste material.
- A VENM certification sheet (referred to in Section 11.3 and attached as Appendix K) will be prepared, dated and signed by the person certifying the material.
- The history of the site from which the material is to be excavated will be determined and recorded on the VENM certificate sheet. The following procedures will be implemented depending on the previous land uses (Corkery and City Plan Services 2009):

- Where the site has been used for commercial, industrial, mining or agricultural purposes at any time, or if the site contains fill material, or there is potential for chemical contamination from past or current uses, a testing regime will be implemented to establish that the material sourced from the site can be classified as VENM.
- Where the site is, and has always been, used for residential or agricultural purposes then excavated material from the site, with the exception of surface layers that may be contaminated with physical debris, vegetation, chemicals, fertilisers or asbestos, will be presumed to be classified as VENM.

- Upon arrival, the Mine Manager (or delegated authority) will require the drivers delivering the VENM material to complete and sign a VENM record sheet. The Mine Manager (or delegated authority) will direct the driver to the receival where the load will be inspected to ensure it corresponds with the description of the material included on the certificate sheet before it is accepted.
- Any unsuitable loads (*i.e.* loads that do not meet the description of VENM) will not be accepted and the supplier/driver will be advised to deliver the load to a licensed waste facility.

11.2.4 VENM Stockpiling

- When VENM is being processed, it will be placed in the stockpiling and processing area. The environmental management measures for stockpiles detailed in Section 9 of this EMS will be applied.
- All surface waters will be diverted into the water storage or sump within the extraction area.

11.2.5 VENM Placement and Compaction

When VENM is to be used to backfill the quarry, the following procedures will be undertaken:

- Compaction of VENM will not occur within approximately 3.5 m of the proposed final landform (refer to Figure 16-4 and Appendix L).
- Between approximately 3.5 m and 1.0 m of the final landform VENM comprising weathered material is to be placed without compaction.
- Between 1.0 and 0.5 below the final landform, weathered shale material will be placed without compaction.
- Sub-soil and top-soil will be placed over the VENM/weathered shale in accordance with the Landscape and Biodiversity Management Plan (attached as Appendix H).
- Soils will be handled only when they are moist (neither wet, nor dry) to minimise the risk of soil structural decline.

11.2.6 VENM On-site Operations

- Water sprays and water trucks will be used in all areas of potential dust lift-off to minimise potential dust emissions.
- A maximum speed limit of 10 km/hour will be maintained within the quarry site.
- The width of haul roads will be limited to that which is safe for heavy vehicle passage to minimise soil erosion hazards.

11.3 Monitoring and Reporting

During all VENM importation operations, records will be kept for each site where imported VENM is to be sourced and for each load of material received. VENM Certificate Record Sheets templates are provided in Appendix K to record each delivery of VENM (and the necessary information). Record sheets must be filled out at the source of VENM for transport to the quarry, and at the quarry for the receiving of VENM. Completed record sheets are to be stored and filed in a suitable location to facilitate the reporting, auditing, and “access to information” requirements specified in the Project Approval and EPL.

Noise, air quality, landscape and biodiversity, and erosion and sediment control monitoring and reporting (in accordance with Section 14 and 15 of this EMS) will be undertaken.

12. Soil and Water Management and Use

12.1 Description of Activity

The surface waters within the quarry are controlled by the perimeter bunds and site topography. Surface waters from the undisturbed areas are diverted to Nowra Creek.

In the more disturbed sections of the quarry site (extraction and other operational areas), surface waters, and groundwater seepage within the extraction area, will drain into a sump within the active extraction area or in the water storage facility. This water, which is not permitted to flow directly off-site, will be used for dust suppression and rehabilitation. Irrigation areas will also be established within the undisturbed and rehabilitation areas to remove excess water within the water storage facility and to facilitate rehabilitation processes.

12.2 Environmental Management and Safeguards

The management of soils and water, and the use of surface and groundwater is to be undertaken in accordance with the following plans:

- Erosion and Sediment Control Plan (attached as Appendix E);
- Surface Water and Groundwater Monitoring and Response Plan (attached as Appendix F); and
- Site Water Balance Report (attached as Appendix G).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed for quarry soil and water management and use and will be reviewed regularly. In the event of an inconsistency, the plan (as attached) shall prevail.

12.2.1 Key Environmental Issues and Risks

The key issues and risks related to this activity are listed in Table 12-1 below along with the controls, monitoring and reporting mechanisms that will be undertaken to mitigate the risks. Further details are described in subsequent sections.

Table 12-1 Soil and Water Management and Use Key Environmental Issues and Risks

Issue	Risk	Controls
Groundwater	Extraction operations intercept aquifer.	Water diversion into sump and water storage facility to be used for irrigation or for extraction-related purposes. Obtain Aquifer Interference Approval and Water Access Licence from the NSW Office of Water (refer to Section 2 of this EMS).

Issue	Risk	Controls
Surface water	Discharge of sediment laden water into Nowra creek.	Surface water diversion structures, sediment containment structures, water storage areas, irrigation systems implementation of the environmental safeguards identified below.
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	Implementation of environmental safeguards identified below.

12.2.2 General Requirements

The following general restrictions apply to the management and use of surface and groundwater:

- Contractors will ensure that all soil and water management works as instructed in this document and following the guidelines in the *Guideline Soils and Construction Managing Urban Stormwater* (Landcom 2004) as described in the attached Erosion and Sediment Control Plan (Appendix E).
- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- All workers will be informed of their responsibility for minimising the potential for soil erosion and pollution to downstream areas.
- Ongoing changes will be made to this EMS and Erosion and Sediment Control Plan (Appendix E) as works proceed, taking into consideration the area of disturbance at any one time.
- All erosion and sediment control works will remain in place until lands are rehabilitated and successfully stabilised.
- Surface water and sediment and erosion controls will be installed prior to or during vegetation removal or soil stripping activities in accordance with the Erosion and Sediment Control Plan (Appendix E).

12.2.3 Erosion and Sediment Control

The following erosion and sediment control measures will be implemented during the life of the Project:

- The soil erosion hazard on the site will be kept as low as practical by minimising the overall area of disturbance. This will be achieved by the following.
  - Works will be staged so that only lands to be quarried in the following 12 months are cleared and stripped.
  - Access will be limited to minimise the area of disturbance and limit the amount of land requiring regular applications of water for dust-control.

- The width of the haul roads will be limited to that which is safe for heavy vehicle passage.
- Barrier fencing (note that this can simply be tape wound around star pickets) will be established to delineate no-go areas (i.e. areas that are outside of the regular works zone at that time) and minimise the risk of accidental entry.

- Works will be planned so that, where practicable, the amount of time that soils are exposed to the forces of erosion is minimised.
- Stockpiles will be constructed and managed according to Section 9 of this EMS.
- Lands cleared for the following 12 months of quarrying operations will be stripped within 10 days of vegetation clearing occurring or else a temporary cover will be applied to lower C-factors to 0.1 within 20 days (refer to Table 1 of the Erosion and Sediment Control Plan (Appendix E)). Measures to ensure that the C-factor is not exceeded are provided in the Erosion and Sediment Control Plan (Appendix E).
- During windy weather, unprotected areas (including haul roads) will be kept moist (not wet) by sprinkling with water to reduce wind erosion (or use an alternative spray-applied wind-erosion control measure).
- Soils will be handled only when they are moist (neither wet, nor dry) to minimise the risk of soil structural decline.
- Sediment fencing will be installed along the toe of any newly formed perimeter bunds, at the downhill edge of cleared areas and in other areas of potential erosion to retain the coarse sediment fraction.
- Areas of localised soil erosion will be identified and appropriate preventive measures implemented, as outlined in the Erosion and Sediment Control Plan (Appendix E).
- Any areas of localised poor drainage will be identified and appropriate remedial action taken, as outlined in the Erosion and Sediment Control Plan (Appendix E).
- Sediment removed from any trapping device will be disposed of within the area of active backfill within the Extraction Area.
- Waste receptacles will be emptied as necessary. Non-processed wastes will be disposed of at an approved facility.

12.2.4 Water Management

The following water management measures will be implemented during the life of the Project.

- Runoff from the undisturbed areas in the south of the site (mostly “clean”) will be diverted into local watercourses with a minimum of treatment.
- Potentially sediment-laden runoff from cleared areas (i.e. those lands to be quarried in the following 12 months) is to be diverted into sediment retention structures. Note that sediment basin(s) can be sited in the quarry pit if so desired and runoff directed into it. Sediment

retention structure and sediment basin(s) will be constructed in accordance with the Erosion and Sediment Control Plan (Appendix E).

- Basic diversion drains, earth bank diversions, temporary earth diversion drains, berms and pipes will be installed as required, and in accordance with the Erosion and Sediment Control Plan (Appendix E)
- Water for dust suppression and processing will be drawn primarily from the storage pond (i.e. when sufficient volume is available).

12.3 Monitoring and Reporting

Erosion and sediment control, and surface water and groundwater monitoring and reporting (in accordance with Section 14 and 15 of this EMS) will be undertaken.

The NSW Office of Water (NOW) has requested that annual reports also be referred to NOW for consideration and review.

13. Rehabilitation

13.1 Description of Activity

Areas no longer required for extraction-related activities will be rehabilitated in order to minimise the risk of erosion and sedimentation on the environment surrounding the Project Site. Short term rehabilitation activities will include the stabilisation of all earthworks, drainage lines and disturbed areas.

Low maintenance, stable and safe landform that mimics the pre-extraction landform will be progressively applied as part of longer term rehabilitation objectives. These works will include the re-establishment of land capabilities through the establishment of vegetation communities similar to communities in relatively undisturbed areas adjacent to and surrounding the Project Site.

13.2 Environmental Management and Safeguards

All vegetation removal and soil stripping operations will be undertaken in accordance with the following plans and programs:

- Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Landscape and Biodiversity Management Plan (attached as Appendix H); and
- Air Quality Management Plan (attached as Appendix I).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and prior to any land preparation, vegetation removal and soil stripping. In the event of an inconsistency, the plan (as attached) shall prevail.

Table 13-1 Rehabilitation Key Environmental Issues and Risks

Issue	Risk	Controls
Surface water	Discharge of sediment laden water into Nowra creek.	Surface water diversion structures, sediment containment structures, water storage areas, irrigation systems implementation of the environmental safeguards identified below.
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	Implementation of environmental safeguards identified below.
Weed incursion	Introduction and/or spread of weeds.	Implementation of environmental safeguards identified below.

Issue	Risk	Controls
Contaminated materials	Importation of contaminated soils to site and materials originating from industrial, commercial, mining or agricultural activities, manufactured chemicals and sulphidic ores or soils.	VENM confirmation, certification and record procedures and implementation of environmental safeguards identified below.
Air quality	Dust and particulates degrading water quality.	Dust suppression techniques and implementation of the environmental safeguards identified below.
Erosion and sedimentation	Pollution of Nowra Creek degrading water quality.	Implementation of environmental safeguards identified below.
Traffic	Complaints from community Excessive dust generation	◗ Complaints register and response ◗ Hours of operations restrictions ◗ Implementation of environmental safeguards identified below.

13.2.1 General Requirements

- Standard hours of operations, as specified in the Project Approval and Section 14.4, will be observed.
- Progressively rehabilitate disturbed areas as works are completed. Sediment control structures will remain in place until rehabilitated lands have successfully stabilised and will be removed at the end of the quarry's operation.
- Clearly visible barriers will be installed to limit access to the rehabilitation areas.
- Rehabilitation works to take place sequentially south of the water storage facility will be undertaken in accordance with the Landscape and Biodiversity Management Plan (attached as Appendix H).
- The control of weeds and pests will be undertaken in accordance with the Landscape and Biodiversity Management Plan (attached as Appendix H).

13.2.2 Operations

Placement of Soils

- Soils will be handled only when they are moist (neither wet, nor dry) to minimise the risk of soil structural decline.
- In all areas subject to disturbance and requiring permanent vegetative stabilisation, topsoil and subsoil will be replaced to a minimum depth of 250 mm and 200 mm respectively, following the completion of placement activities and the constructed landform.
- Following placement of subsoil materials, the surface will be left in a loose, rough condition to promote moisture infiltration and the keying-in of topsoil layer.

- Topsoil will be left in a scarified or ploughed condition once replaced to help moisture infiltration and reduce the risk of soil erosion.
- Compaction of recently topsoiled areas will be avoided, and barrier fencing will be established if necessary to keep vehicles out.
- Final landscaping will be undertaken as soon as possible and within 15 working days from placement of topsoil in a particular area. This will include primary revegetation/mulching to provide a quick, temporary cover before a more permanent cover of native vegetation is established. The final contours will follow closely to those presented in Figure 16-4.

Revegetation

- Seed for use during final revegetation operations will be collected in the vicinity, generally during summer and autumn. Collected seed will be broadcast over each area to be revegetated, generally during autumn.
- A temporary cover crop of suitable annual cereal species may be used on areas being revegetated with native species to give natives time to establish and help out-compete weeds. This will be used in conjunction with native mulch (stockpiled from clearing activities in the south of the site) to allow diversion of surface waters away from the extraction area.
- Selection of vegetation for direct planting and seeding will be in accordance with the Landscape and Biodiversity Management Plan (attached as Appendix H). This is particularly in reference to progressive rehabilitation of bunds, existing storage piles, future storage piles, and final site restoration.
- Tube stock may be planted to supplement direct seeding and natural revegetation.
- Species used during final revegetation will be a mixture of indigenous lower, mid and upper storey species.
- Supplementary planting and inoculation of native species will be undertaken if required (i.e. if the soil seed store is not adequate to re-establish native vegetation).
- Any areas of concentrated surface water flow will be stabilised with a suitable grass species (not Kikuyu) capable of withstanding concentrated flows. Reinforced turf is recommended for post-construction (i.e. final stabilisation) activities where the flow velocity will not exceed 1.8 m/s in the 100-year ARI storm event.
- Areas not satisfactorily revegetated will be investigated to determine the reason for failure. Appropriate remedial action, including replacing any lost topsoil and re-sowing the site will then be undertaken.
- Revegetation areas will be watered regularly until an effective cover has properly established and plants are growing vigorously. Extensive watering will be required to assist in the establishment of vegetation in rehabilitation areas if rainfall is insufficient to promote germination and growth. Adequate fertilising will also be maintained in revegetated areas.

Management of Remnant Vegetation

- The stand of mature vegetation in the north-western section of ML6322 adjacent to Nowra Creek will be avoided. Earthen bunds will not be piled against the trunks of mature trees and the areas of native vegetation to be cleared will be clearly marked.
- The Southern Biodiversity Offset Area will be managed for at least the term of the lease of the land for the purposes of nature conservation and enhancement of the biodiversity values of the land. Specific biodiversity management measures to be implemented are provided in the Landscape and Biodiversity Management Plan (attached as Appendix H).
- To assist in the mitigation of bushfires, the siting of all fixed infrastructure (weighbridge and office) is to be more than 70 m from the boundary of mature vegetation.

Reducing Visual Impacts

- The existing perimeter bund along the eastern, southern and western boundaries of the Project Site is to be retained and enhanced. The existing vegetated buffer within the Nowra Creek riparian zone will also be retained and enhanced to limit views of the Project Site from the South Coast Correctional Facility.
- The existing line of mature trees adjacent to the eastern Project Site boundary will be retained and enhanced, where appropriate. Additional planting of tubestock may be undertaken to augment natural revegetation. Soil from bunding is not to be placed against the trunks of trees.
- A high standard of housekeeping to achieve a visually attractive site is to be adopted. The Project Site is to be kept clean, tidy and rubbish free at all times.

Air Quality

- Water sprays and water trucks will be used in all areas of potential dust lift-off.

13.3 Monitoring and Reporting

Noise, air, landscape and biodiversity, and erosion and sediment control monitoring and recording (in accordance with Section 14 and 15 of this EMS) is to be undertaken and records kept.

14. Environmental Monitoring

14.1 Overview

This chapter addresses the environmental monitoring requirements for the quarry, which have been outlined in the following:

- Environmental Assessment (Corkery and City Plan Services 2009);
- Project Approval (Appendix A);
- Environment Licences and Approvals (Appendix B);
- Quarry's Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (Appendix E);
- Surface Water and Groundwater Monitoring and Response Plan (Appendix F);
- Landscape and Biodiversity Management Plan (Appendix H);
- Air Quality Management Plan (Appendix I); and
- Aboriginal Heritage Management Plan (Appendix J).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and whilst undertaking environmental reporting activities. In the event of an inconsistency, the plan (as attached) shall prevail.

14.2 Record Sheets

Table 14-1 outlines the record sheets which will be completed when required (as indicated).

Table 14-1 Summary of Record Sheets

Record Sheet	When to be used	Where to be stored
Vegetation Removal and Soil Stripping Record Sheet	Every vegetation removal and soil stripping operation	Filed in a suitable location
Blast Design Record Sheet	Every drilling and blasting operation	Filed in a suitable location
VENM Source Certification Record Sheet	Each load retrieved at the VENM source.	Filed in a suitable location
VENM Receiving Certification Record Sheet	Each load of material received	Filed in a suitable location

The completion of these record sheets will assist with the preparation and submission of the AEMR and the independent environmental audit required by the Project Approval. Copies of record sheets are provided in Appendix K.

14.3 Blasting Monitoring Criteria and Levels

14.3.1 Methodology

Blasting is to be designed to:

- Achieve the required degree of fragmentation;
- Satisfy all environmental criteria (especially noise and vibration, see below); and
- Contain all blast flyrock within the nominated blast envelope.

Blast emissions will be quantified using a portable blast emissions monitor (measurement of airblast and vibration) (refer to Appendix C), which will be positioned at the nearest potentially affected residences and other blast emission sensitive receivers to the plant operations as identified in the Project Approval. Blast monitoring instrumentation will be employed to meet the primary specifications presented in the Noise Monitoring Program/Blast management Plan (Appendix C).

The Blast Design Record Sheet (attached as Appendix K) is to be filled in for individual blast events.

14.3.2 Location and Frequency

A portable blast emissions monitor (to measure air blast and vibration) will be positioned at the following receivers (with reference to Table 1, Schedule 3 of the Project Approval) (refer to Appendix D and Figure 16-3 of Appendix L):

a) At the South Coast Correctional Facility (Location 5); and

b) At Location 1,2 or 4, depending upon which is closest to the blast; and

c) At the nearest commercial premises (Commercial Premises A in Appendix 3 of the Project Approval); and

d) At the nearest residence, if this residence is closer to the blast location than those identified in b).

14.3.3 Specific Personnel

All blasting-related activities will be supervised by a suitably qualified and experienced blasting engineer or shot-firer.

14.3.4 Performance Targets

Airblast overpressure levels and ground vibration level from blasting should not exceed the criteria in Table 14-2 and Table 14-3, respectively.

Table 14-2 Airblast overpressure impact assessment criteria

Receiver	Airblast overpressure level (dB(Lin Peak))	Allowable exceedances
Residential	115	5% of the total number of blasts in any 12 month period
South Coast Correctional Facility	120	0%
Commercial	125	0%

Table 14-3 Ground Vibration Impact Assessment Criteria

Receiver	Peak particle velocity (mm/s)	Allowable exceedances
Residential	5	5% of the total number of blasts in any 12 month period
South Coast Correctional Facility	10	0%
Commercial	25	0%

14.4 Noise Monitoring

14.4.1 Methodology

Intrusive noise emissions from quarrying, processing and transportation operations will be monitored by operator-attended noise measurements and recordings. The maximum (LA_{max}) and the average ($LA_{eq(15minute)}$) intrusive noise levels from quarrying and processing operations will be quantified and characterised over a 15 minute measurement period, as well as the overall levels of ambient noise.

During the attended noise measures, the operator will record any significant quarry generated noise sources and collect information regarding the operating equipment and machinery, as well as obtaining copies of the relevant fixed plant and mobile quarrying equipment operating shift logs.

14.4.2 Location and Frequency

Noise measurements will be carried out at the closest monitoring location identified in Table 14-4.

Intrusive noise levels and ambient noise will be monitored at the start of operations. Noise measurements will be conducted annually after all components of the project are operating. Noise monitoring may be discontinued if compliance with the nominated criteria is demonstrated at all four monitoring locations on three consecutive noise surveys.

14.4.3 Performance Targets

Standard hours of operation, as specified in the Project Approval, will apply, *i.e.:*

Monday to Friday: 7:00 am to 6.00 pm

Saturday: 7:00 am to 4:00 pm

Sunday and Public Holidays: No works

Note: Maintenance activities may be conducted outside weekday hours provided that the activities are not audible at any privately-owned residence, or until 6:00 pm on Saturdays. This is subject to the approval of the Mine Manager.

14.4.4 Continuous Improvement

In accordance with Schedule 3 Condition 3 SCCCR will implement all reasonable and feasible noise mitigation measures and investigate ways to reduce the noise generated by the project and report on these investigations in the AEMR.

In accordance with the Project Approval, Noise emissions are not to exceed the criteria in Table 14-4.

Table 14-4 Operational Noise Impact Assessment Criteria

Location and Locality	Day $L_{Aeq\ (15\ min)}$ (dBA)	Evening $L_{Aeq\ (15min)}$ (dBA)	Night $L_{Aeq\ (15\ min)}$ (dBA)
1 - 80 Links Road	39	35	35
2 - 371 Old Southern Road	45	35	35
3 - 243 Princes Highway	49	38	38
4 - South Coast Correctional Facility	51	37	37

14.5 Meteorological Monitoring

14.5.1 Methodology

To assist in noise monitoring, the automatic weather station will be programmed to continuously record the meteorological parameters in Table 14-5.

Table 14-5 Meteorological Measurement Parameters

Measured Parameter	Unit	Sample Interval
Mean wind speed	km/hr (or m/s)	15 minute
Mean wind direction	Degrees	15 minute
Sigma-theta	-	15 minute
Aggregate rainfall	mm	15 minute
Mean air temperature	^{o}C	15 minute
Mean relative humidity	%RH	15 minute

14.5.2 Location and Frequency

The weather station is to be located on-site. Records will be taken every 15 minutes.

14.5.3 Performance Targets

The weather station is to be configured with an alarm and/or telemetry notification system to advise the Mine Manager when winds exceed 10 m/s.

14.6 Air Quality Monitoring

14.6.1 Methodology

Air quality is to be monitored through:

- Dust deposition monitoring using Dust Deposition Gauges (DDGs)
- Total Suspended Particulate (TSP) monitoring using High Volume Air Sampler (HVAS)
- Particulate Matter (PM_{10}) monitoring using HVAS fitted with size selective inlet

Monitoring is to be carried out in accordance with the NSW DECCW document *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales"* and the Quarry's Air Quality Monitoring Program (attached as Appendix I).

14.6.2 Location and Frequency

Air quality monitoring locations are shown in Figure 16-3 of Appendix L.

Dust Deposition Gauges will be exposed for 30 days (+/- 2 days) to insoluble solids and ash residues. HVAS monitoring of TSP and PM_{10} will be conducted on a one-day-in-six cycle for a period of at least one year and at maximum quarry throughput.

14.6.3 Performance Targets

Standard hours of operation, as specified in the Project Approval, will apply, *i.e.:*

Monday to Friday: 7:00 am to 6.00 pm

Saturday: 7:00 am to 4:00 pm

Sunday and Public Holidays: No works

Note: Maintenance activities may be conducted outside weekday hours provided that the activities are not audible at any privately-owned residence, or until 6:00 pm on Saturdays. This is subject to the approval of the Mine Manager.

Deposited dust levels should not exceed the maximum increase in deposited dust level as illustrated in Table 14-6. PM_{10} levels should not exceed the 24-hour PM_{10} criteria (Table 14-7) attributable to the Nowra Brickworks Quarry occur during this period. Long term impact assessment criteria for TSP matter and particulate matter should not exceed the annual criteria in Table 14-8.

Table 14-6 Long term impact assessment criterion for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	annual	2 g/m^2/month	4 g/m^2/month

Table 14-7 Short term impact assessment criterion for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM_{10})	24 hour	50 µg/m^3

Table 14-8 Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
TSP matter	Annual	90 µg/m^3
Particulate matter < µm (PM_{10})	Annual	30 µg/m^3

14.7 Erosion and Sediment Control Monitoring

14.7.1 Methodology

During the Erosion and Sediment Control Monitoring, observation of the following will be noted:

- Removal of spilled soil or other materials from near hazard areas;
- Removal of trapped sediment from sediment fences;
- The stability of all sediment fences;
- Whether barrier fencing is maintained and exclusion zones are being observed by all site workers and contractors;
- Whether progressive and prompt rehabilitation of lands has effectively reduced the erosion hazard (and initiate upgrading or repair as appropriate);
- Whether additional erosion and/or sediment control works are necessary to ensure the desired water control is achieved, i.e. make ongoing changes to the Surface Water Management Plan; and
- Whether erosion and sediment control measures are in a functioning condition until such time as all earthwork activities are complete and the site is rehabilitated.

A rain gauge will be installed at the site and is to be monitored by the Mine Manager to determine the severity of any rain events.

All basin outlets will be checked for stability, as well as the operation of all pumps.

14.7.2 Location and Frequency

An internal auditing program to monitor erosion and sediment controls is to undertaken at the site. The Mine Manager will inspect the site at least fortnightly and maintain a log of inspections.

14.8 Landscape and Biodiversity Monitoring

14.8.1 Methodology

Biodiversity Offset area monitoring of the Northern and Southern Biodiversity Offset areas will be undertaken, and will involve the observation of any negative impacts on these sites, together with photos taken at permanent photo points, which will be included in the AEMR.

Photos from photographic reference points will also be taken to document activities within the Project Site, including rehabilitation progress.

Areas undergoing rehabilitation will be monitored to determine the success or otherwise of the management, mitigation and ameliorative measures and the rehabilitation programs.

The annual weed inspection will enable weed control activities to be planned and implemented for the following 12 months.

Routine records are to be maintained for following activities:

- Species of weeds treated and the method and timing of control;
- Chemical and quantity used;
- Species of seed collected and timing of collection; and
- Species, quantities, methods and location of revegetation programs.

A Vegetation Removal and Soil Stripping Record Sheet (attached as Appendix K) will be filled out prior to any vegetation removal and soil stripping events.

VENM Certificate Record Sheets (attached as Appendix K) will be filled out at VENM source and receival.

14.8.2 Location and Frequency

The following landscape and biodiversity monitoring will be implemented:

- Biodiversity Offset area monitoring on an annual basis for the Northern and Southern Biodiversity Offset areas;
- Rehabilitation areas will be monitored on a six month basis;
- Documentation of photographs from a set of photographic reference points will be taken on a six month basis within the Project Site, including rehabilitation progress; and
- Annual weed inspection within the operational area and biodiversity offset areas.

14.8.3 Specific Personnel

As part of Biodiversity Offset area monitoring, the Southern Biodiversity Offset area is to be monitored by the operators of the Nowra Correction Facility.

14.9 Aboriginal Heritage Monitoring

14.9.1 Methodology

If any Aboriginal relics are located the following procedures are to be implemented:

- STEP 1: Stop all earth disturbing works
- STEP 2: Create buffer of 20m x 20m around the relic. No unauthorised entry of earth disturbance is to be permitted within the buffer zone
- STEP 3: Commission an archaeologist to assess the discovery and obtain necessary permits (to destroy, damage or move)

If an Aboriginal object or Aboriginal place is likely to be destroyed, damaged or defaced, an Aboriginal Heritage Impact Permit (AHIP) will need to be applied for under Section 90 of the *NPWS Act*.

14.9.2 Location and Frequency

Aboriginal heritage monitoring is required for every event where vegetation removal or soil stripping operations occur within the area marked as “area to be monitored” in Figure 16-2 (refer also to Appendix L).

14.9.3 Specific Personnel

Representatives of the Nowra LALC and Durgan Consultancy will be required to be present during vegetation removal or soil stripping operations within the area marked as “area to be monitored”.

14.10 Surface Water Monitoring

14.10.1 Methodology

Five locations (S1, S4, C1, C2 and C10) are the location of on-going monitoring and are shown in Figure 16-3 of Appendix L. Further sampling sites will be required within the new extraction areas (similar to the current extraction area sites S1 and S2) as the quarrying activities progress towards the southern boundary of the Project Site (Stage 5 of the project).

Five campaigns will be completed annually after significant rainfall events (i.e. 50 mm or more over 5 days or less) spread uniformly throughout the year.

14.10.2 Location and Frequency

Surface Water Monitoring is required to determine if the quarrying activities are causing possible water quality changes over time. All sampling campaigns will be conducted and reported in accordance with protocols discussed in ANZECC & ARMCANZ (2000).

At all locations, field water quality tests for pH, EC, DO, ORP and temperature will be completed. Laboratory testing and analysis of samples obtained from all locations will also be completed, and analytes will include pH, EC, TSS, major cations and anions, TKN, NO_X nitrogen, ammonia nitrogen, Total-P, Reactive P, and metalloids. A list of the analytes to be monitored and tests as part of a long term monitoring framework will be determined after review of baseline data collected over the initial 12-month period.

Water samples collected from the piezometers will be stored in de-contaminated plastic bottles (charged with appropriate preservatives when required) supplied by a NATA-accredited testing laboratory. The collected samples will be stored at 4°C at all times prior to dispatch to a NATA-accredited laboratory for analysis.

14.10.3 Performance Targets

Trigger levels have been assigned, which when exceeded will indicate potential impact to the water quality of Nowra Creek, and are outlined in Table 14-9. Actions and follow-up actions, as outlined in the Surface Water and Groundwater Monitoring and Response Plan (Appendix F), will be required when trigger levels are exceeded.

Table 14-9 Trigger Levels for Surface Water Quality

Indicator	Trigger Levels
pH	A 'significant' decrease i.e. pH < 6.5 or a change of 1 pH unit is observed over the baseline data
EC	An increase of 20% or more than that observed in the background monitoring site (C1)
Cation/anion concentrations	An increase of 20% or more than that observed in the background monitoring site (C1)

Indicator	Trigger Levels
Nitrate nitrogen	0.7 mg/L
Ammonia nitrogen	0.9 mg/L
Total phosphorus	0.05 mg/L
Arsenic (III form)	0.94 mg/L
Arsenic (V form)	0.42 mg/L
Aluminium	0.080 mg/L
Zinc	0.015 mg/L
Dissolved iron	Insufficient data to set a guideline value based on health conditions

* Derived from ANZECC & ARMCANZ (2000) for the protection of 90% of all freshwater species in slightly disturbed lowland rivers of south-east Australia. Where baseline data for certain assessment indicator values are already higher than the ANZECC/ARMCANZ (2000) values it will be more appropriate to use stable (averaged over a 12-month period) baseline values as background or control values for comparison purposes.

14.11 Nowra Creek Health Monitoring

14.11.1 Methodology

Photographs of the creek section adjacent to the Project Site (between Sampling Sites C1 and C2 - Figure 16-3 of Appendix L) will be taken and kept as records of the visual inspections. These photographs will be used to monitor any changes that occur with time in Nowra Creek, and will be used to deduce if the observed changes relate to quarrying activities at the Site. Any evidence of changes in Nowra Creek will be investigated.

The following Nowra Creek health indicators will be observed:

- Colour and appearance of water
- Water surface condition, water flow and level
- Presence of odour or frothing
- Presence of floating debris or grease
- Presence of oily films on surface or on shoreline
- Presence of nuisance organisms (e.g. macrophytes, Phytoplankton scums, algal mats)
- Appearance of sediment plumes
- Evidence of erosion and scouring
- Loss of vegetation
- Channel width and depth

14.11.2 Location and Frequency

Visual inspections of the Nowra Creek will be undertaken regularly. These inspections will be conducted during and after rainfall events exceeding 50 mm over 5 days or less.

14.11.3 Specific Personnel

A qualified consultant will be contracted by Nowra Brickworks Quarry to investigate if the changes have arisen from the quarrying activities at the site, and will propose remedial and mitigation measures as appropriate.

14.12 Groundwater Monitoring

A number of groundwater monitoring programs are required, as follows:

- Groundwater level monitoring
- Groundwater rockface seepage monitoring
- Groundwater quality monitoring
- Groundwater inflow into the extraction area

14.12.1 Methodology

Each sampling campaign is to be conducted and reported in accordance with protocols laid down in National Water Quality Management Strategy, No 7, *Australian Guidelines for Water Quality Monitoring and Reporting* (ANZECC & ARMCANZ, 2000); NSWEPA Guidelines for Solid Waste Landfills, 1996).

Groundwater level monitoring

Monitoring of water level changes over time is required to assist in determining if the proposed quarry operations are impacting on groundwater level. During monitoring, standing water level, ambient temperature, atmospheric pressure and rainfall will be obtained.

Groundwater rockface seepage monitoring

Inspection of groundwater seepage from rockfaces is required.

Groundwater quality monitoring

Groundwater quality monitoring is required to determine if quarrying activities are impacting on groundwater quality over time.

Field water quality tests for pH, EC, DO, ORP and temperature will be completed. Laboratory testing and analysis of samples obtained will also be completed and parameters will include pH, EC, TDS, alkalinity, major cations and anions, TKN, NO_x-nitrogen, ammonia-nitrogen, Total-P, Reactive P, and metals. A list of the analytes to be monitored and tests to be conducted in the long term monitoring framework will be determined after review of baseline data collected over the initial 12-month monitoring period.

Water samples collected from the piezometers will be stored in de-contaminated plastic bottles (charged with appropriate preservatives when required) supplied by a NATA accredited testing laboratory. All samples will be stored at 4°C at all times prior to and during transport to a NATA-accredited laboratory for analysis.

Groundwater inflow into the extraction area

Water balance calculations using regular surveys are required from the extraction area pit to determine groundwater inflow into the extraction area. During monitoring, the area and depth of water in the extraction area pit is required.

14.12.2 Location and Frequency

Groundwater level monitoring

Groundwater level will be monitored at piezometers P1, P2, P3, P4, P5, P7 and P8 (refer Figure 16-3 of Appendix L). It should be noted that piezometer P6 as been lost due to quarrying activities and monitoring is not required at this location. Water level monitoring is required on a three monthly basis initially and is to be reviewed after the collection of the initial 12-month monitoring period.

Groundwater rockface seepage monitoring

Inspection of groundwater seepage on rockfaces within the operation area.

Groundwater quality monitoring

Groundwater level will be monitored at piezometer locations P2, P3, P5, P7 (refer Figure 16-3 of Appendix L). Sampling will be undertaken ever three months, and the frequency of sampling will be reviewed after the initial 12-month monitoring period.

Groundwater inflow into the extraction area

Monitoring of the extraction area pit is required regularly or following rain events or sudden increase in water level.

14.12.3 Specific Personnel

Groundwater rockface seepage monitoring

Inspection of groundwater seepage on rockfaces is required to be conducted every six months by a geotechnical engineer.

14.12.4 Performance Targets

Groundwater level monitoring

Further actions and follow-up actions (refer to the Surface Water and Groundwater Monitoring and Response Plan, attached as Appendix F) will be required in the event that significant change is noted and water level triggers are exceeded. These triggers include:

- A ‘significant’ decrease in water level over time or that occurs over a much shorter period in any one or a number of onsite piezometers.
- A ‘significant’ decrease is defined as water level decreases of 1.5 m in any of the piezometers over a six month period. This decrease represents a 50% change in the maximum water level decrease observed in the current baseline data. This water level trigger value will be reviewed when data have been collected over a 12-month period.

Groundwater rockface seepage monitoring

If seepage is noted on rockfaces, actions and follow-up actions will be required, as discussed in the Surface Water and Groundwater Monitoring and Response Plan (attached as Appendix F).

Groundwater quality monitoring

Trigger levels for the indication of groundwater quality change are indicated as a ‘significant’ deterioration in the water quality and increase of pollutant level. ‘Significant’ refers to decreasing pH (<6.0), increasing EC, TSS and major cation/anion concentrations over time (an increase of >20% of the corresponding baseline data) or sudden increases between quarterly datasets. The water quality trigger levels will be reviewed when data have been collected over a 12-month period.

Actions and follow-up actions will be required when trigger levels are exceeded, and are listed in the Surface Water and Groundwater Monitoring and Response Plan (attached as Appendix F).

Groundwater inflow into the extraction area

If the groundwater inflow is calculated as greater than 14 ML/year, actions and follow-up actions will be required as listed in the Surface Water and Groundwater Monitoring and Response Plan (attached as Appendix F).

14.13 Environmental Monitoring Summary

Table 14-10 outlines the environmental monitoring required for the duration of quarry operation.

Table 14-10 Event based Environmental Monitoring Summary

Monitoring	Frequency/Event	Location	Monitoring procedures	Personnel Responsible	Recording requirements	Additional Information
Blasting events						
Air blast overpressure and ground vibration	During blasting events	a) South Coast Correctional Facility (Location 5) b) At Location 1, 2 or 4, depending upon which is closest to the blast c) At the nearest commercial premises (Commercial Premises A) d) At the nearest residence, is this residence is closer to the blast location than those identified in b) (refer Figure 16-3 of Appendix L)	Monitor air blast overpressure and ground vibration	Mine Manager to employ a suitably qualified and experienced blasting engineer or shot-firer	Complete a Blast Design Record Sheet (Appendix K)	Section 7
vegetation removal or soil stripping						
Vegetation removal and soil stripping	When undertaking vegetation removal or soil stripping	Within the area scheduled to be cleared	Complete the Vegetation Removal and Soil Stripping Record Sheet prior to commencement of the event (Appendix K)	Mine Manager	Complete the Vegetation Removal and Soil Stripping Record Sheet (Appendix K)	Section 5
Aboriginal heritage monitoring	When undertaking vegetation removal or soil stripping	Within the area identified as the South Western Section in Figure 16-2 of Appendix L	Monitor events for Aboriginal relics	Mine Manager and representatives from the Nowra LALC and Durgan Consultancy	Complete the Vegetation Removal and Soil Stripping Record Sheet (Refer to Section 5.3)	Section 5
Fauna in hollow-bearing trees	When undertaking vegetation removal or soil stripping	Within the area scheduled to be cleared	Relocate native fauna and/or care for injured fauna	The commissioned fauna consultant	Complete the Vegetation Removal and Soil Stripping Record Sheet prior to commencement of the event (Appendix K)	Section 5
General						
Meteorological Monitoring	Every 15 minutes	On-site monitoring station	Automatic record of parameters	Mine Manager	Automatic records of meteorological parameters	Section 14.5
Dust deposition monitoring	Every 30 (+/-2) days	DDG 1, DDG 2, DDG 3 and DDG 4 (refer Figure 16-3 of Appendix L)	Record of g/m²/month of dust deposition	Mine Manager	To be recorded as g/m²/month	Section 14.6
Total Suspended Particulate (TSP) monitoring	One-day-in-six cycle for a period of at least on year and at maximum quarry throughput	HVAS North and South (refer Figure 16-3 of Appendix L)	Record of µ/m² of TSP for short-term and long-term monitoring	Mine Manager	To be recorded as µ/m²	Section 14.6
Particulate Matter (PM_{10}) monitoring	One-day-in-six cycle for a period of at least on year and at maximum quarry throughput	HVAS North and South (refer Figure 16-3 of Appendix L)	Record of µ/m² of PM_{10} for long-term monitoring	Mine Manager	To be recorded as µ/m²	Section 14.6
Erosion and Sediment Control Monitoring	At least fortnightly	Where appropriate across the site	Maintain a log of the effectiveness of the erosion and sediment control systems in place	Mine Manager	Record of inspections to be kept	Section 14.7
Importation and use of VENM	During weighing, sourcing, placement and VENM verification	At the source of the VENM and receival at the quarry	Weigh, inspect, and determine source of VENM Certify that the excavated material can be classified as VENM (refer to Section 11)	VENM supplier at the source; VENM driver upon delivery to the quarry; Mine Manager or delegated authority during the unloading of the VENM	Complete VENM Certificate Record Sheets (Section 11.3)	Section 11

Monitoring	Frequency/Event	Location	Monitoring procedures	Personnel	Recording requirements	Additional Information
Rain gauging	After rain events	Where rain gauge is installed	Record of severity of any rain events	Mine Manager	Records to be kept	Section 14.7
Basin outlets and pump operation	None allocated	Where installed	Stability of basin outlets and operation of all pumps to be checked	Mine Manager	Record of inspections and maintained on site	Section 14.7
Surface Water Monitoring	During five campaigns over 12 months	S1, S4, C1, C2 and C10 (refer Figure 16-3 of Appendix L)	Field water quality tests, and laboratory testing and analysis	Mine Manager	Water quality results to be kept	Section 14.9
Nowra Creek Health Monitoring	During and after rainfall events exceeding 50 mm over 5 days or less	Nowra Creek, between Sites C1 and C2 (refer Figure 16-3 of Appendix L)	Photographs and records and dates of visual inspections of Nowra Creek	Mine Manager	Photographs and records to be kept	Section 14.11
Groundwater Inflow into the Extraction Area Monitoring	Regularly or following rain events or sudden increase in water level	Extraction area pit	Area (and depth) of water in the extraction area pit	Mine Manager	Records to be kept on site	Section 14.12
General - Quarterly						
Landscape Progress	Routine (no further information specified)	Where appropriate	Written details of weed management (species, methodology, timing, chemicals and quantity), seed collection (species and timing), revegetation programs (species, quantities, methods and location)	Mine Manager	Written records to be kept	Section 14.8
Groundwater Level Monitoring	Every three months	P1, P2, P3, P4, P5, P7, P8 (refer Figure 16-3 of Appendix L)	Standing water level, ambient temperature, atmospheric pressure, rainfall	Mine Manager	Groundwater information to be kept	Section 14.12
Groundwater Quality Monitoring	Every three months	P2, P3, P5, P7 (refer Figure 16-3 of Appendix L)	Field water quality tests, and laboratory testing and analysis	Mine Manager	Groundwater results to be kept	Section 14.12
General - Biannually						
Rehabilitation areas	Every six months	Rehabilitation areas	Monitoring of success of the management, mitigation and ameliorative measures and the rehabilitation programs.	Mine Manager	Monitoring records to be kept	Section 14.8
Activities with the Project Site, including rehabilitation areas	Every six month	Reference points, within the Project Site	Take photos from photographic reference points	Mine Manager	Photos to be kept	Section 14.8
Groundwater Rockface Seepage Monitoring	Every six months	Rockfaces	Inspection of water seepage on rockfaces	Geotechnical Engineer	Written records of inspection to be kept	Section 14.12
General - Annually						
Operator-attended Noise Survey	At the start of operations and annually after all components of the project are in operation	At the closest monitoring location to the operations	Maximum and average intrusive noise levels, and ambient noise over a 15 minute measurement period	Mine Manager	To be recorded as LA_{max} and $LA_{eq(15minute)}$	Section 14.4
Biodiversity offset area monitoring	Annually	Northern and Southern biodiversity offset area reference points	Take photos from photographic reference points for both areas	Mine Manager and the Operators of the Nowra Correction Facility (Southern biodiversity offset area)	Photos to be kept	Section 14.8
Weed inspection	Annually	Areas of operation and the biodiversity offset areas	Inspect weeds to enable weed control activities to be planned and implemented for the following 12 months	Mine Manager	Written records to be kept	Section 14.8

15. Reporting

15.1 Overview

This chapter addresses the reporting requirements for the quarry, which have been outlined in the following:

- Environmental Assessment (Corkery and City Plan Services 2009);
- Project Approval (Appendix A);
- Environment Licences and Approvals (Appendix B);
- Noise Monitoring Program/Blast Management Plan (attached as Appendix C);
- Erosion and Sediment Control Plan (attached as Appendix E);
- Surface Water and Groundwater Monitoring and Response Plan (attached as Appendix F);
- Landscape and Biodiversity Management Plan (attached as Appendix H);
- Air Quality Management Plan (attached as Appendix I); and
- Aboriginal Heritage Management Plan (Appendix J).

The EMS is based on the content of the plans, programs and reports in the appendices attached. Although the following describes the strategy for compliance with the Project Approval and these plans, the plans should be reviewed regularly and whilst undertaking environmental reporting activities. In the event of an inconsistency, the plan (as attached) shall prevail.

15.2 Scheduled Reports

Scheduled Reports required by the Project Approval and EPL are outlined in Table 15-1 below.

Table 15-1 Scheduled Environmental Reports

When	What	Relevant Agency	Information required
Every six months	Update Website	None	Summary of monitoring results required under the Project Approval.
April each year[1]	Environmental Protection Licence 'Annual Return'	EPA	The licensee must complete and supply to the EPA an Annual Return in the approved form and in accordance with reporting conditions contained with the licence (attached as Appendix B).
Prior to 1 December annually	Annual Environmental Management Report (AEMR)	Director-General, Department of Planning DECCW NOW	◗ The standards and performance measures that apply to the project ◗ Works carried out in the last 12 months, and the works that will be carried out in the next 12 months ◗ Summary of complaints received in the past year and a comparison of complaints received in the previous year ◗ Summary of all the monitoring results (refer to Section 14) ◗ An analysis of the monitoring results against:

When	What	Relevant Agency	Information required
			– The impact assessment criteria/limits – Monitoring results from previous years – Predictions in the Environmental Assessment ◗ Any observable trends in the monitoring results over the life of the project ◗ Any non-compliance during the year ◗ Any actions taken to ensure compliance
Within three years of the first AEMR and every three years thereafter	Independent Environmental Audit Report	Director-General Department of Planning	Refer to Schedule 5 Condition 1 of the Project Approval (attached as Appendix A)

[1] *The Annual Return reporting period means the period of 12 months after the issue of the EPL, and each subsequent period of 12 months. As a result, the scheduled date for the Annual Return specified above may change when a new licence is issued.*

15.3 Event Reporting

Reports have to be prepared for any event listed in Table 15-2.

Table 15-2 Event Reporting

Event	Reporting Required	Person responsible	Relevant Agency
Environmental Harm Incident	Call the EPA's Pollution Line service on 131 555. The Mine Manager must also provide written details of the notification to the EPA within seven days of the incident. The Department of Planning and other relevant agencies must also be notified within 24 hours of the incident.	Mine Manager and any of SCCCR's employees.	EPA and the Department of Planning.
Blasting event	Written notification and submission of a copy of the completed Blast Design Record Sheet (attached as Appendix K) within seven days of the blasting event.	Mine Manager	EPA
	The landowner/occupier of any residence within two kilometres of the quarry pit who registers an interest in being notified about the blasting schedule on site prior to blasting. Develop a notification process to alert residents at least 24 hours before any blast. Operate a blasting hotline and keep public informed.	Mine Manager	Landowner/occupier of residences within two kilometres
Any exceedance of ground vibration and/or airblast overpressure limits (refer to Section 14.3)	Telephone call followed up by written notification and submission of the completed Blast Monitoring Record Sheet of the event (attached as Appendix K), as soon as practicable.	Mine Manager	EPA and the Department of Planning.
	Provide notification to affected landowners and tenants.	Mine Manager	Affect landowners and tenants.
Any exceedance of noise, operation hours and/or air quality limits (refer to Sections 14.4 and 14.6)	Telephone call within 24 hours of the exceedance event followed up by written report within six days that: ◗ Describes the date, time, and nature of the exceedance ◗ Identifies the cause of the exceedance ◗ Describes what preparation actions have been taken ◗ Describes the proposed measures to address the exceedance Provide subsequent quarterly monitoring results until results show that project is complying.	Mine Manager	Department of Planning, Director-General.
	Provide notification to affected landowners and tenants.	Mine Manager	Affect landowners and tenants.
Exceedance of Surface Water and Groundwater Trigger Values (refer to Sections 14.10 and 14.12)	Further reporting on shorter timescales (monthly, quarterly, six-monthly etc.) and consultation with DECCW.	Mine Manager	DECCW
Demonstration of a 'significant' impact to a distant bore user in relation to groundwater level change.	Further reporting on shorter timescales (monthly, quarterly, six-monthly etc.) and consultation with DECCW.	Mine Manager	DECCW
Receipt of complaints from community	Receive, log, track and respond to complaints in the complaints register. Information to be recorded includes date and time of complaint, method complaint was made by, personal details of the complainant, nature of the complaint, action taken by the licensee in relation to the complaint, and in the event that no action was taken, the reasons why. The record of a complaint will be kept for at least four years after the complaint was made. In the instance that an agreeable outcome (by all concerned parties) cannot be reached, the matter will be referred to the Director-General for resolution. If the matter cannot be resolved within 21 days, the Director-General will refer the matter to an Independent Dispute Resolution Process.	Mine Manager	Relevant public authority or landowner Director-General if dispute cannot be resolved

16. References

ANZECC & ARMCANZ, 2000. National Water Quality Management Strategy, No 4A, An Introduction to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality

Corkery and City Plan Services (R.W. Corkery and Co. Pty Ltd and City Plan Services), 2009. Environmental Assessment for the Continuation and Expansion of Extractive Operations at the Nowra Brickworks Quarry, South Nowra. Report prepared for South Coast Concrete Crushing and Recycling Pty Ltd for Major Project Application No. 07-0123.

Landcom, 2004. Guideline Soils and Construction Managing Urban Stormwater. Landcom.

SEEC Morse McVey, 2007. Erosion and Sediment Control Plan, prepared on behalf of South Coast Concrete Crushing and Recycling Pty Ltd (Part 7B of the Specialist Consultant Studies Compendium).

Appendix C – Blasting Monitoring Results

Blasting Results

Commercial Properties

Date/Time	Vert at 12:30:02 July 29, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

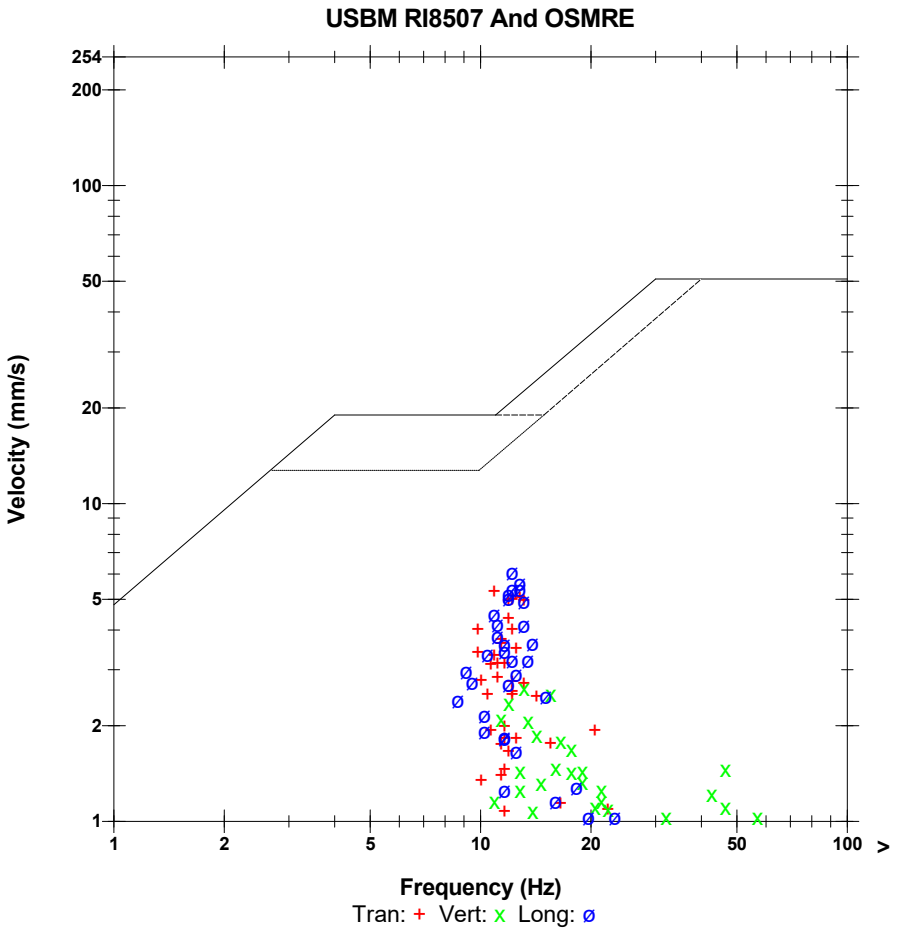
Serial Number	BE15777 V 10.72-1.1 Minimate Blaster
Battery Level	6.2 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q777KNJM.Q20

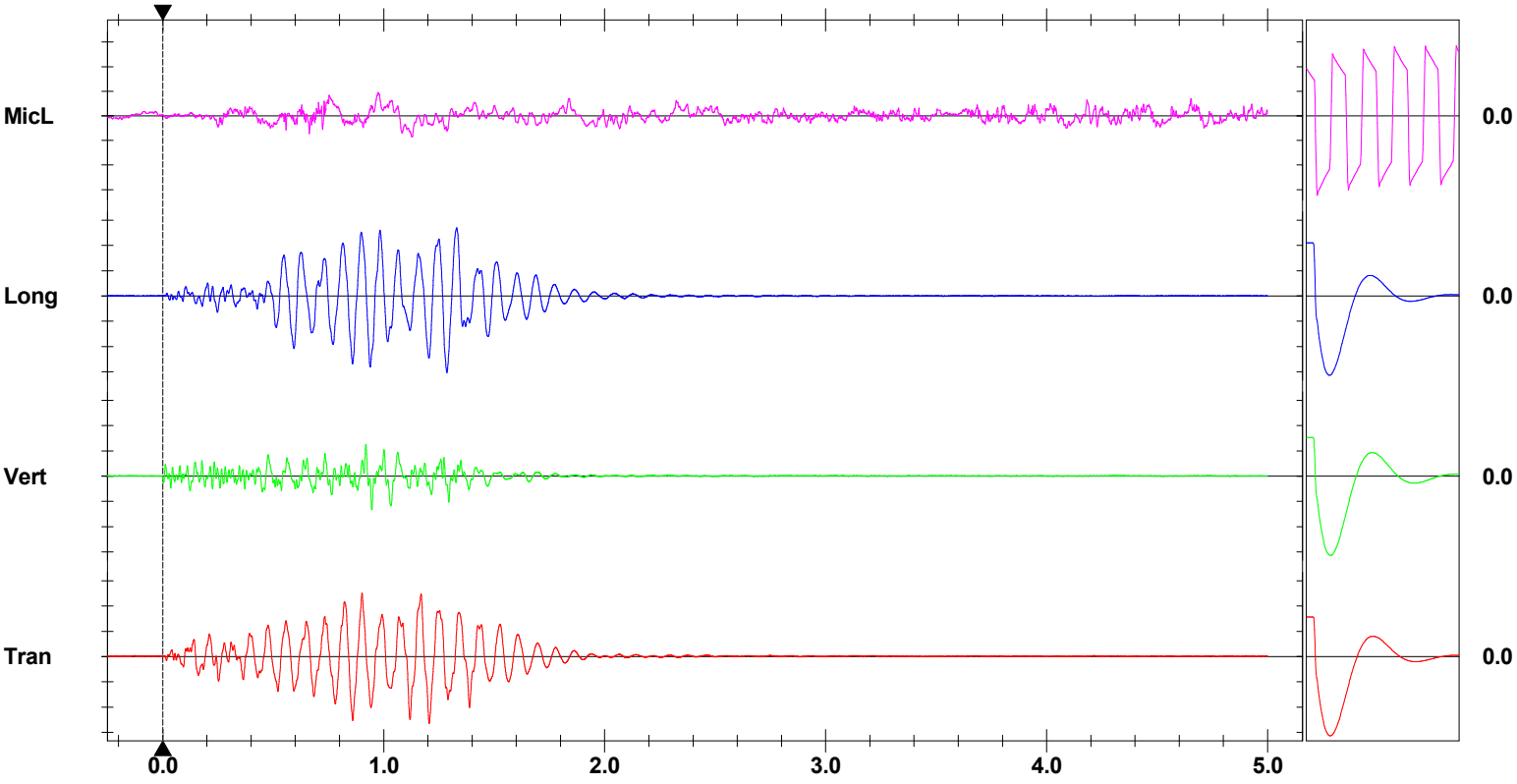
Notes

Microphone	Linear Weighting
PSPL	113.5 dB(L) at 0.974 sec
ZC Freq	3.6 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 608 mv)

	Tran	Vert	Long	
PPV	5.302	2.635	6.064	mm/s
ZC Freq	11	13	12	Hz
Time (Rel. to Trig)	1.206	0.945	1.286	sec
Peak Acceleration	0.055	0.048	0.061	g
Peak Displacement	0.061	0.021	0.076	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.7	Hz
Overswing Ratio	3.9	3.4	3.9	

Peak Vector Sum 7.393 mm/s at 0.860 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Vert at 12:30:02 July 29, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

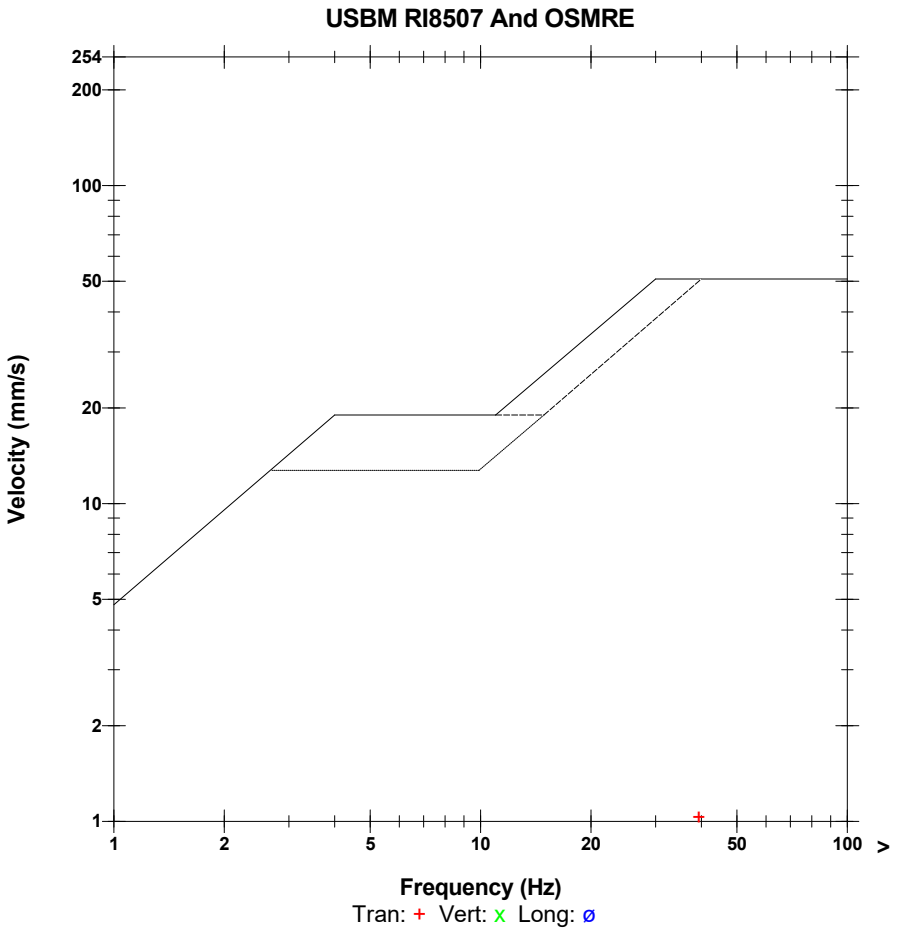
Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	R020KNJM.Q20

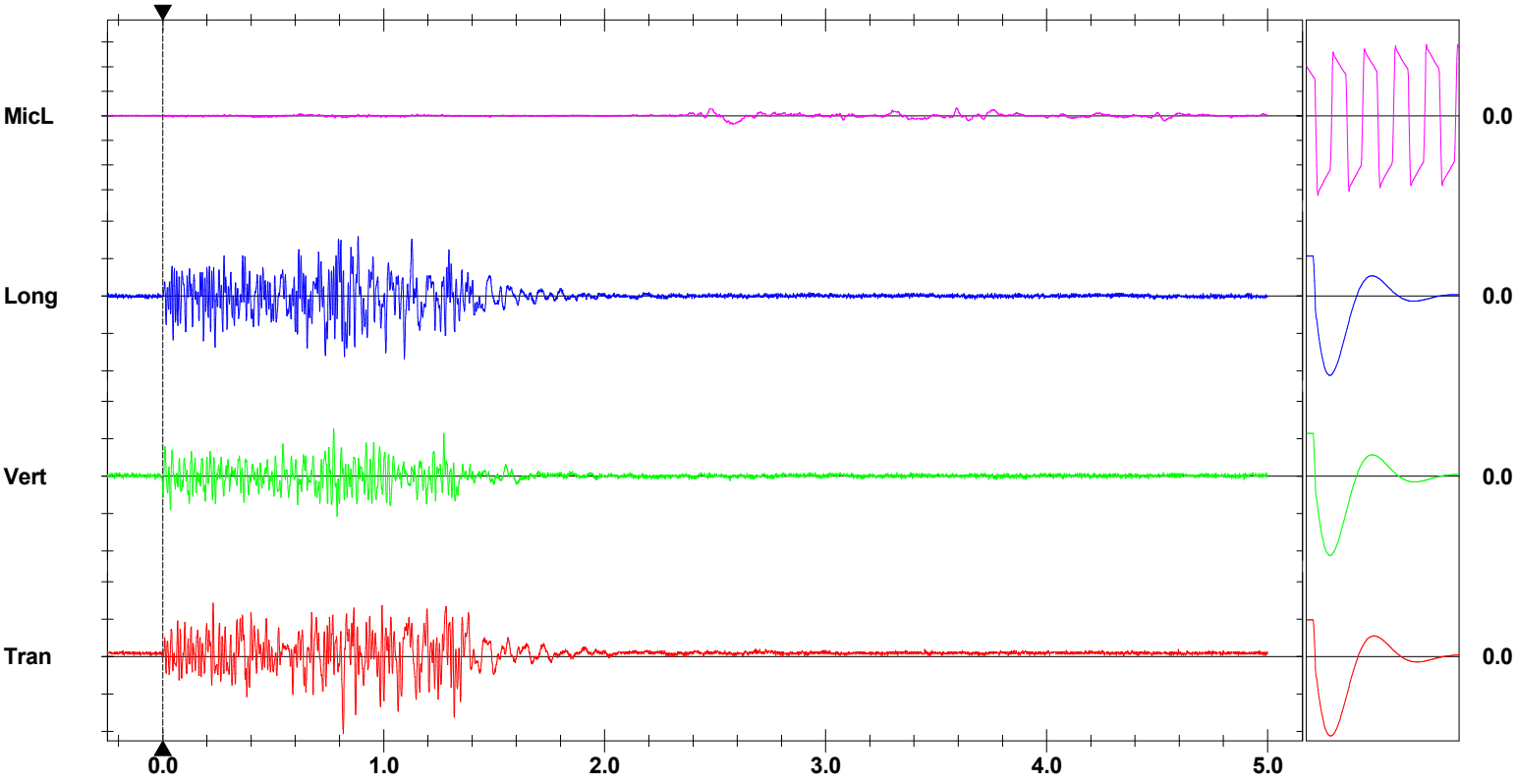
Notes

Microphone	Linear Weighting
PSPL	104.9 dB(L) at 2.580 sec
ZC Freq	5.1 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 580 mv)

	Tran	Vert	Long	
PPV	1.032	0.635	0.841	mm/s
ZC Freq	39	51	34	Hz
Time (Rel. to Trig)	0.817	0.773	1.094	sec
Peak Acceleration	0.030	0.025	0.036	g
Peak Displacement	0.008	0.003	0.005	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.5	Hz
Overswing Ratio	3.9	3.8	4.0	

Peak Vector Sum 1.089 mm/s at 0.817 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Vert at 12:29:36 July 29, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.00 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Operator/Setup:	Operator/UM11466.mmb

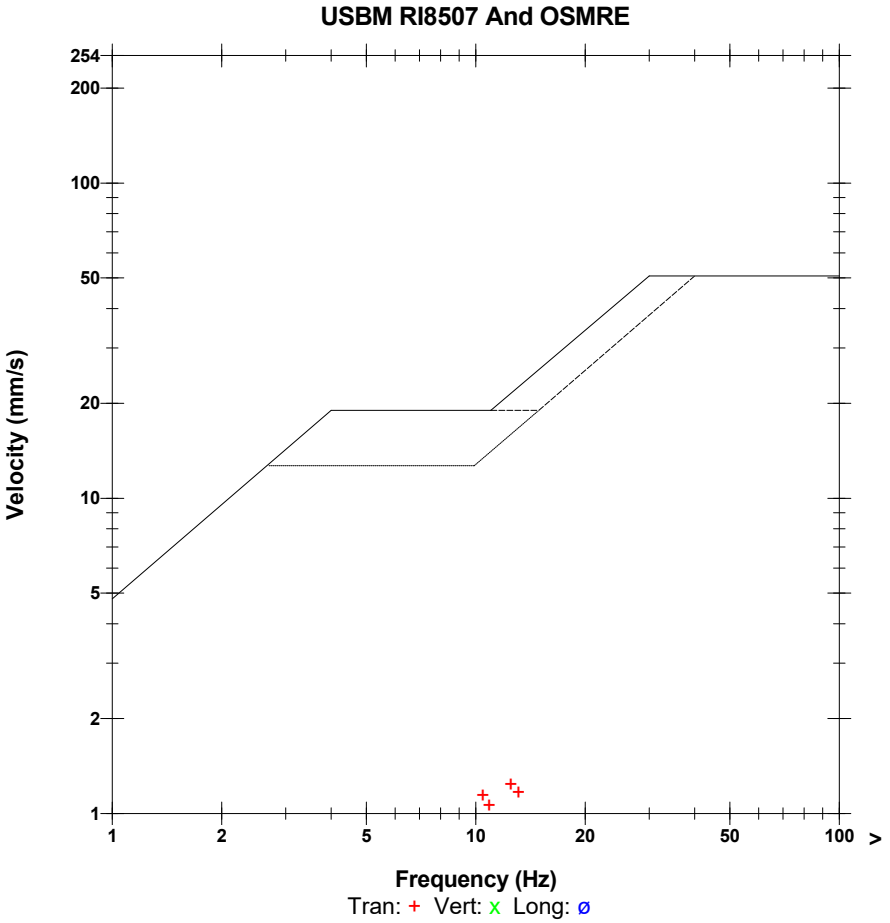
Serial Number	UM11466 V 10-90GC Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	January 12, 2024 by Saros Int
File Name	UM11466_20240729122936.IDFW

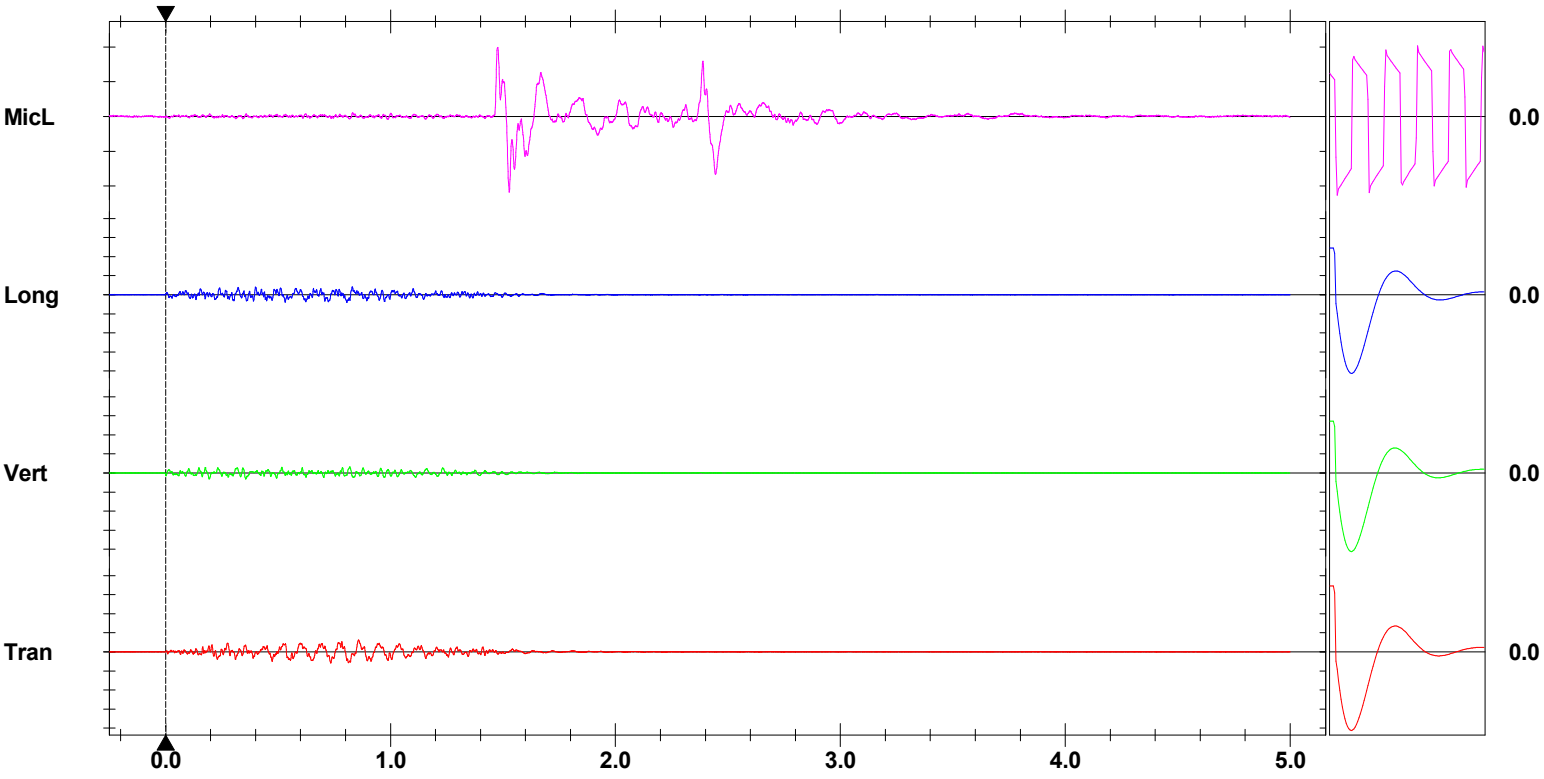
Notes
Location
Client
Company
General Notes

Microphone	Linear Weighting
PSPL	114.7 dB(L) at 1.528 sec
ZC Freq	4.0 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1724 mv)

	Tran	Vert	Long	
PPV	1.237	0.646	0.828	mm/s
ZC Freq	12	32	13	Hz
Time (Rel. to Trig)	0.857	0.193	0.830	sec
Peak Acceleration	0.035	0.019	0.030	g
Peak Displacement	0.013	0.004	0.007	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.7	7.5	Hz
Overswing Ratio	3.0	3.1	3.3	

Peak Vector Sum 1.356 mm/s at 0.819 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 5.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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North of Brickworks

Date/Time	Vert at 12:29:56 July 29, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.00 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Operator/Setup:	Operator/UM11465.mmb

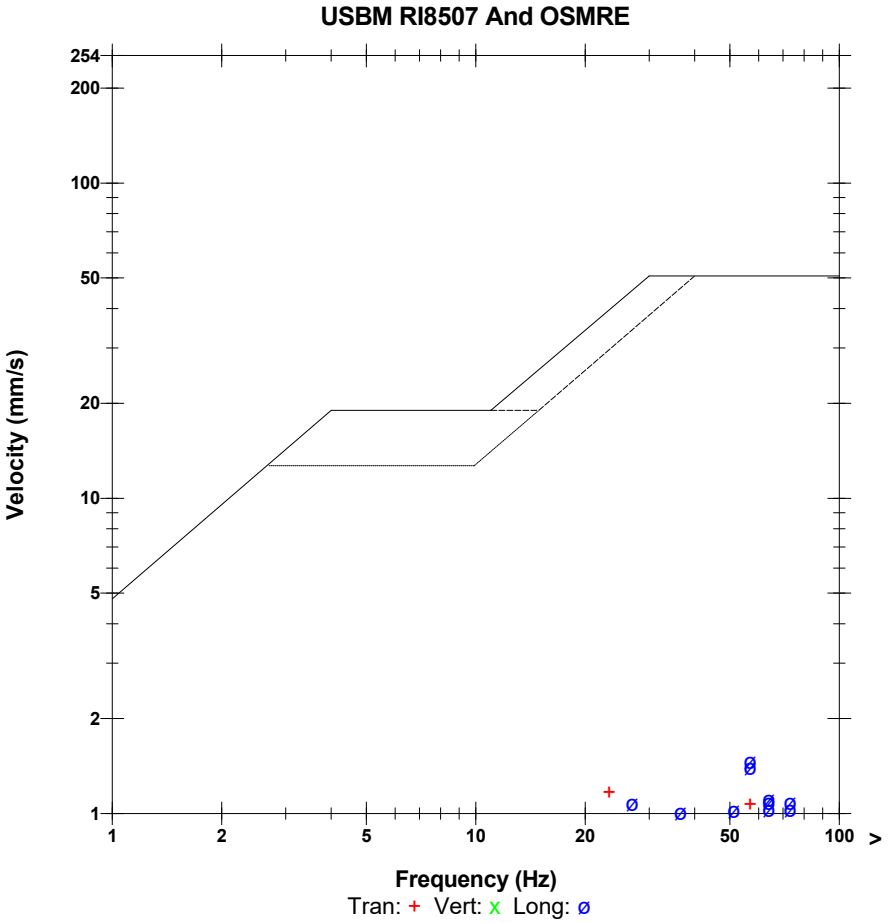
Serial Number	UM11465 V 10-90GC Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	January 12, 2024 by Saros Int
File Name	UM11465_20240729122956.IDFW

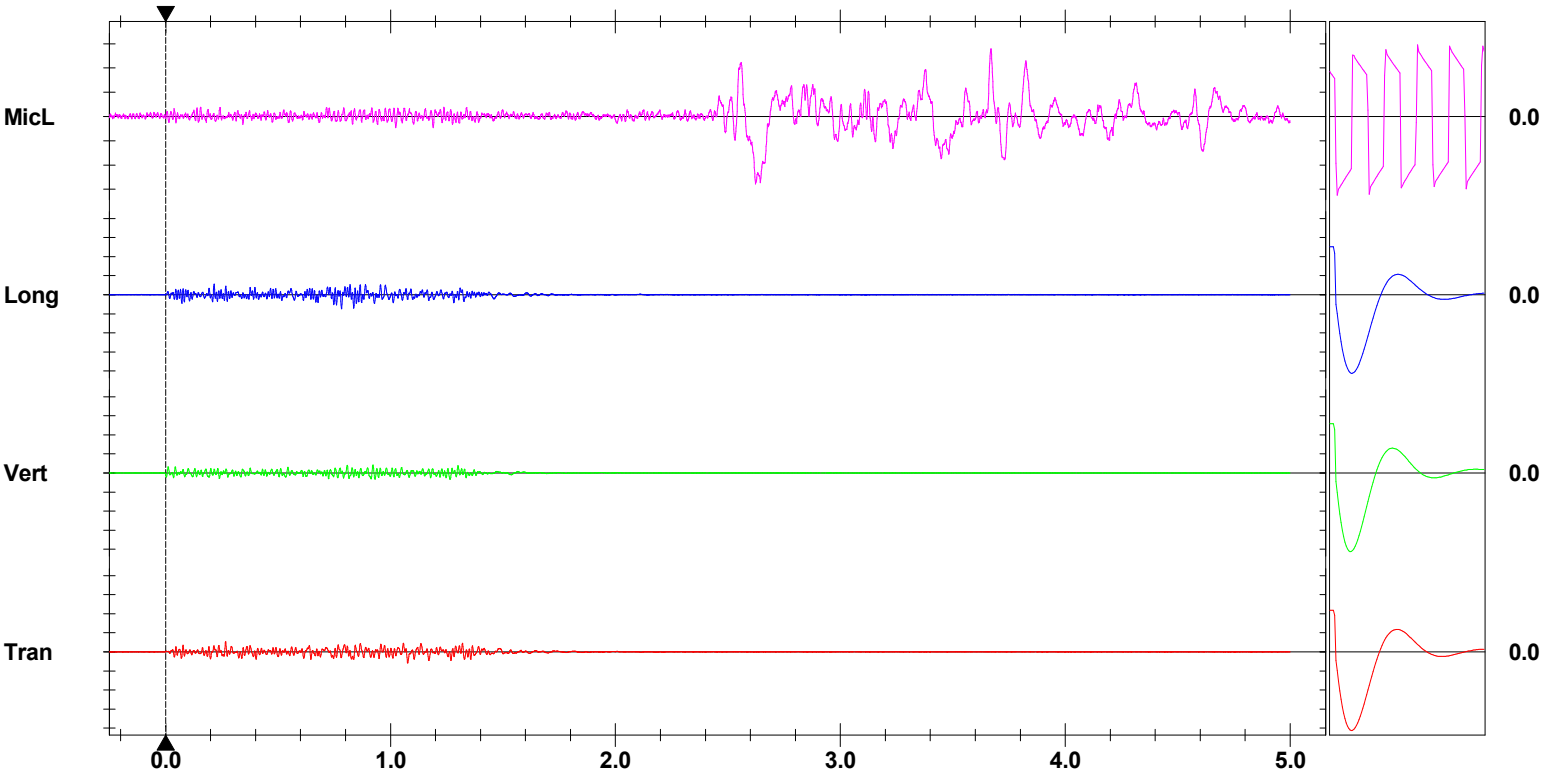
Notes
Location
Client
Company
General Notes

Microphone	Linear Weighting
PSPL	102.9 dB(L) at 2.623 sec
ZC Freq	4.6 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1679 mv)

	Tran	Vert	Long	
PPV	1.167	0.843	1.466	mm/s
ZC Freq	23	57	57	Hz
Time (Rel. to Trig)	1.076	0.922	0.782	sec
Peak Acceleration	0.036	0.029	0.054	g
Peak Displacement	0.005	0.003	0.005	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.9	7.1	Hz
Overswing Ratio	3.5	3.1	3.8	

Peak Vector Sum 1.658 mm/s at 0.836 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Commercial Properties

Date/Time	Vert at 12:30:01 August 15, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.0 dB(L)
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps
Job Number:	1

Serial Number	BE15377 V 10.72-1.1 Minimate Blaster
Battery Level	6.1 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q377KOF4.210

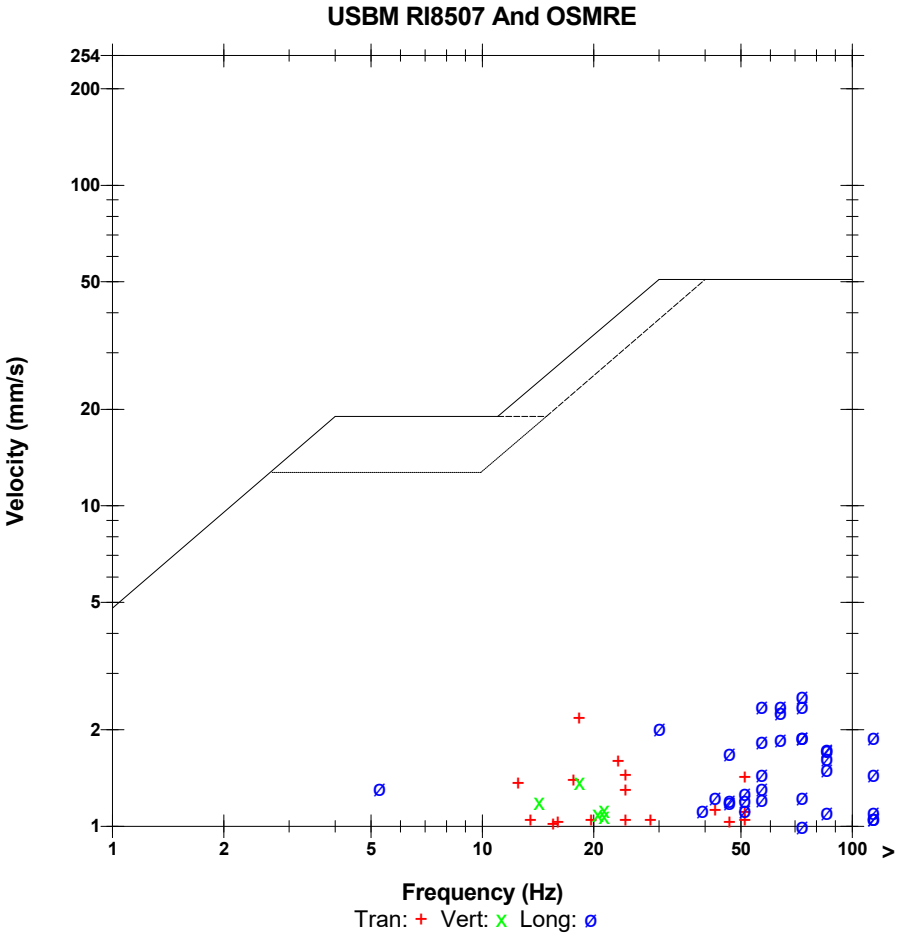
Notes
Location:
Client:
User Name:
General:

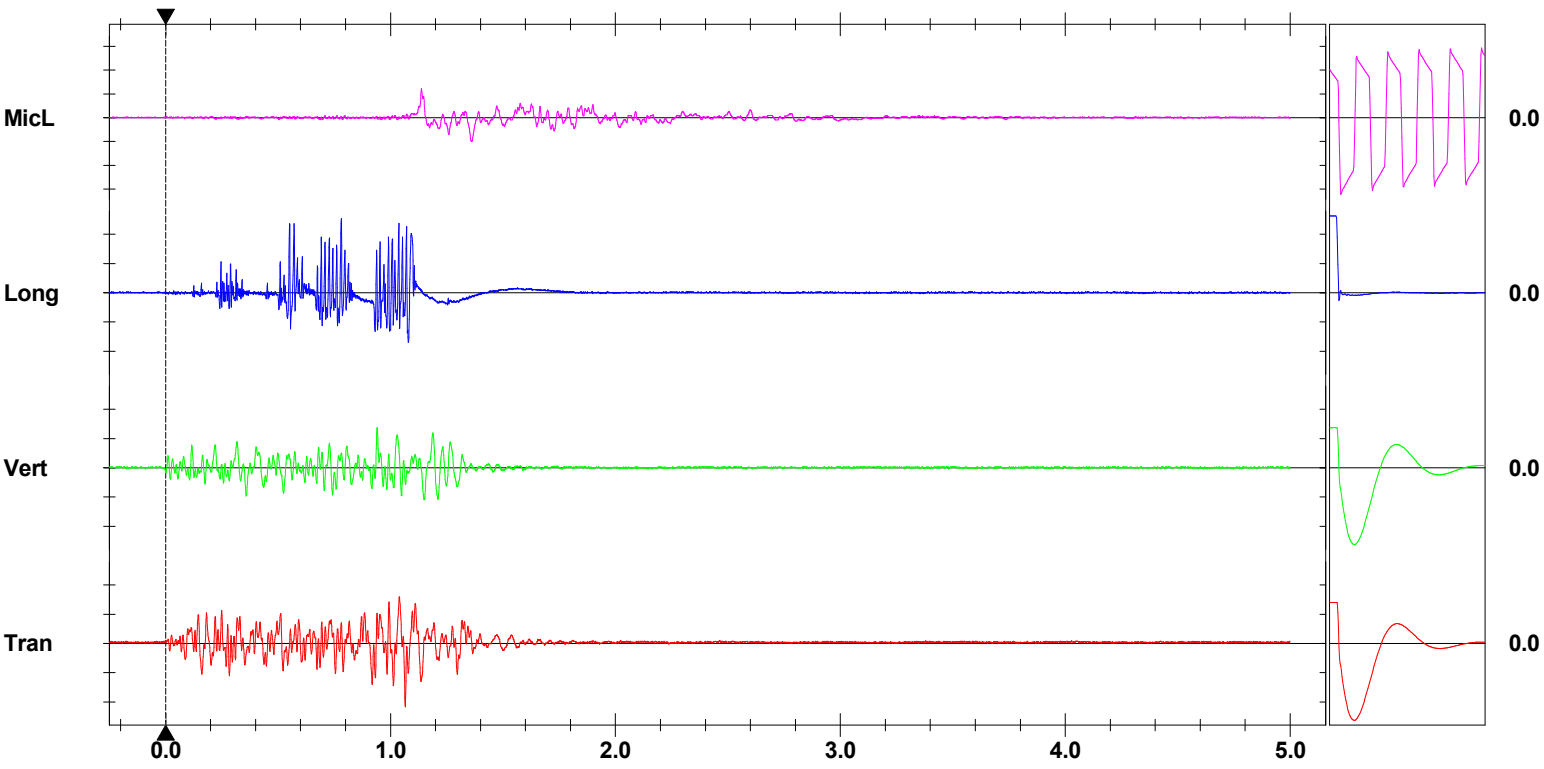
Extended Notes

Microphone	Linear Weighting
PSPL	115.7 dB(L) at 1.138 sec
ZC Freq	7.0 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 590 mv)

	Tran	Vert	Long	
PPV	2.175	1.381	2.540	mm/s
ZC Freq	18	18	73	Hz
Time (Rel. to Trig)	1.065	0.940	0.781	sec
Peak Acceleration	0.048	0.031	0.167	g
Peak Displacement	0.013	0.009	0.028	mm
Sensor Check	Passed	Passed	Check	
Frequency	7.5	7.7	7.8	Hz
Overswing Ratio	3.9	3.3	6.0	

Peak Vector Sum 2.868 mm/s at 1.037 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Vert at 12:30:01 August 15, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

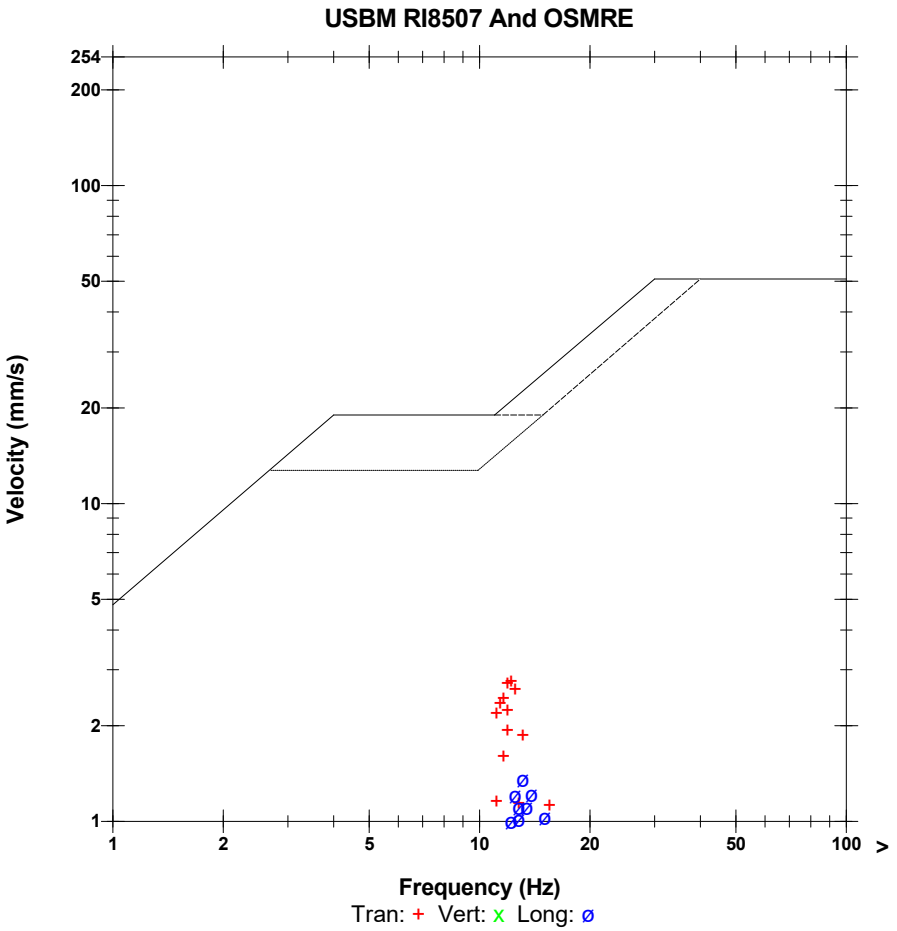
Serial Number	BE15777 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q777KOF4.210

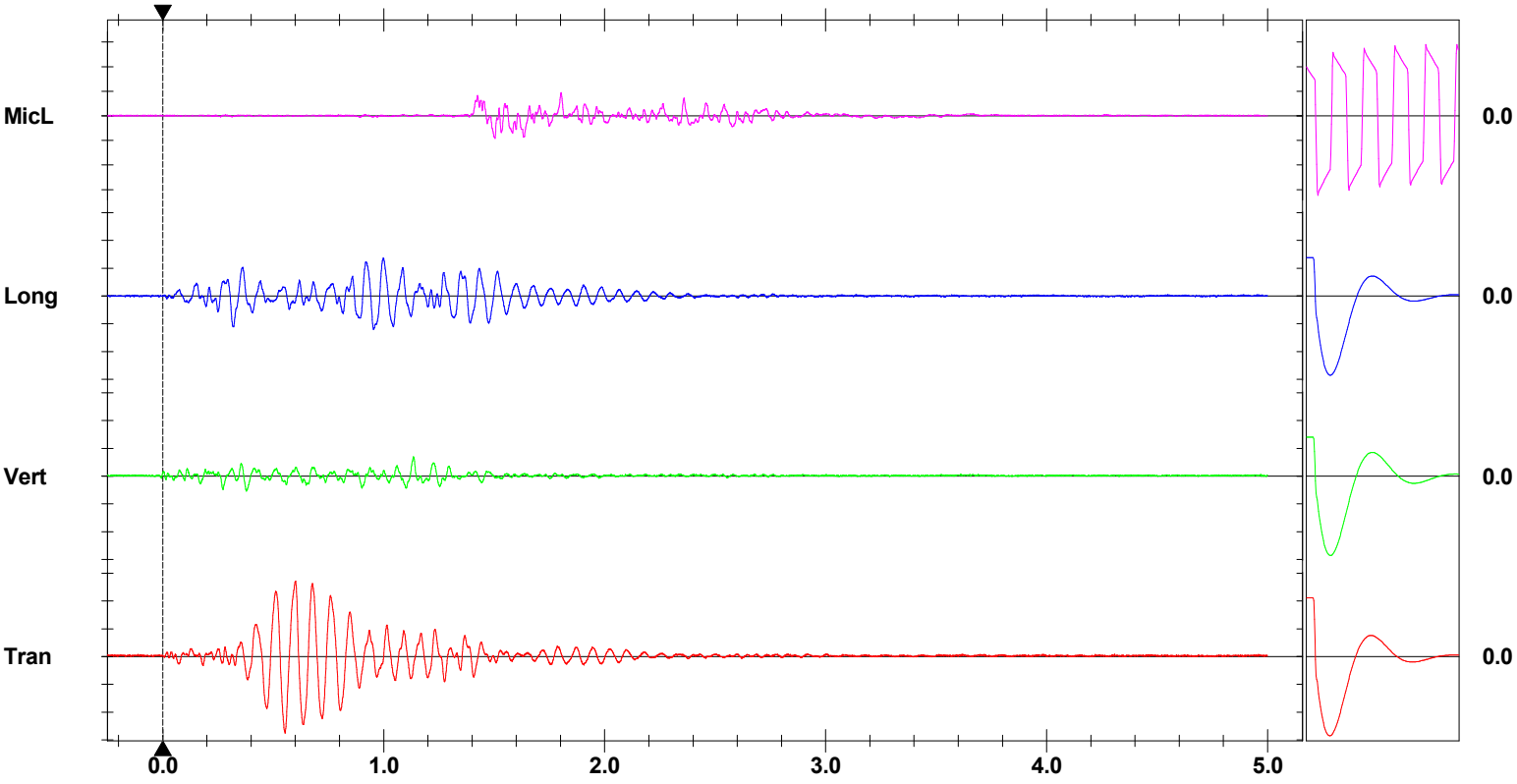
Notes

Microphone	Linear Weighting
PSPL	113.5 dB(L) at 1.803 sec
ZC Freq	11 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 564 mv)

	Tran	Vert	Long	
PPV	2.762	0.698	1.365	mm/s
ZC Freq	12	19	13	Hz
Time (Rel. to Trig)	0.554	1.135	0.998	sec
Peak Acceleration	0.028	0.012	0.017	g
Peak Displacement	0.036	0.005	0.017	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.6	7.4	Hz
Overswing Ratio	3.8	3.4	4.0	

Peak Vector Sum 2.784 mm/s at 0.554 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Vert at 12:29:46 August 15, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.00 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Operator/Setup:	Operator/UM11464.mmb

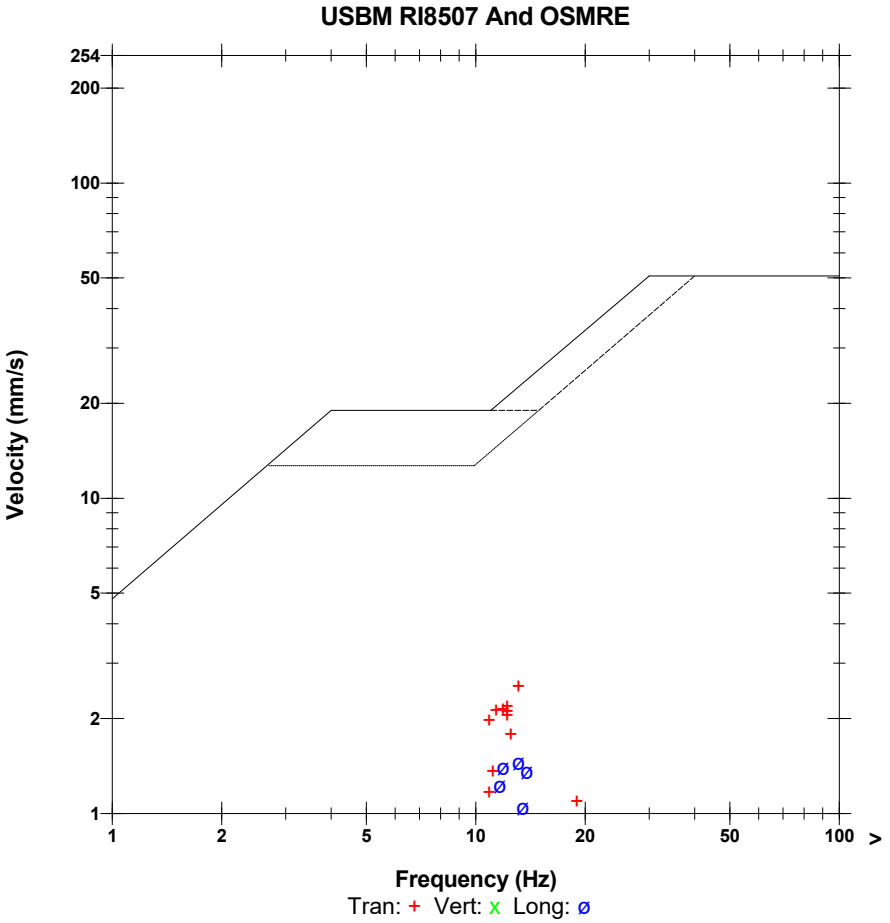
Serial Number	UM11464 V 10-90GC Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	January 12, 2024 by Saros Int
File Name	UM11464_20240815122946.IDFW

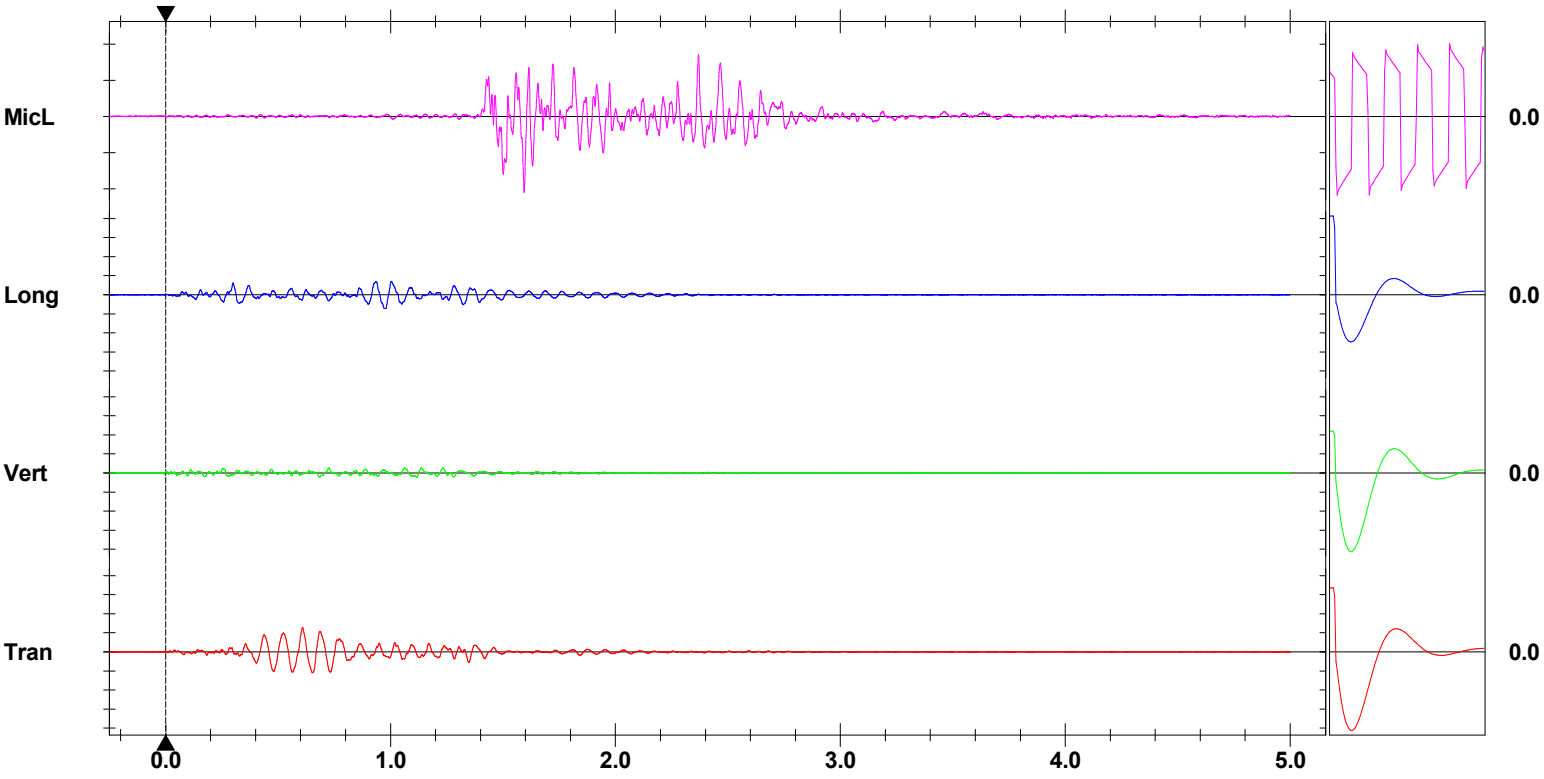
Notes
Location
Client
Company
General Notes

Microphone	Linear Weighting
PSPL	114.4 dB(L) at 1.594 sec
ZC Freq	18 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1649 mv)

	Tran	Vert	Long	
PPV	2.538	0.544	1.458	mm/s
ZC Freq	13	18	13	Hz
Time (Rel. to Trig)	0.609	1.233	0.975	sec
Peak Acceleration	0.028	0.011	0.019	g
Peak Displacement	0.029	0.006	0.018	mm
Sensor Check	Passed	Passed	Check	
Frequency	7.5	7.7	7.9	Hz
Overswing Ratio	3.4	3.2	2.9	

Peak Vector Sum 2.583 mm/s at 0.608 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 5.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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North of Brickworks

Date/Time	Vert at 12:30:01 August 15, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

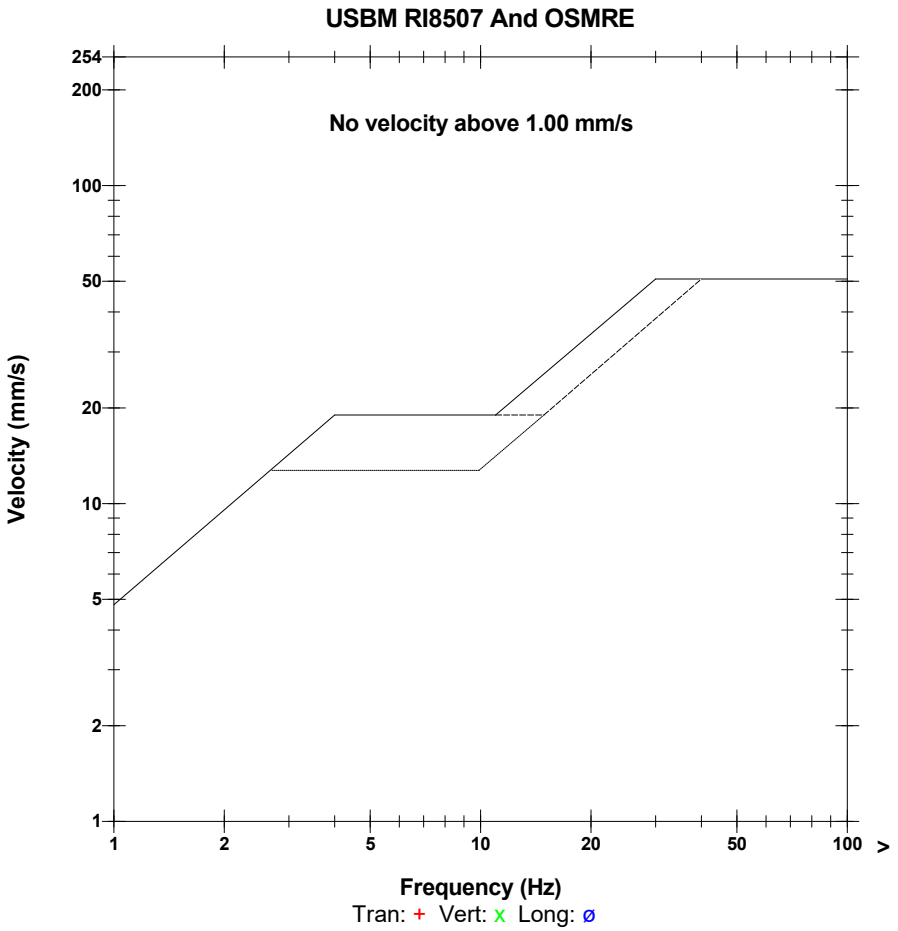
Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	R020KOF4.210

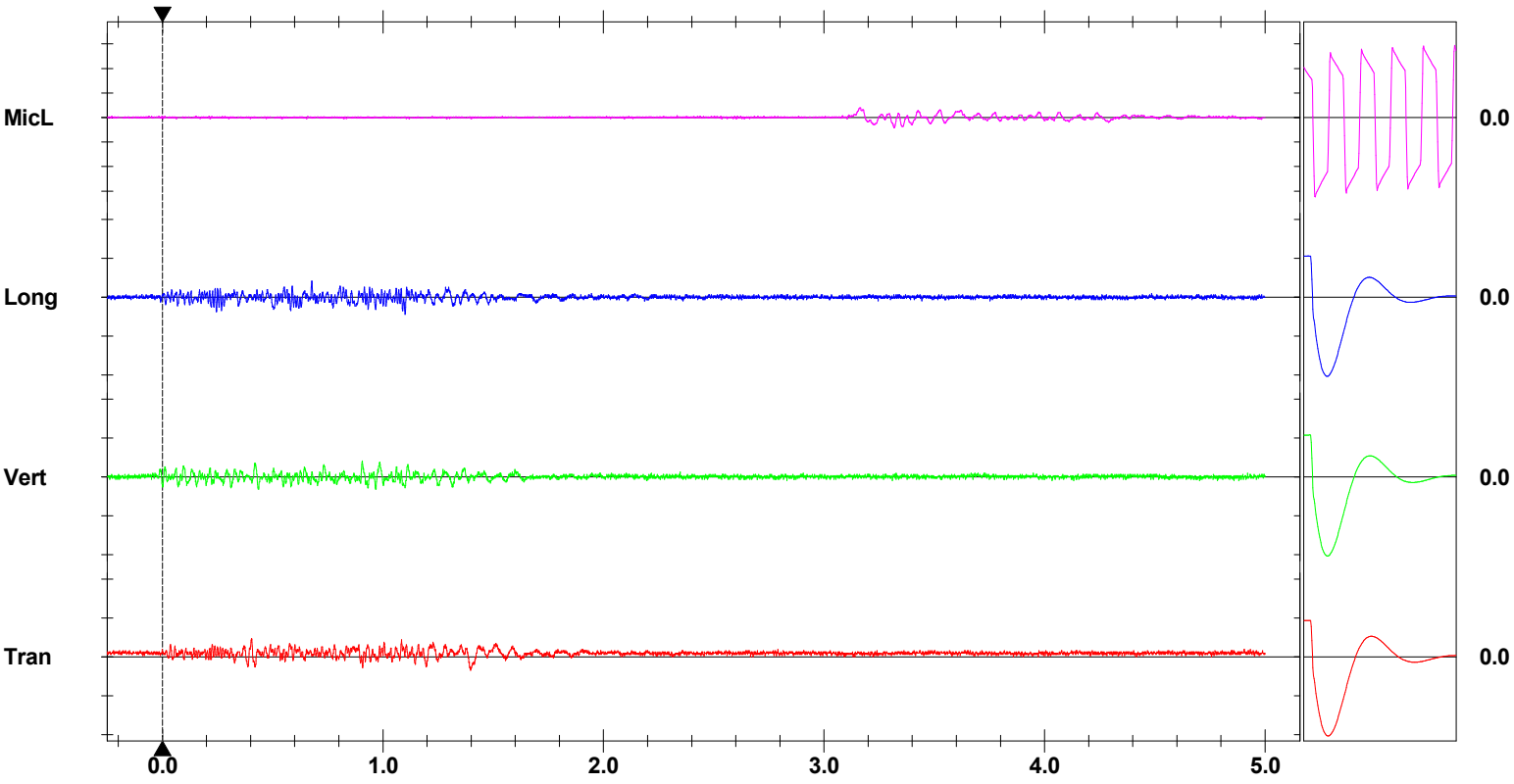
Notes

Microphone	Linear Weighting
PSPL	106.5 dB(L) at 3.316 sec
ZC Freq	20 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 541 mv)

	Tran	Vert	Long	
PPV	0.238	0.206	0.222	mm/s
ZC Freq	28	30	47	Hz
Time (Rel. to Trig)	0.404	0.906	1.101	sec
Peak Acceleration	0.007	0.008	0.010	g
Peak Displacement	0.005	0.001	0.001	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.5	Hz
Overswing Ratio	3.9	3.8	4.0	

Peak Vector Sum 0.256 mm/s at 1.101 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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Commercial Properties

Date/Time	Vert at 13:00:01 September 19, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.0 dB(L)
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps
Job Number:	1

Serial Number	BE15377 V 10.72-1.1 Minimate Blaster
Battery Level	6.1 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q377KQ7Y.S10

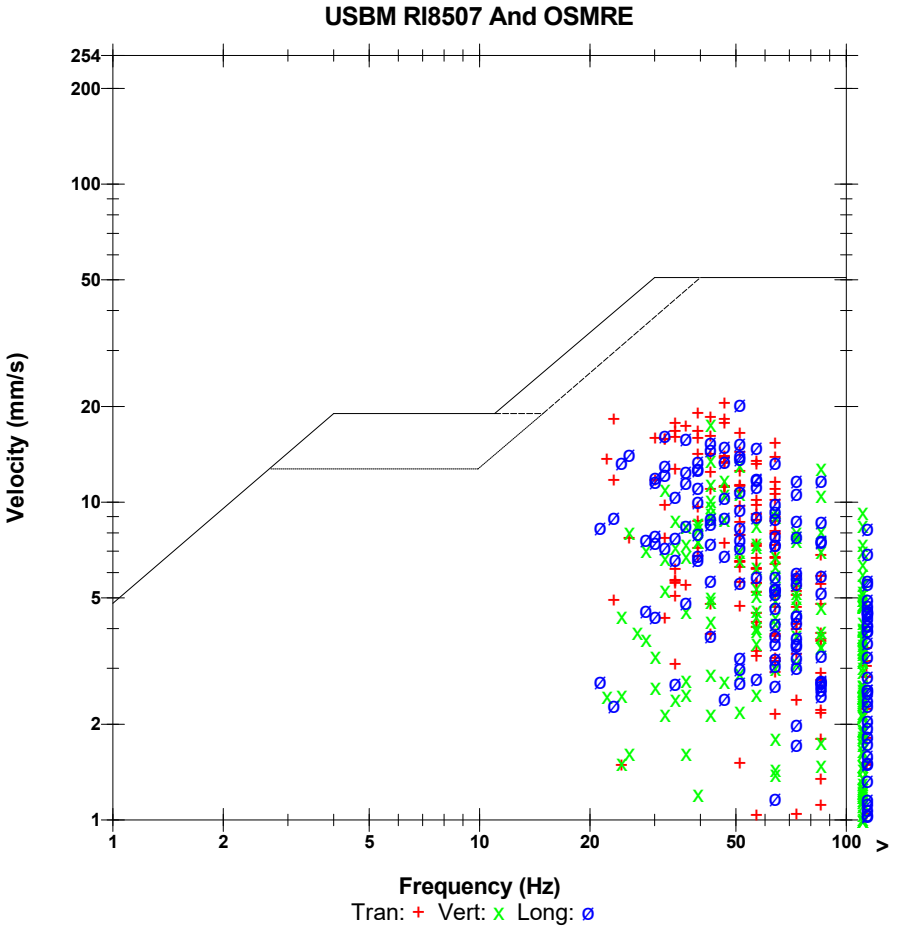
Notes
Location:
Client:
User Name:
General:

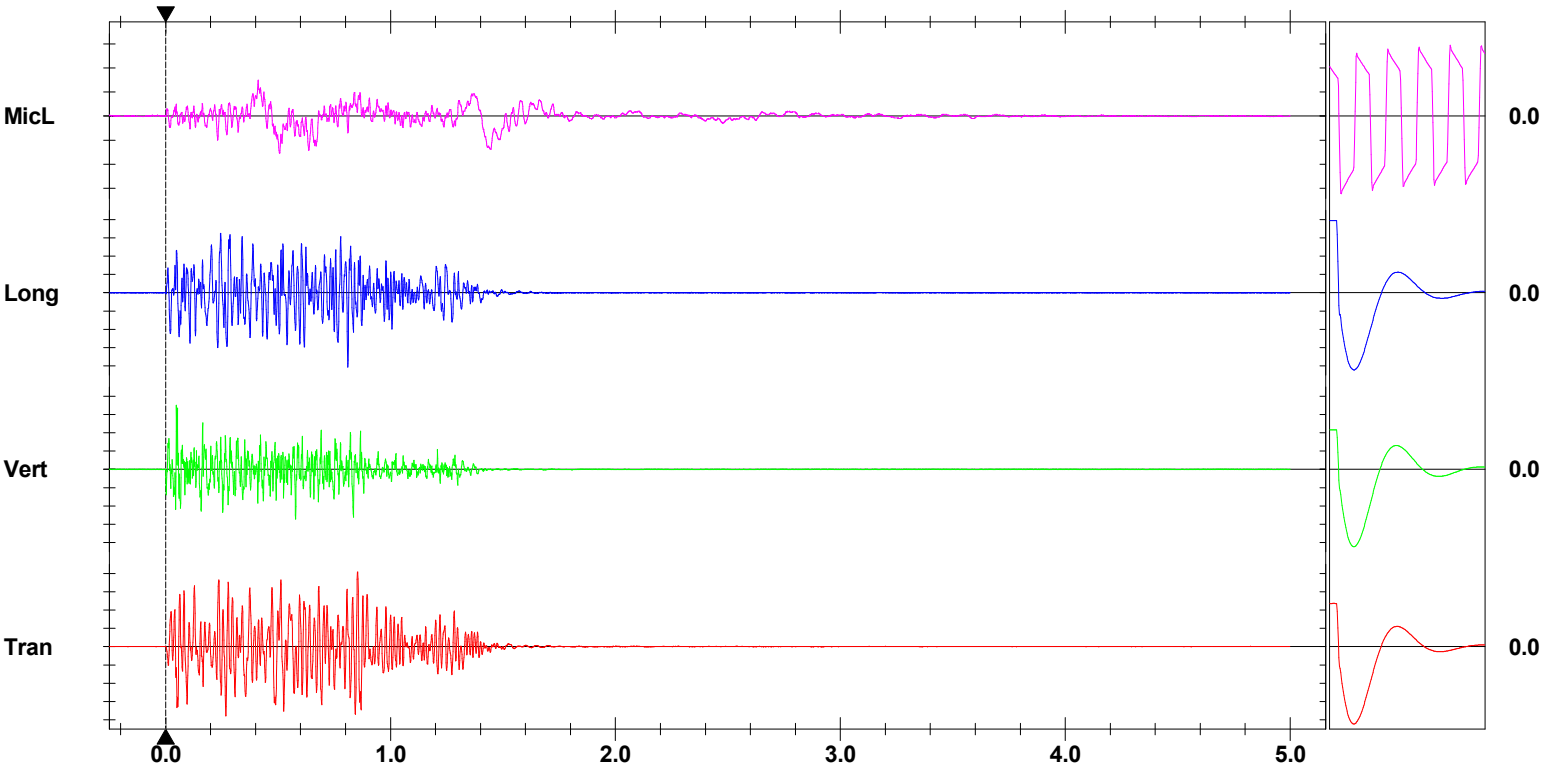
Extended Notes

Microphone	Linear Weighting
PSPL	117.8 dB(L) at 0.507 sec
ZC Freq	7.1 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 557 mv)

	Tran	Vert	Long	
PPV	20.53	17.62	20.37	mm/s
ZC Freq	47	43	51	Hz
Time (Rel. to Trig)	0.854	0.048	0.811	sec
Peak Acceleration	0.739	1.312	0.792	g
Peak Displacement	0.092	0.039	0.072	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.3	Hz
Overswing Ratio	3.9	3.3	3.8	

Peak Vector Sum 22.38 mm/s at 0.053 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 5.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Vert at 13:00:02 September 19, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

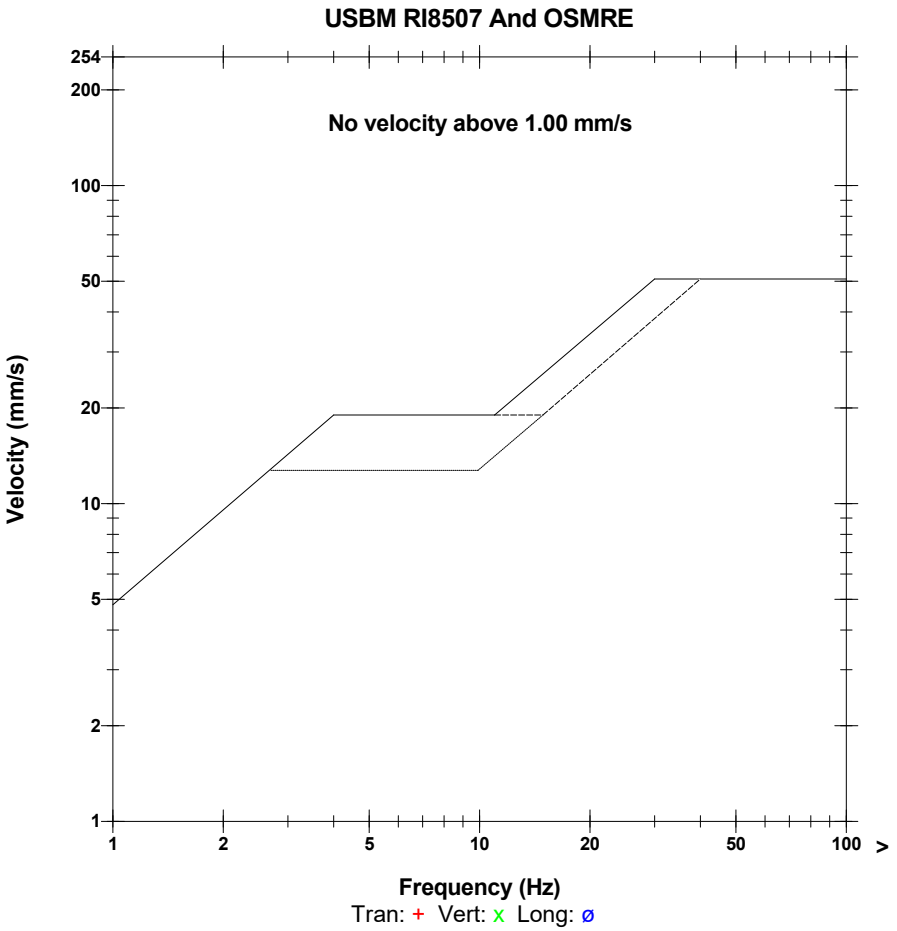
Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	R020KQ7Y.S20

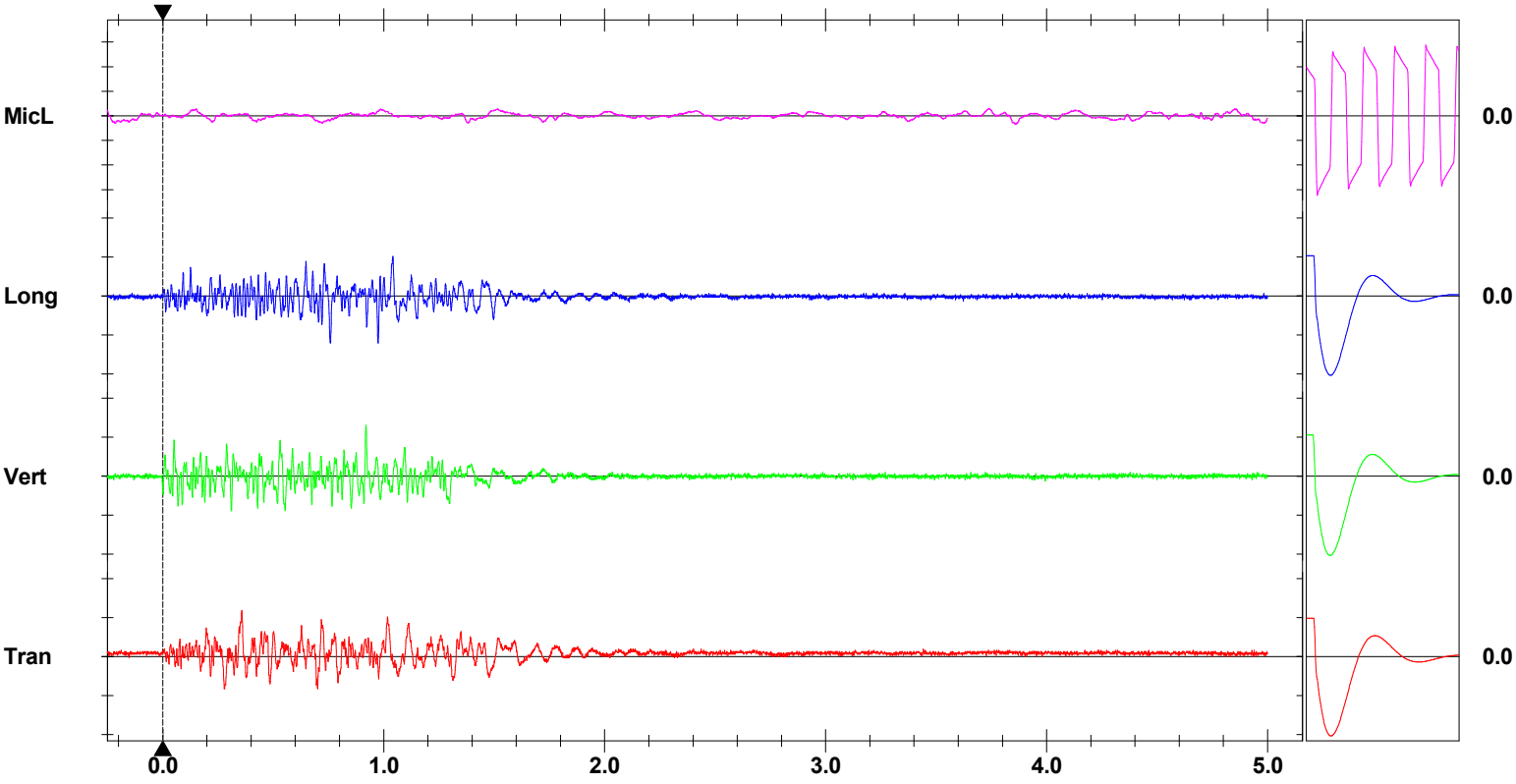
Notes

Microphone	Linear Weighting
PSPL	104.9 dB(L) at 3.857 sec
ZC Freq	8.3 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 533 mv)

	Tran	Vert	Long	
PPV	0.587	0.651	0.603	mm/s
ZC Freq	20	39	28	Hz
Time (Rel. to Trig)	0.357	0.920	0.759	sec
Peak Acceleration	0.020	0.018	0.018	g
Peak Displacement	0.007	0.003	0.004	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.4	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 0.675 mm/s at 0.920 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Vert at 13:00:01 September 19, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

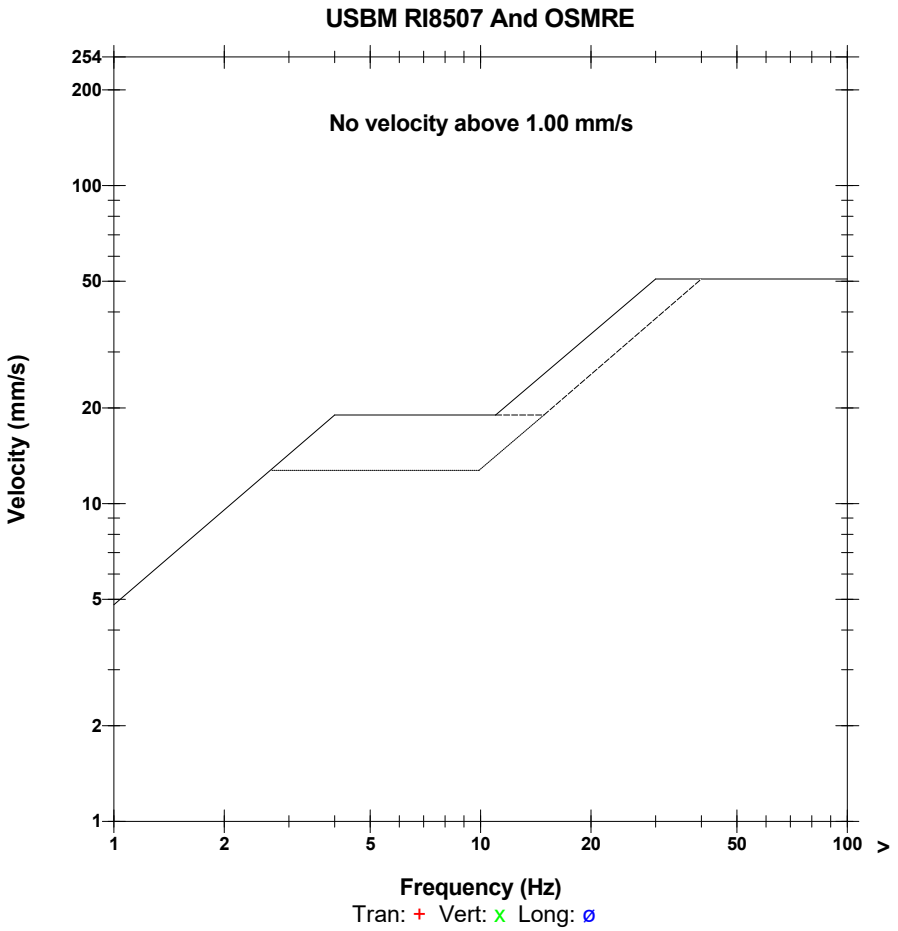
Serial Number	BE15569 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q569KQ7Y.S10

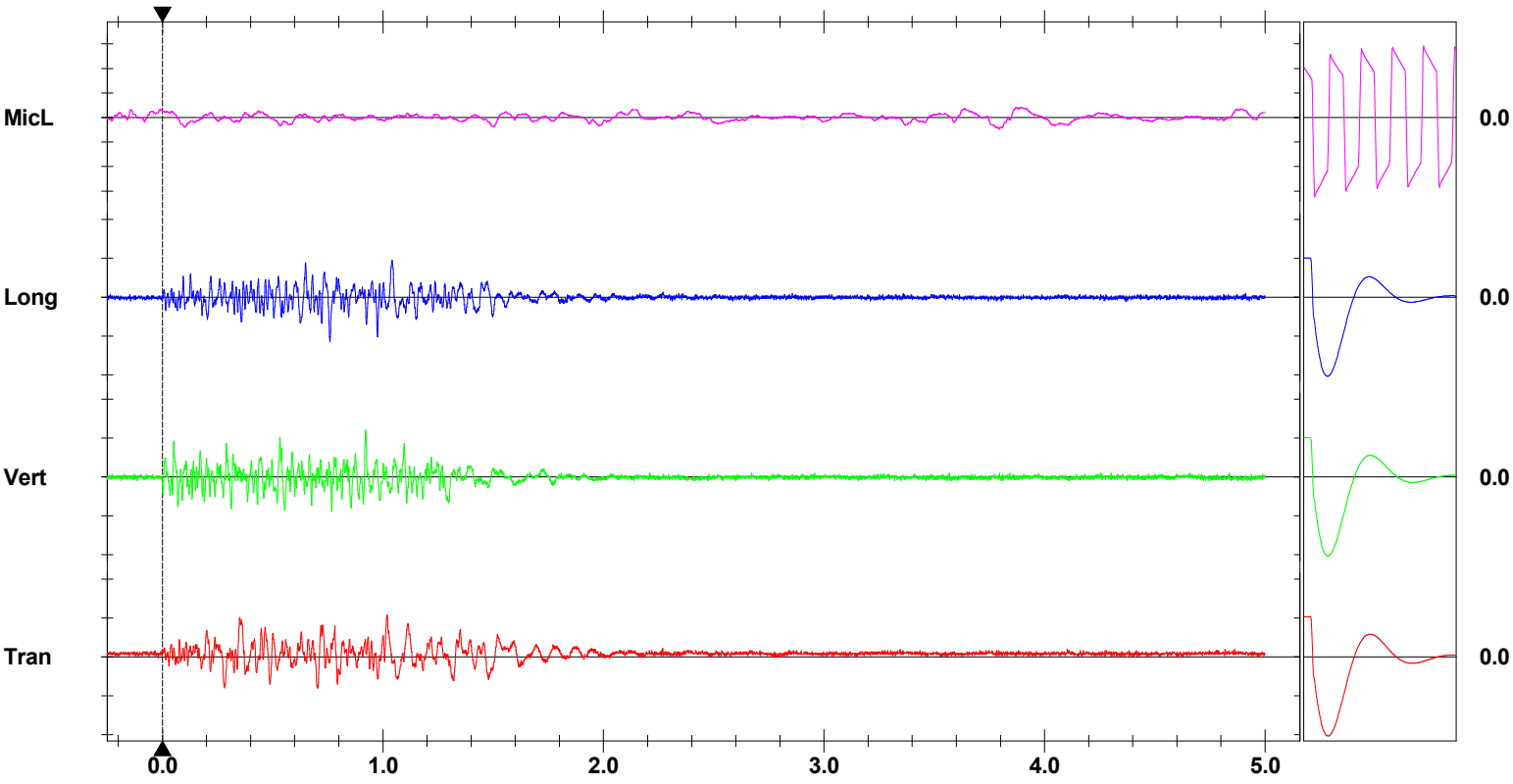
Notes

Microphone	Linear Weighting
PSPL	107.5 dB(L) at 3.794 sec
ZC Freq	5.8 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 517 mv)

	Tran	Vert	Long	
PPV	0.540	0.603	0.571	mm/s
ZC Freq	18	37	26	Hz
Time (Rel. to Trig)	1.020	0.922	0.760	sec
Peak Acceleration	0.013	0.020	0.017	g
Peak Displacement	0.007	0.003	0.003	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.5	Hz
Overswing Ratio	3.5	3.7	3.9	

Peak Vector Sum 0.633 mm/s at 0.922 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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North Of Brickworks

Date/Time	MicL at 12:59:56 September 19, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.00 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Operator/Setup:	Operator/UM11465.mmb

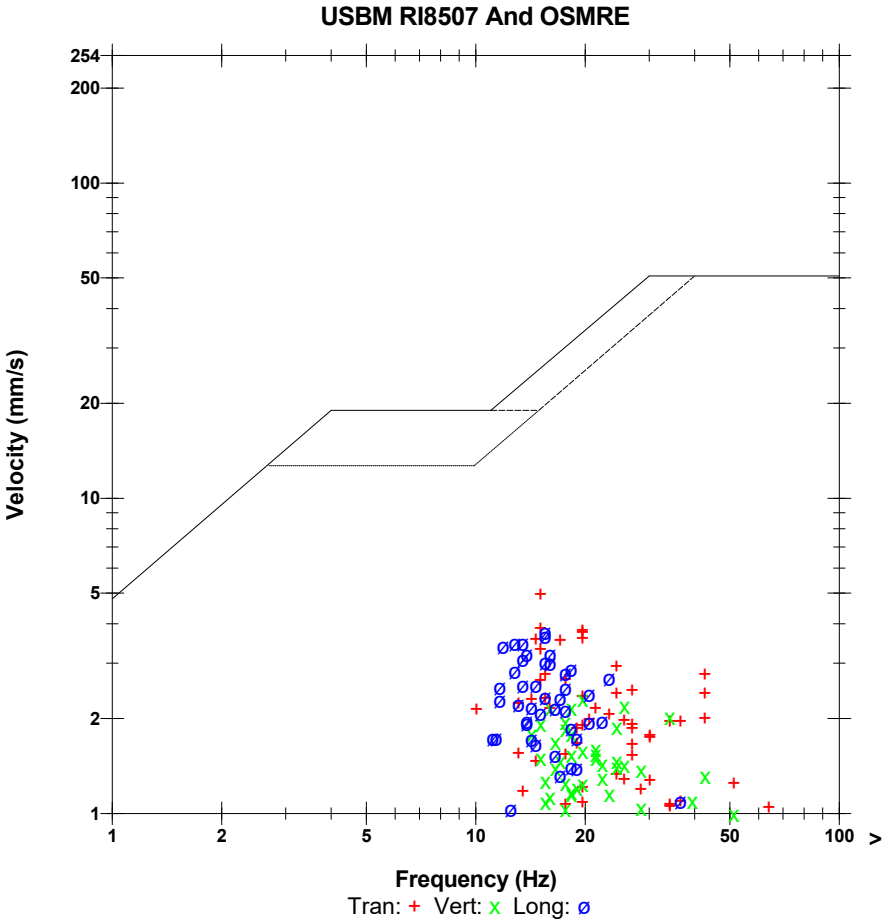
Serial Number	UM11465 V 10-90GC Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	January 12, 2024 by Saros Int
File Name	UM11465_20240919125956.IDFW

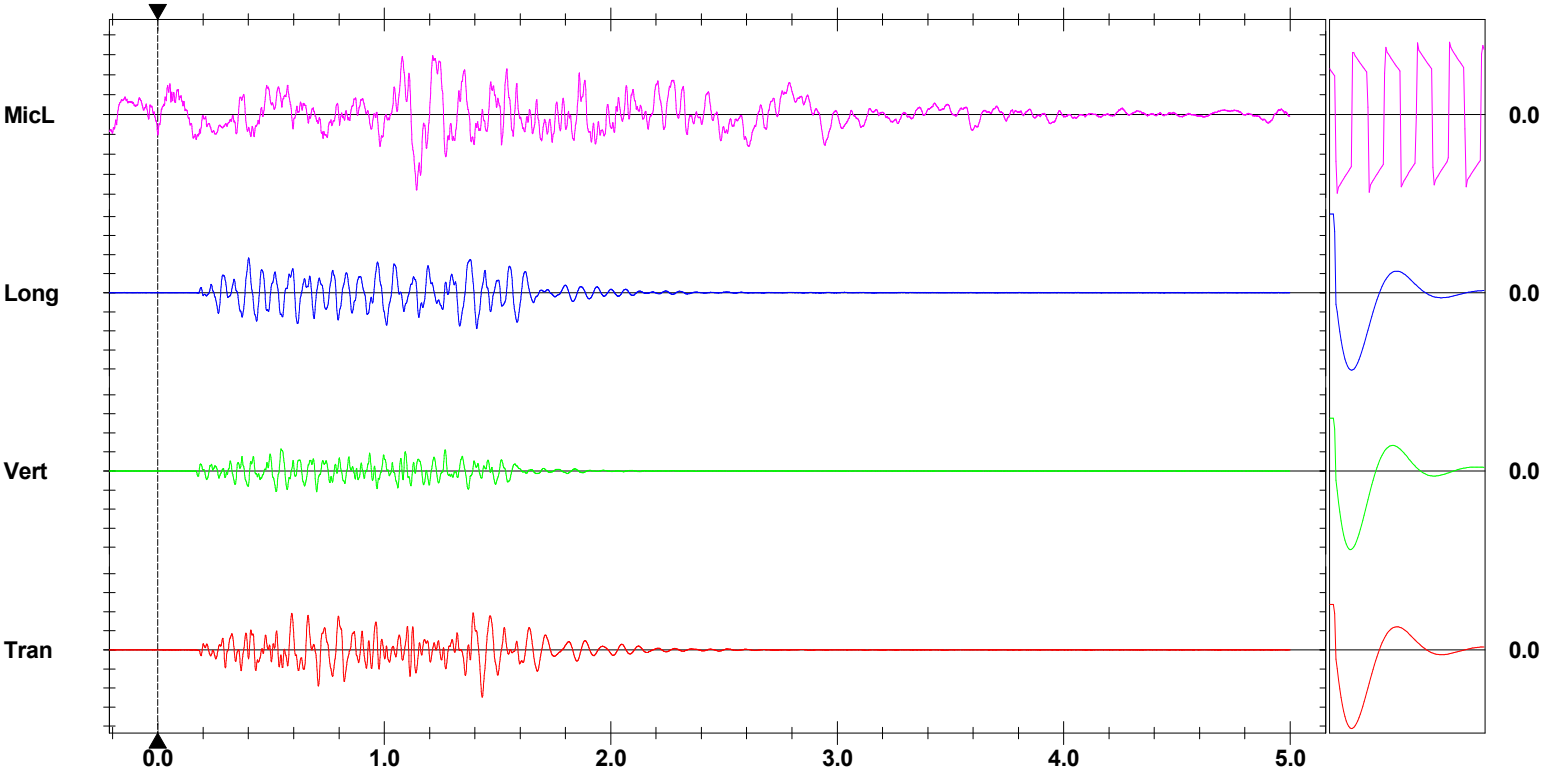
Notes
Location
Client
Company
General Notes

Microphone	Linear Weighting
PSPL	111.6 dB(L) at 1.143 sec
ZC Freq	6.1 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1502 mv)

	Tran	Vert	Long	
PPV	4.981	2.301	3.760	mm/s
ZC Freq	15	20	16	Hz
Time (Rel. to Trig)	1.433	0.544	1.408	sec
Peak Acceleration	0.076	0.050	0.052	g
Peak Displacement	0.046	0.019	0.046	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.9	7.3	Hz
Overswing Ratio	3.4	3.1	3.6	

Peak Vector Sum 5.053 mm/s at 1.433 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 2.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Commercial Properties

Date/Time	Vert at 12:30:03 November 19, 2024
Trigger Source	Geo: 0.130 mm/s, Mic: 100.0 dB(L)
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps
Job Number:	1

Serial Number	BE15377 V 10.72-1.1 Minimate Blaster
Battery Level	6.1 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q377KTCW.230

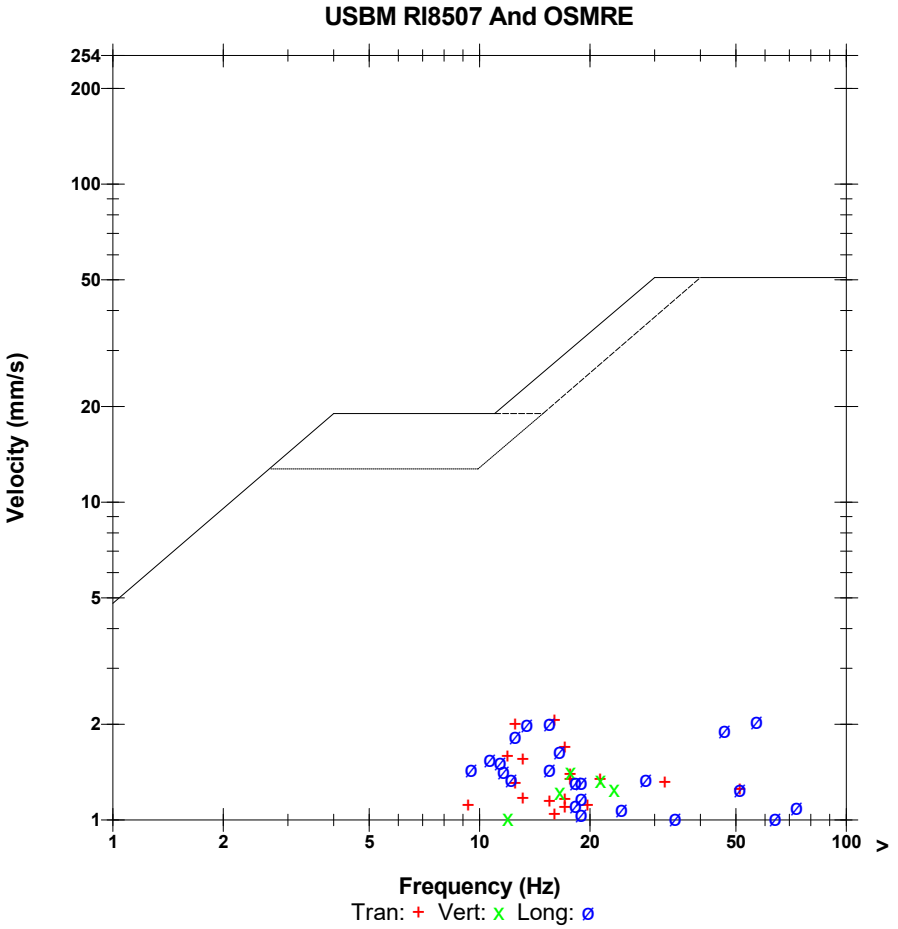
Notes
Location:
Client:
User Name:
General:

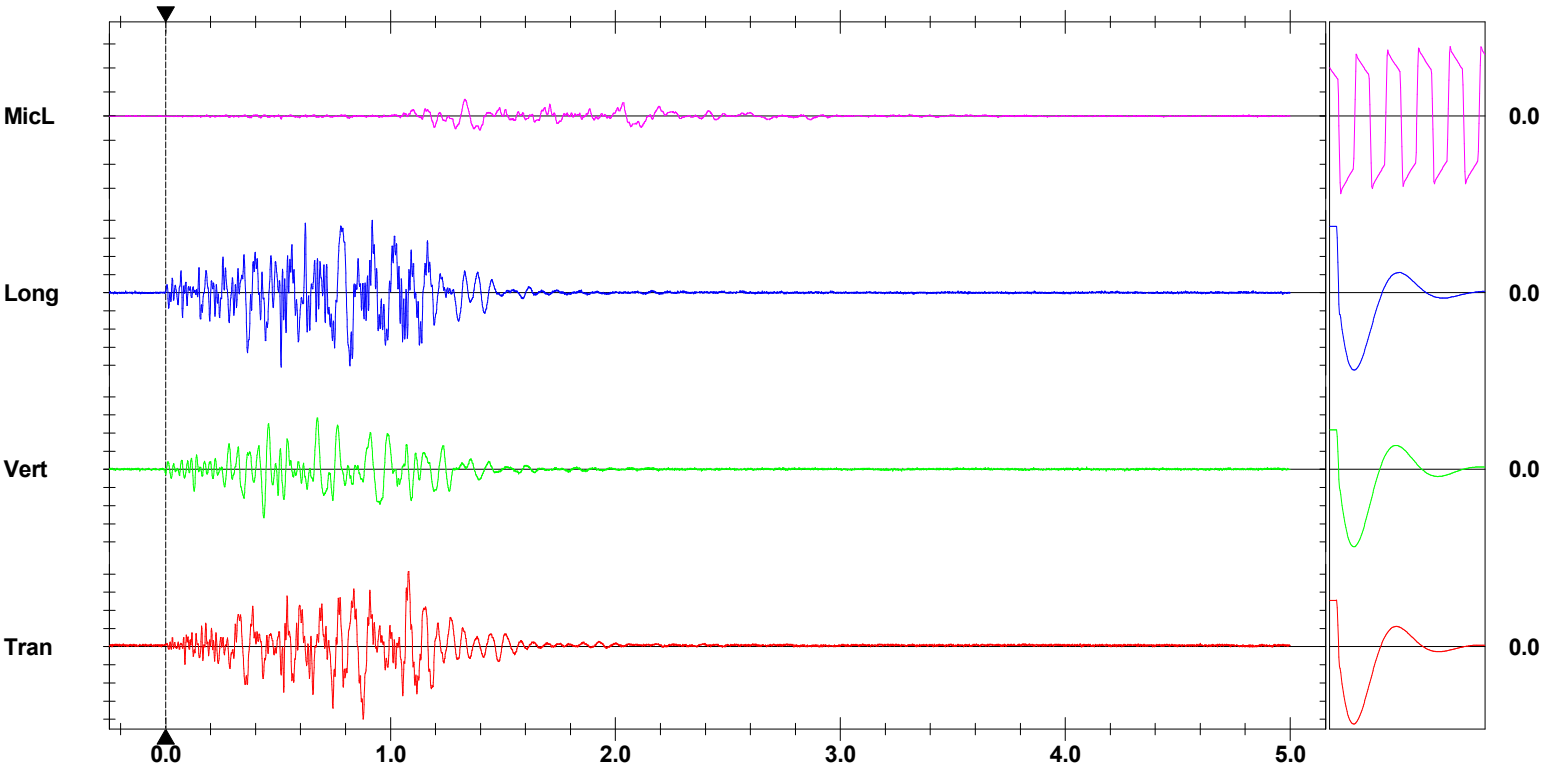
Extended Notes

Microphone	Linear Weighting
PSPL	110.9 dB(L) at 1.329 sec
ZC Freq	12 Hz
Channel Test	Passed (Freq = 20.5 Hz Amp = 600 mv)

	Tran	Vert	Long	
PPV	2.064	1.413	2.048	mm/s
ZC Freq	16	18	57	Hz
Time (Rel. to Trig)	1.079	0.674	0.514	sec
Peak Acceleration	0.050	0.025	0.068	g
Peak Displacement	0.021	0.016	0.026	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.6	7.2	Hz
Overswing Ratio	3.9	3.3	3.9	

Peak Vector Sum 2.246 mm/s at 0.918 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Vert at 12:30:03 November 19, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

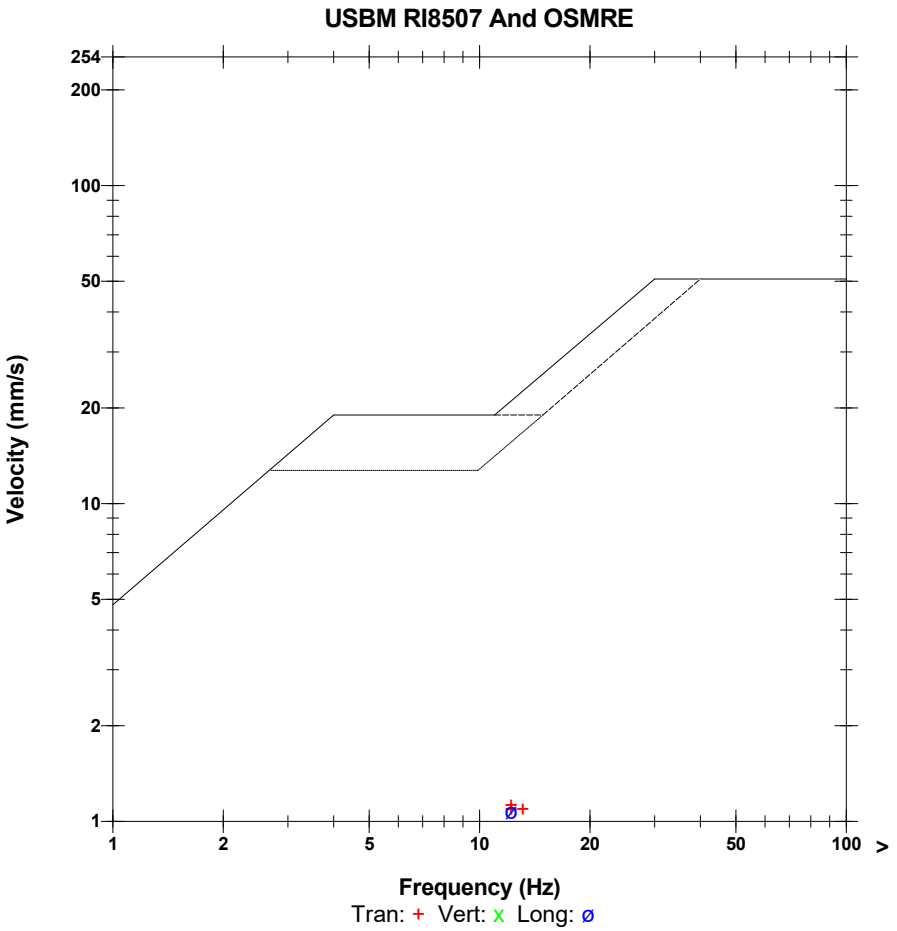
Serial Number	BE15777 V 10.72-1.1 Minimate Blaster
Battery Level	6.1 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	Q777KTCW.230

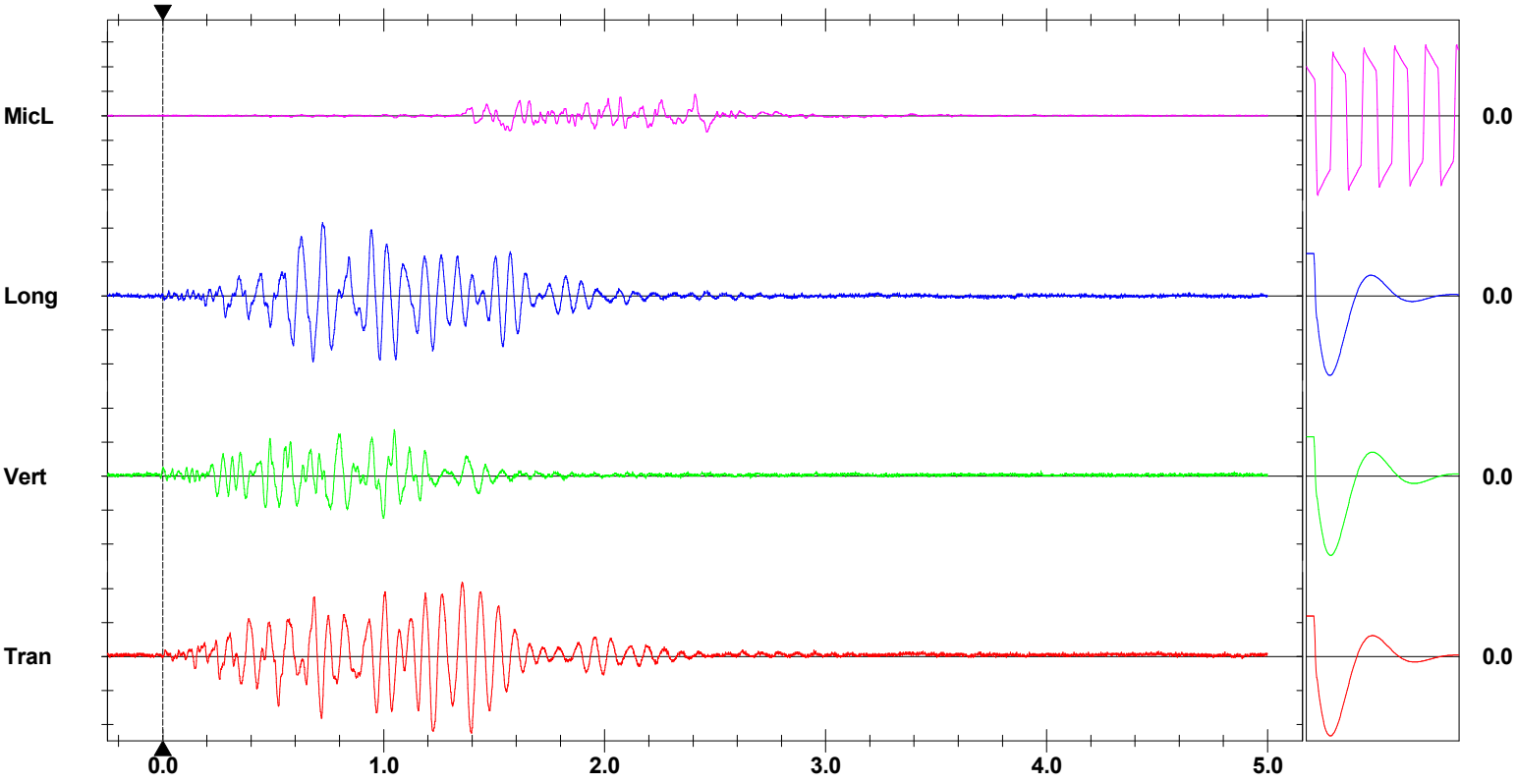
Notes

Microphone	Linear Weighting
PSPL	112.8 dB(L) at 2.408 sec
ZC Freq	9.0 Hz
Channel Test	Passed (Freq = 20.5 Hz Amp = 576 mv)

	Tran	Vert	Long	
PPV	1.127	0.683	1.079	mm/s
ZC Freq	12	10	12	Hz
Time (Rel. to Trig)	1.397	1.048	0.724	sec
Peak Acceleration	0.013	0.012	0.012	g
Peak Displacement	0.014	0.008	0.014	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.6	Hz
Overswing Ratio	3.8	3.3	3.9	

Peak Vector Sum 1.355 mm/s at 1.223 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Long at 12:30:04 November 18, 2024
Trigger Source	Geo: 0.700 mm/s, Mic: 130.8 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Job Number:	1

Serial Number	BE16158 V 10.72-1.1 Minimate Blaster
Battery Level	6.0 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	R158KTB1.E40

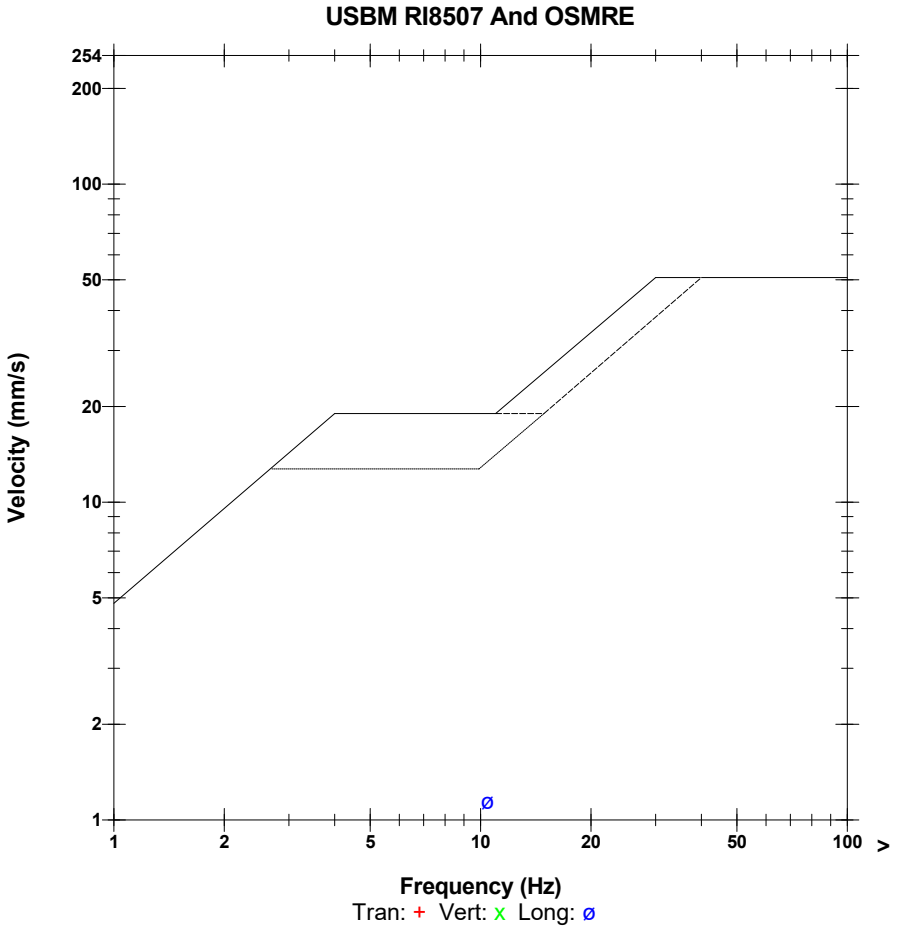
Notes
Location:
Client:
User Name:
General:

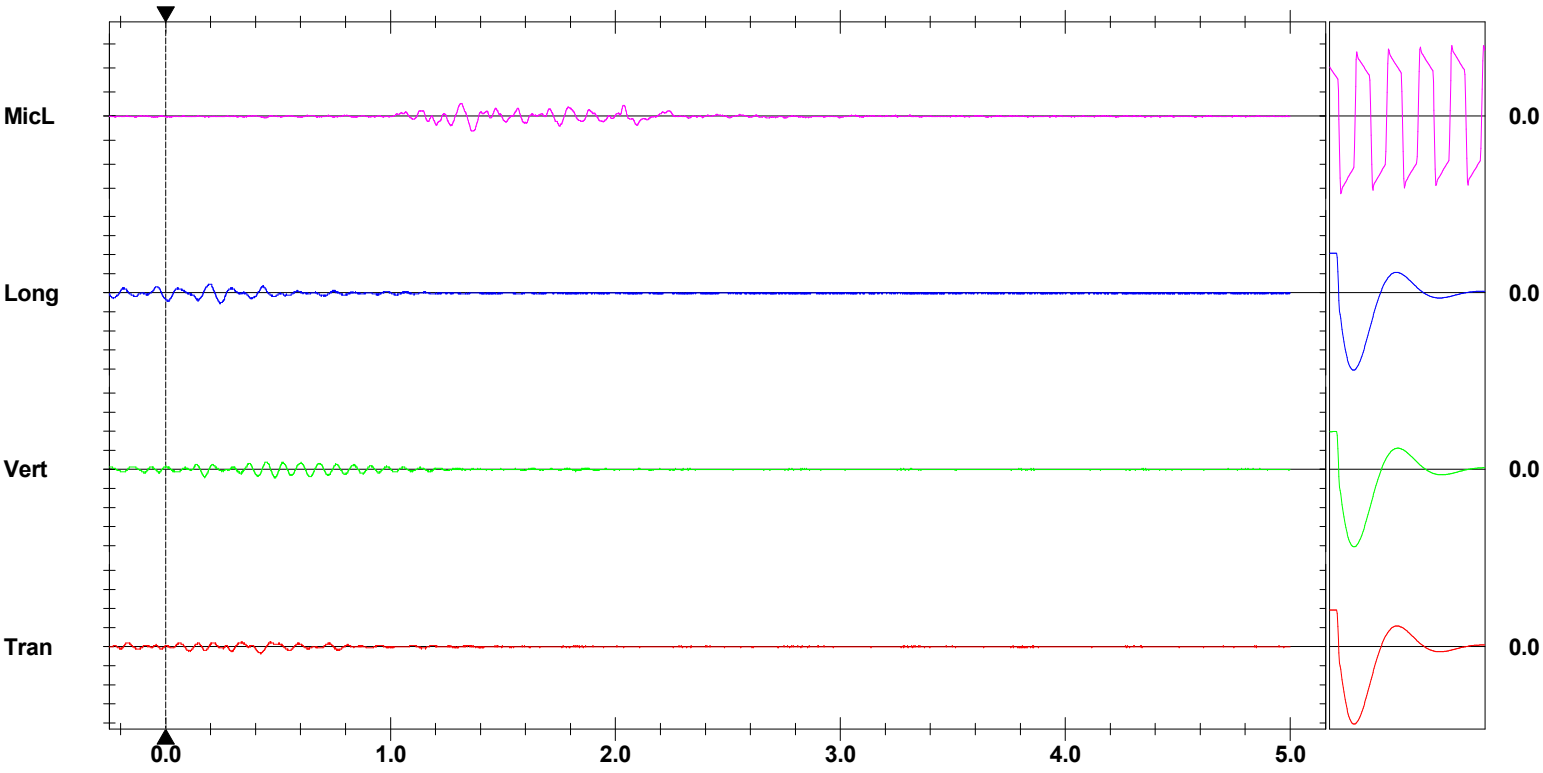
Extended Notes

Microphone	Linear Weighting
PSPL	109.9 dB(L) at 1.360 sec
ZC Freq	9.8 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 533 mv)

	Tran	Vert	Long	
PPV	0.762	0.889	1.143	mm/s
ZC Freq	11	15	10	Hz
Time (Rel. to Trig)	0.421	0.174	0.241	sec
Peak Acceleration	0.027	0.027	0.027	g
Peak Displacement	0.011	0.010	0.018	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.5	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 1.157 mm/s at 0.241 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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North of Brickworks

Date/Time	Tran at 12:30:03 November 19, 2024
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

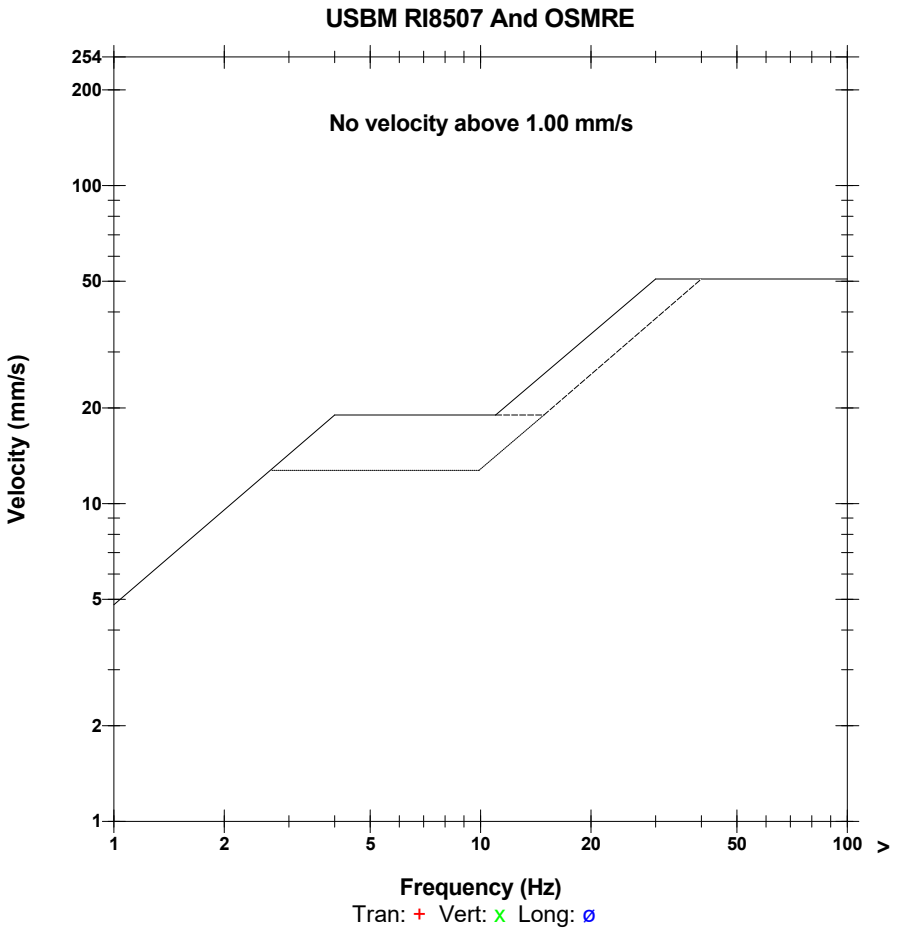
Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.2 Volts
Unit Calibration	January 12, 2024 by Saros Int.
File Name	R020KTCW.230

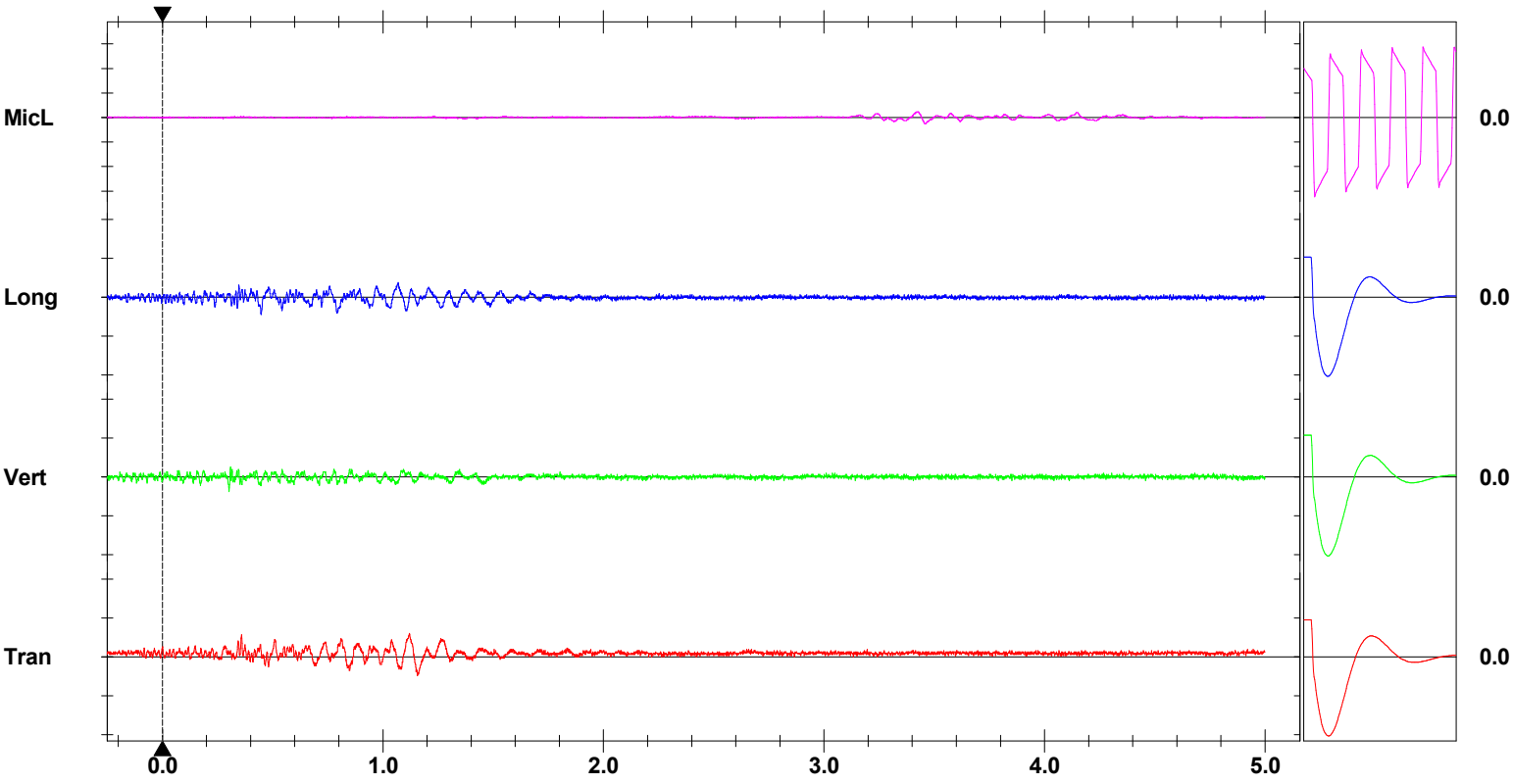
Notes

Microphone	Linear Weighting
PSPL	101.9 dB(L) at 3.456 sec
ZC Freq	10 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 558 mv)

	Tran	Vert	Long	
PPV	0.302	0.190	0.222	mm/s
ZC Freq	11	51	22	Hz
Time (Rel. to Trig)	1.120	0.303	0.447	sec
Peak Acceleration	0.008	0.008	0.010	g
Peak Displacement	0.004	0.001	0.002	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.4	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 0.316 mm/s at 0.359 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

Format © 1995-2015 Xmark Corporation

Commercial Properties

Date/Time	Vert at 12:30:55 February 6, 2025
Trigger Source	Geo: 0.130 mm/s, Mic: 100.00 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Operator/Setup:	Operator/UM11466.mmb

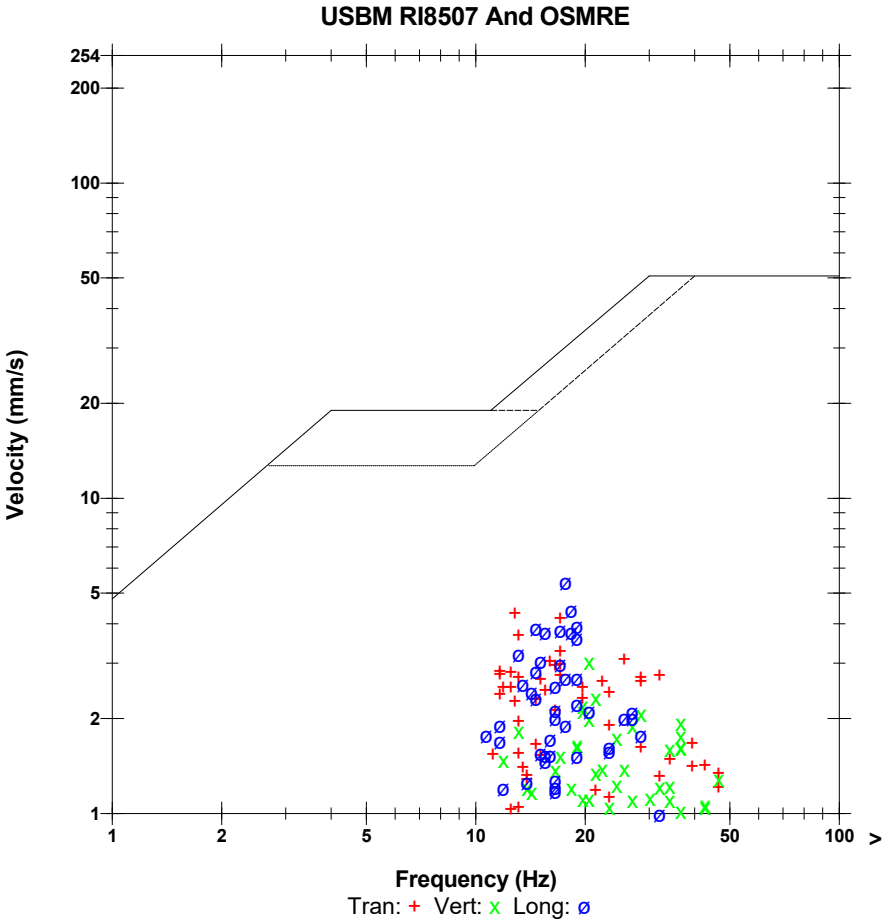
Serial Number	UM11466 V 11-0AK Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	January 15, 2025 by Saros Int
File Name	UM11466_20250206123055.IDFW

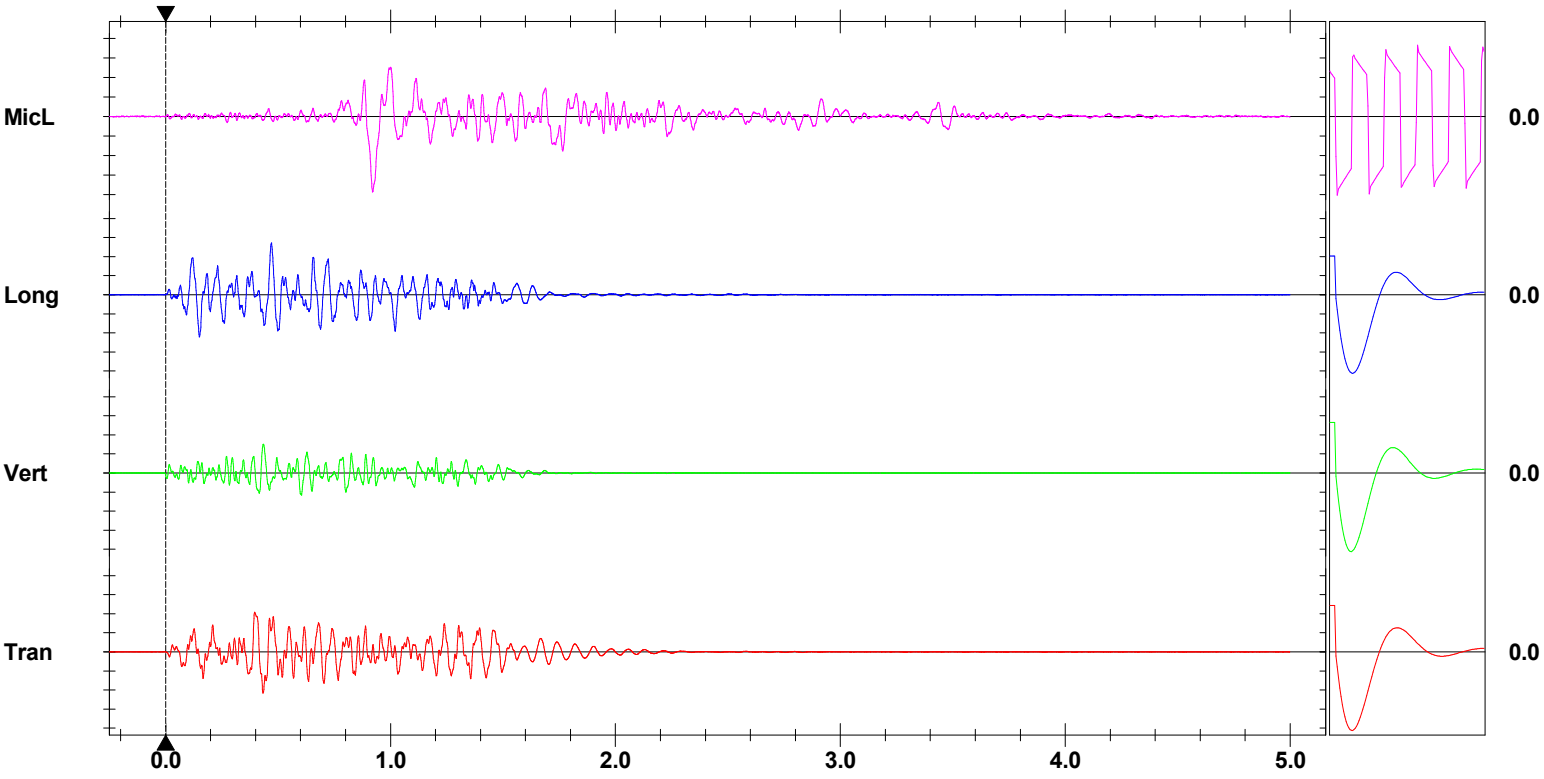
Notes
Location
Client
Company
General Notes

Microphone	Linear Weighting
PSPL	111.8 dB(L) at 0.920 sec
ZC Freq	8.3 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1425 mv)

	Tran	Vert	Long	
PPV	4.327	3.019	5.423	mm/s
ZC Freq	13	20	18	Hz
Time (Rel. to Trig)	0.434	0.435	0.471	sec
Peak Acceleration	0.083	0.052	0.077	g
Peak Displacement	0.052	0.024	0.046	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.9	7.3	Hz
Overswing Ratio	3.2	3.1	3.5	

Peak Vector Sum 5.975 mm/s at 0.471 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 2.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Vert at 12:31:03 February 6, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

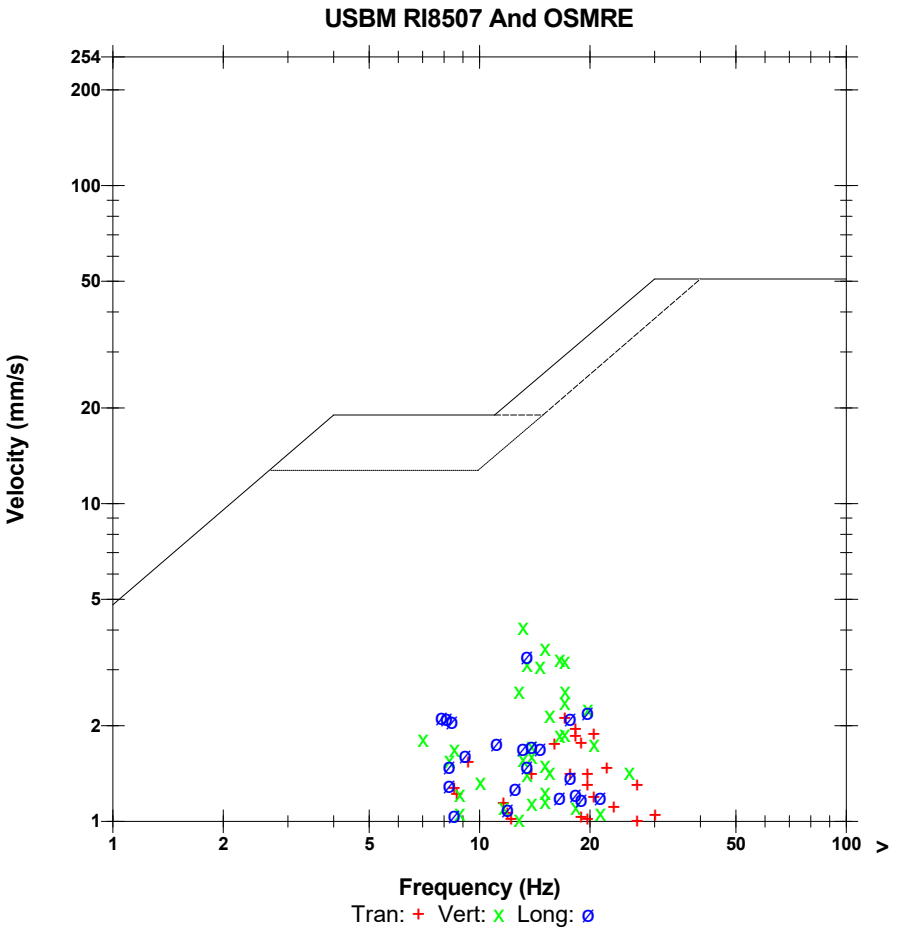
Serial Number	BE15569 V 10.72-1.1 Minimate Blaster
Battery Level	6.4 Volts
Unit Calibration	January 15, 2025 by Saros Int.
File Name	Q569KXF6.RR0

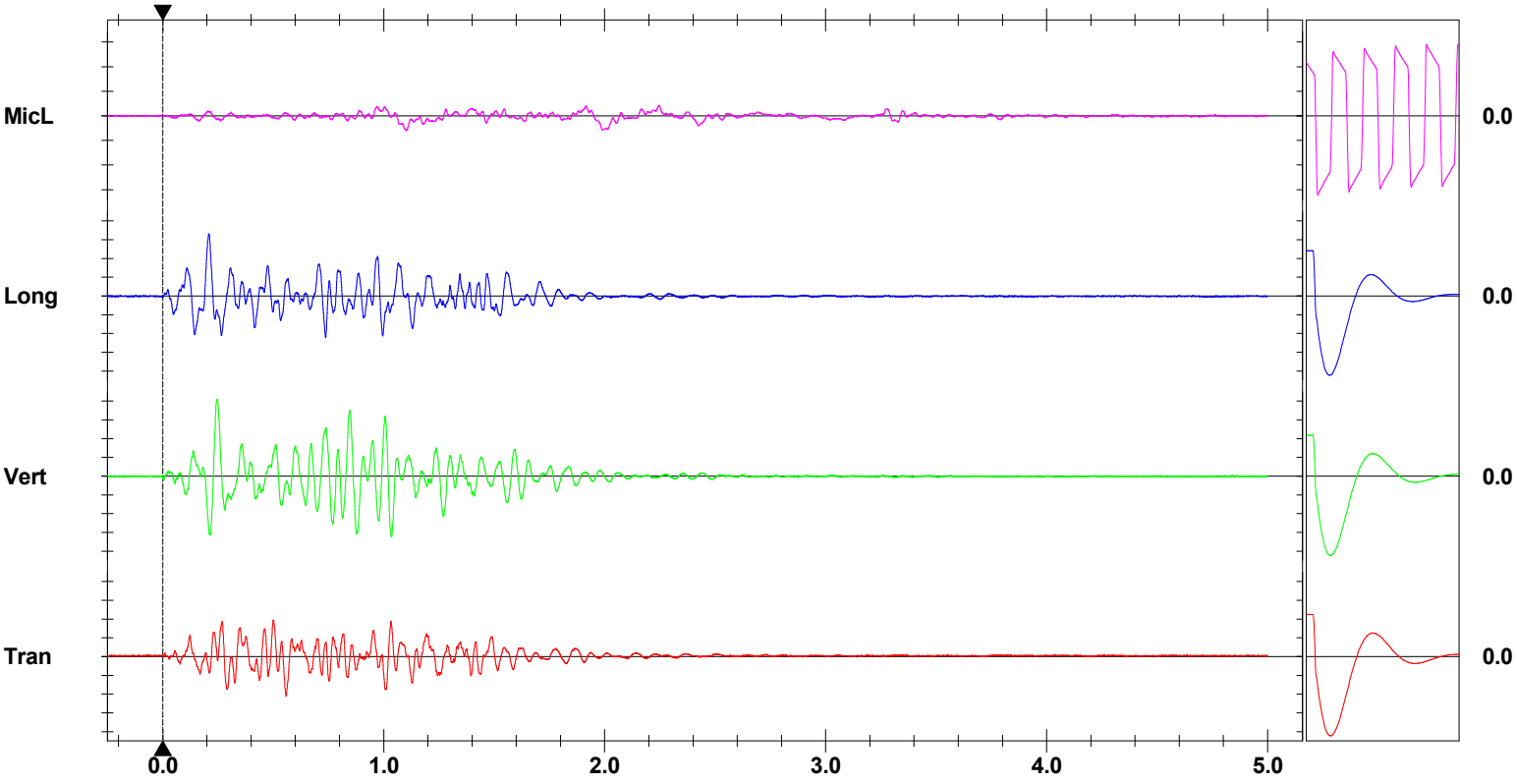
Notes

Microphone	Linear Weighting
PSPL	109.5 dB(L) at 1.103 sec
ZC Freq	4.9 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 490 mv)

	Tran	Vert	Long	
PPV	2.111	4.096	3.318	mm/s
ZC Freq	17	13	13	Hz
Time (Rel. to Trig)	0.559	0.247	0.209	sec
Peak Acceleration	0.031	0.040	0.033	g
Peak Displacement	0.023	0.047	0.036	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.7	Hz
Overswing Ratio	3.4	3.5	3.8	

Peak Vector Sum 4.554 mm/s at 0.210 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Vert at 12:31:05 February 6, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

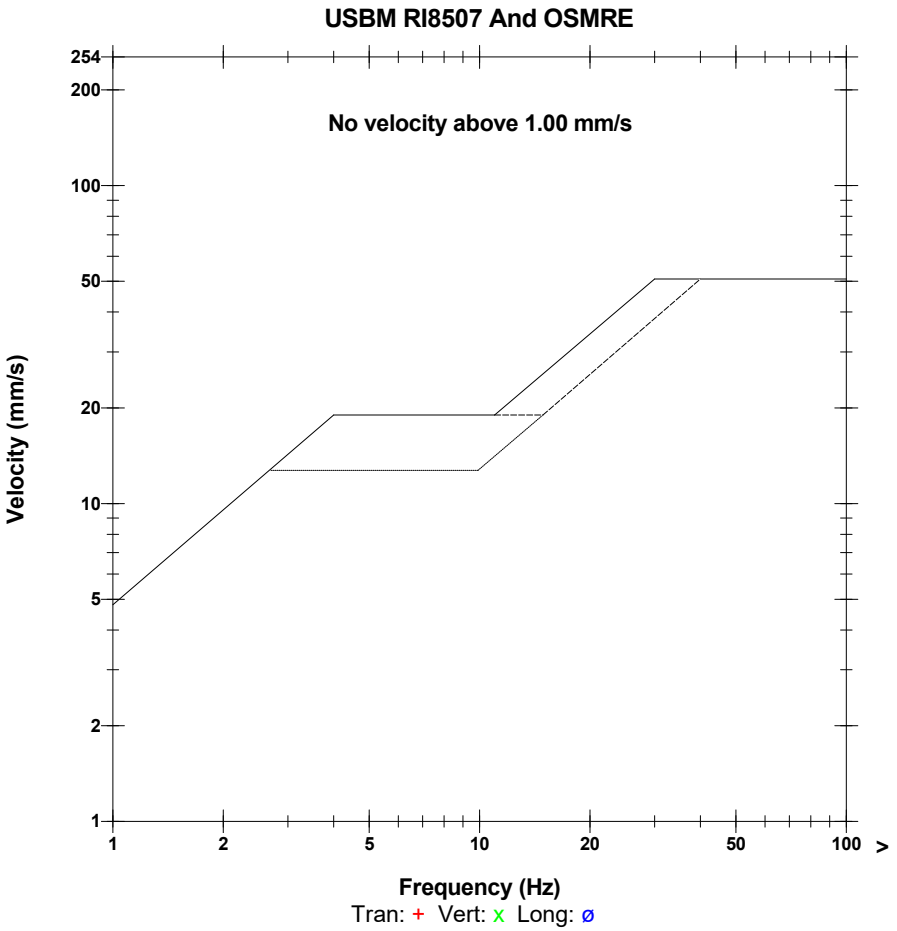
Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.4 Volts
Unit Calibration	January 15, 2025 by Saros Int.
File Name	R020KXF6.RT0

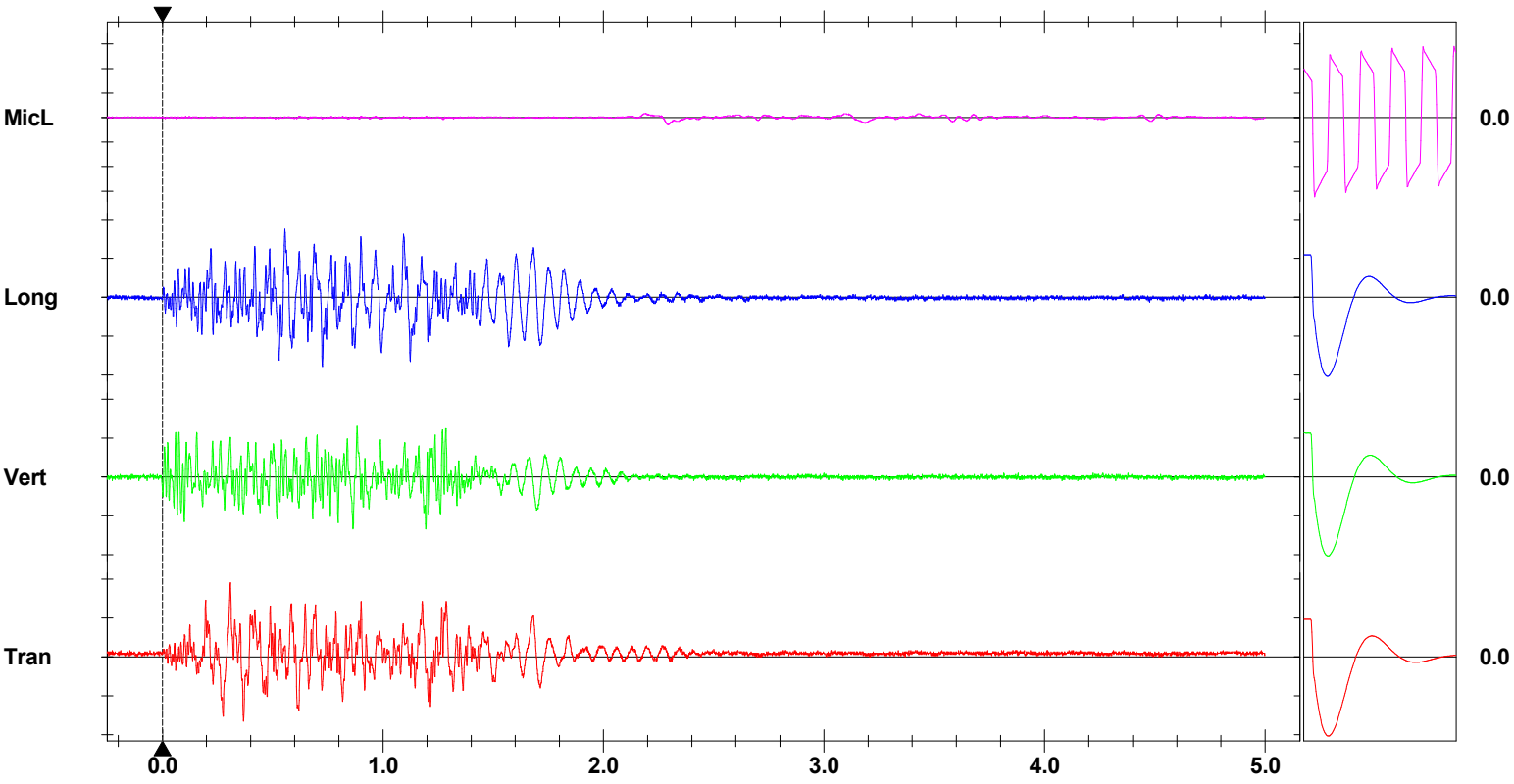
Notes

Microphone	Linear Weighting
PSPL	103.5 dB(L) at 2.292 sec
ZC Freq	5.1 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 529 mv)

	Tran	Vert	Long	
PPV	0.952	0.667	0.889	mm/s
ZC Freq	17	22	16	Hz
Time (Rel. to Trig)	0.308	0.864	0.726	sec
Peak Acceleration	0.023	0.027	0.023	g
Peak Displacement	0.009	0.005	0.008	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.5	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 1.081 mm/s at 0.308 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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North of Brickworks

Date/Time	Vert at 12:31:14 February 6, 2025
Trigger Source	Geo: 0.130 mm/s, Mic: 100.00 dB(L)
Range	Geo: 254.0 mm/s
Record Time	5.0 sec at 1024 sps
Operator/Setup:	Operator/UM11464.mmb

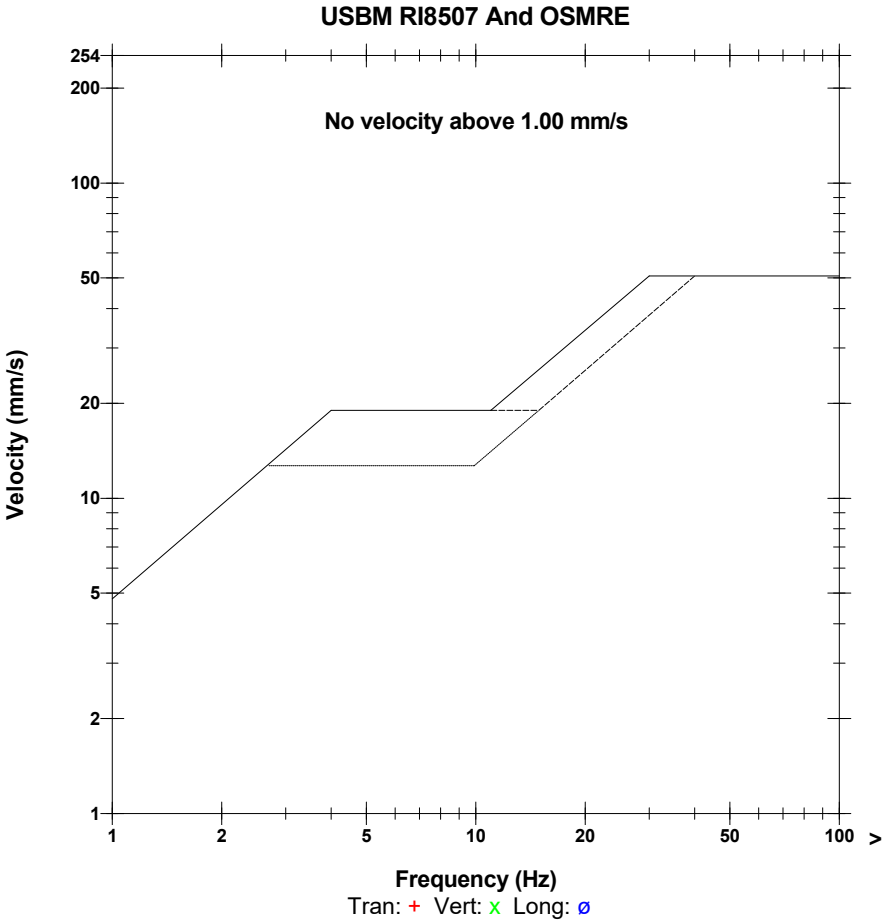
Serial Number	UM11464 V 11-0AK Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	January 15, 2025 by Saros Int
File Name	UM11464_20250206123114.IDFW

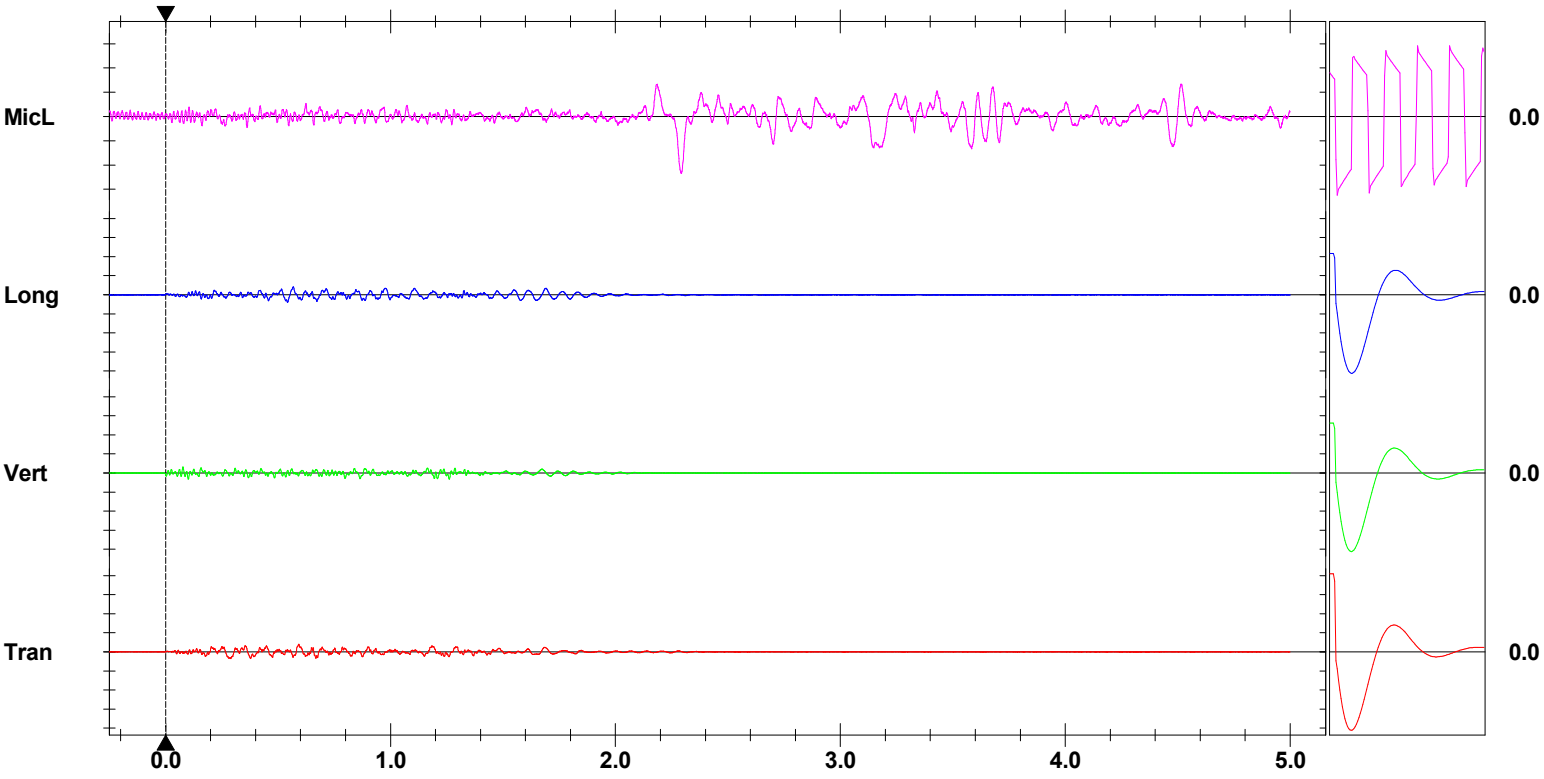
Notes
Location
Client
Company
General Notes

Microphone	Linear Weighting
PSPL	101.4 dB(L) at 2.292 sec
ZC Freq	7.1 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1468 mv)

	Tran	Vert	Long	
PPV	0.796	0.654	0.851	mm/s
ZC Freq	17	22	17	Hz
Time (Rel. to Trig)	0.593	1.261	0.567	sec
Peak Acceleration	0.021	0.023	0.017	g
Peak Displacement	0.009	0.005	0.008	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.9	7.7	7.5	Hz
Overswing Ratio	2.9	3.1	3.2	

Peak Vector Sum 1.006 mm/s at 0.567 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Commercial Properties

Date/Time	Vert at 12:00:01 February 21, 2025
Trigger Source	Geo: 0.130 mm/s, Mic: 100.0 dB(L)
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps
Job Number:	1

Serial Number	BE15377 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	February 3, 2025 by Saros Int.
File Name	Q377KY6X.C10

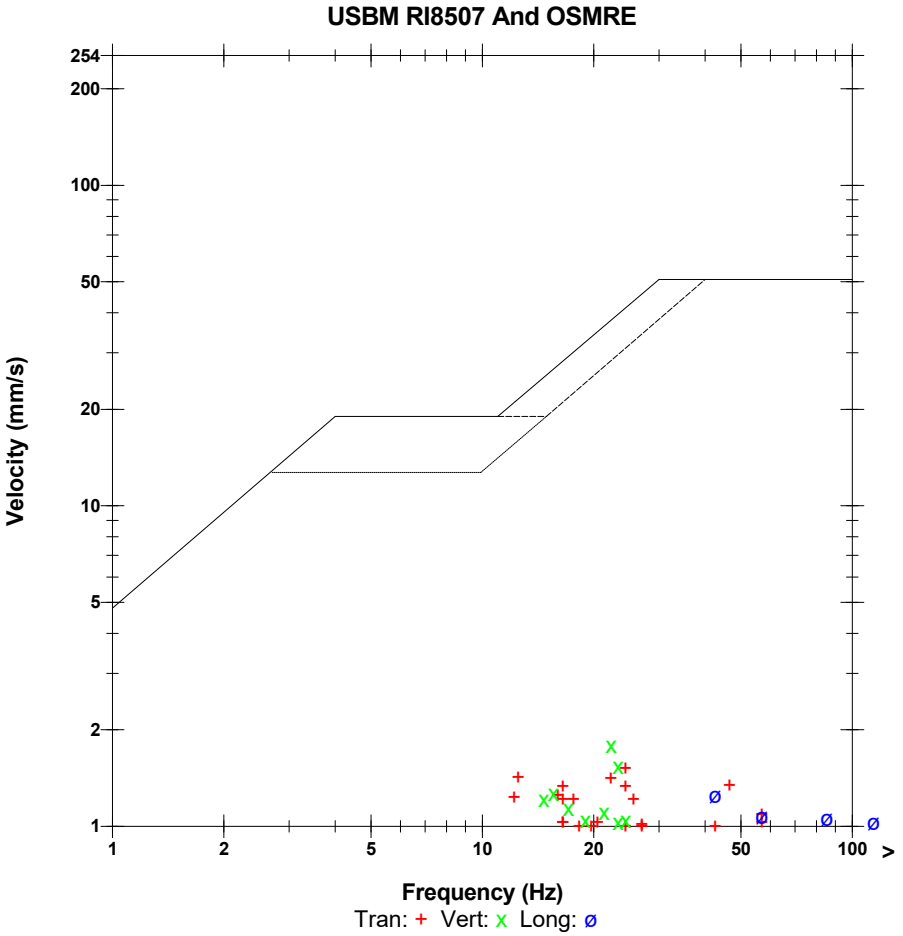
Notes
Location:
Client:
User Name:
General:

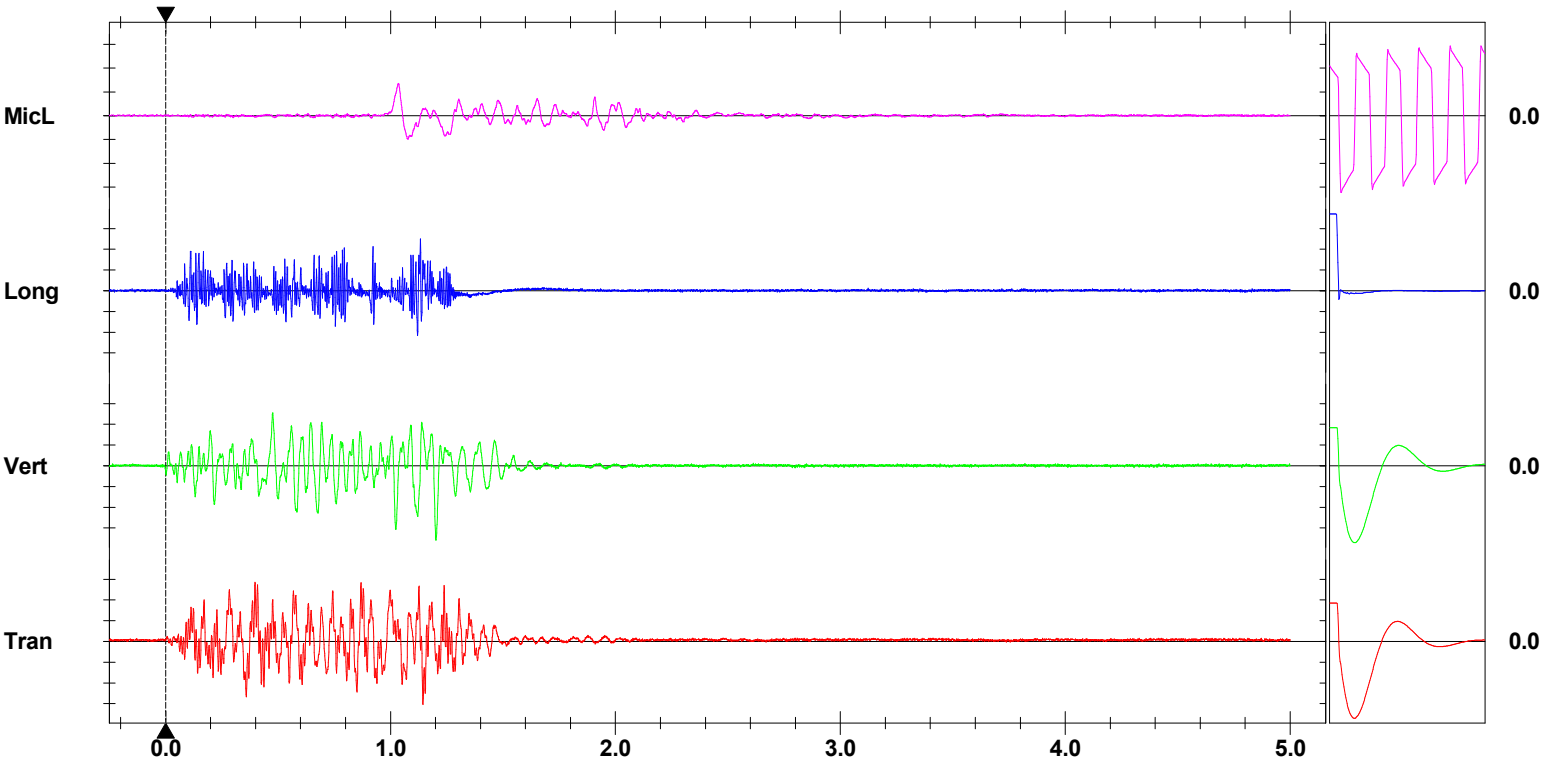
Extended Notes

Microphone	Linear Weighting
PSPL	116.6 dB(L) at 1.034 sec
ZC Freq	6.0 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 529 mv)

	Tran	Vert	Long	
PPV	1.524	1.794	1.254	mm/s
ZC Freq	24	22	43	Hz
Time (Rel. to Trig)	1.145	1.201	1.133	sec
Peak Acceleration	0.043	0.028	0.089	g
Peak Displacement	0.014	0.014	0.007	mm
Sensor Check	Passed	Passed	Check	
Frequency	7.3	7.2	6.9	Hz
Overswing Ratio	3.9	3.8	4.7	

Peak Vector Sum 1.895 mm/s at 1.145 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Vert at 12:00:01 February 21, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

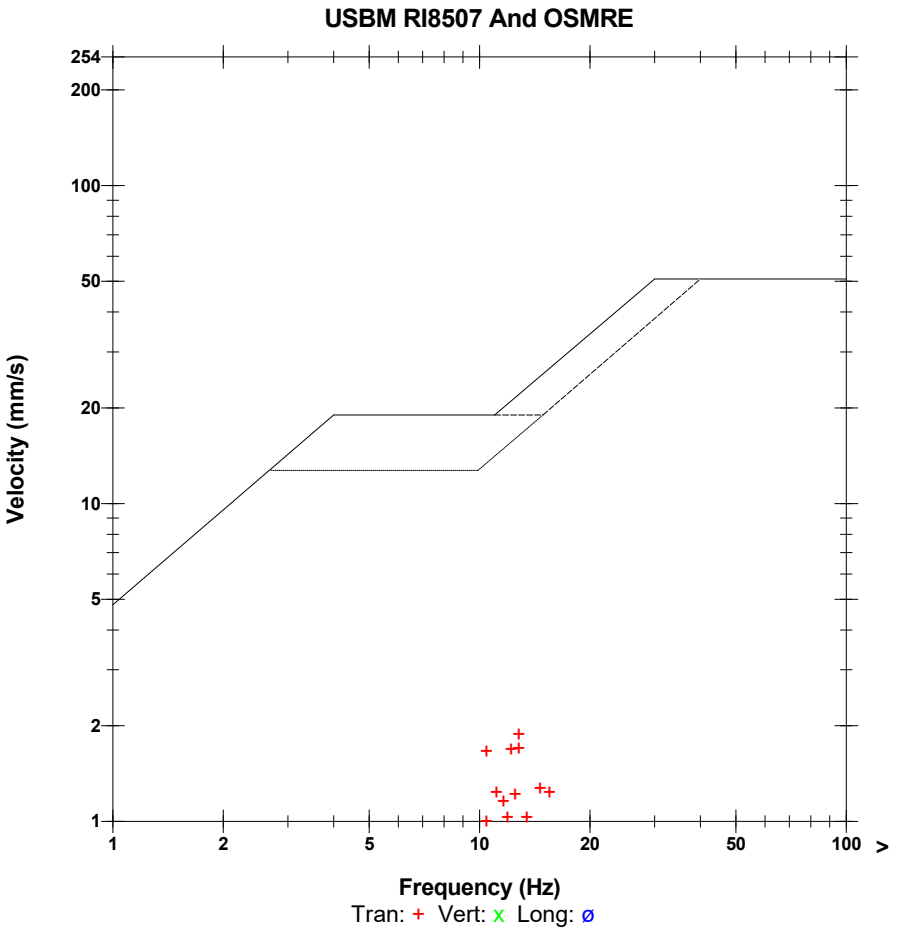
Serial Number	BE15777 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 16, 2025 by Saros Int.
File Name	Q777KY6X.C10

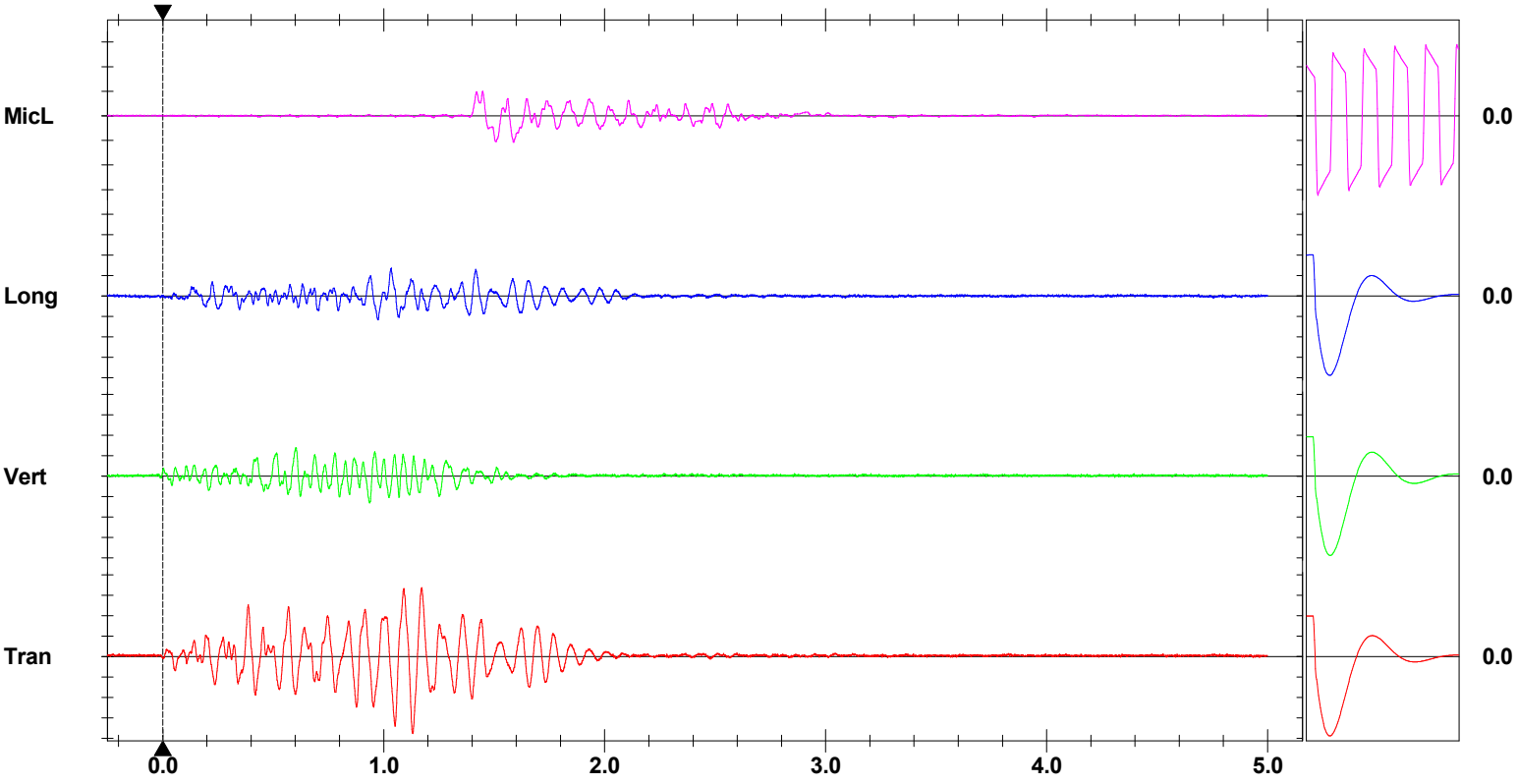
Notes

Microphone	Linear Weighting
PSPL	114.6 dB(L) at 1.587 sec
ZC Freq	7.8 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 487 mv)

	Tran	Vert	Long	
PPV	1.889	0.698	0.683	mm/s
ZC Freq	13	17	13	Hz
Time (Rel. to Trig)	1.132	0.603	1.034	sec
Peak Acceleration	0.018	0.013	0.010	g
Peak Displacement	0.022	0.007	0.007	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.6	7.6	Hz
Overswing Ratio	3.8	3.3	4.0	

Peak Vector Sum 1.959 mm/s at 1.132 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Vert at 12:00:01 February 21, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

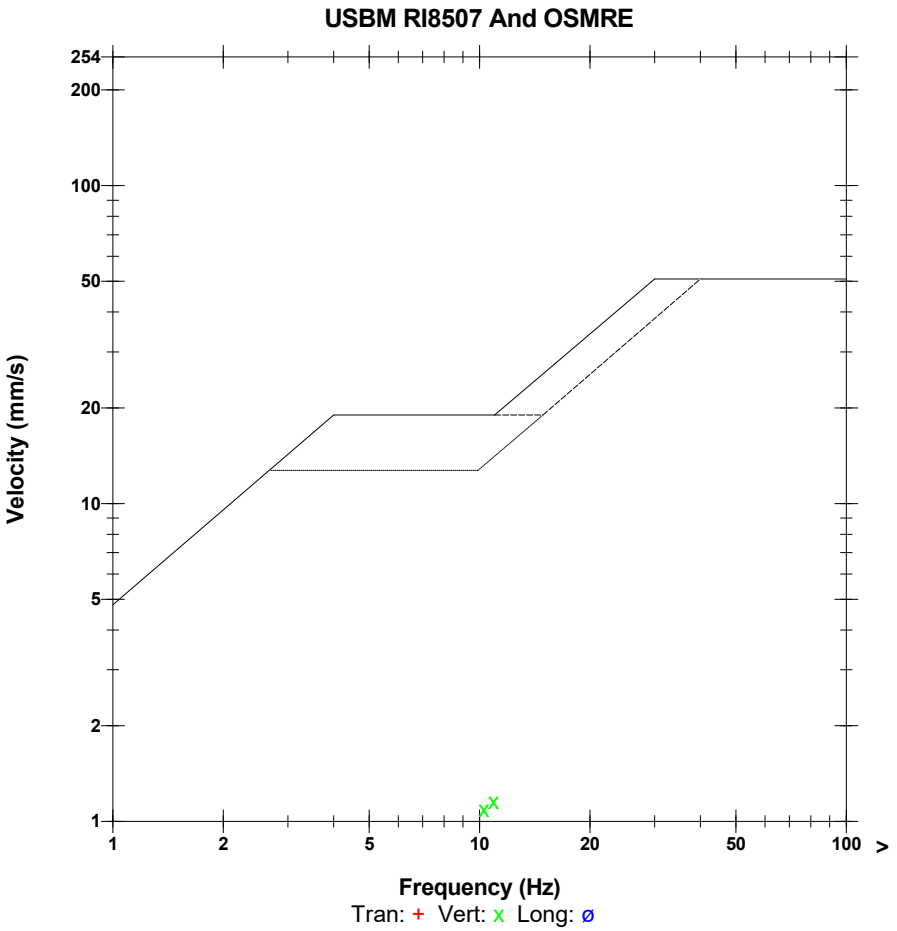
Serial Number	BE15569 V 10.72-1.1 Minimate Blaster
Battery Level	6.5 Volts
Unit Calibration	January 15, 2025 by Saros Int.
File Name	Q569KY6X.C10

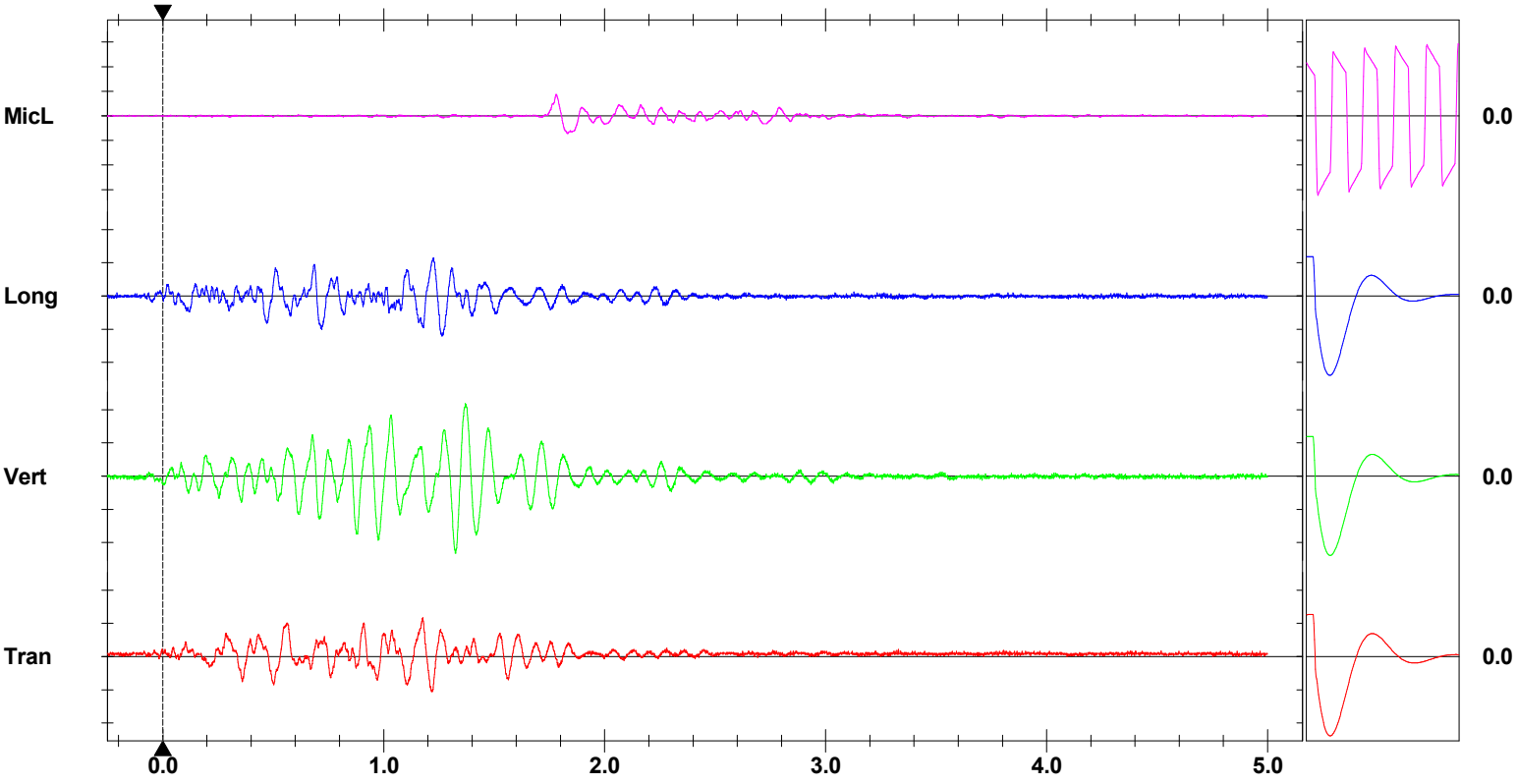
Notes

Microphone	Linear Weighting
PSPL	112.8 dB(L) at 1.779 sec
ZC Freq	7.9 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 545 mv)

	Tran	Vert	Long	
PPV	0.587	1.159	0.603	mm/s
ZC Freq	8.5	11	11	Hz
Time (Rel. to Trig)	1.177	1.324	1.263	sec
Peak Acceleration	0.008	0.013	0.008	g
Peak Displacement	0.009	0.017	0.009	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.6	Hz
Overswing Ratio	3.5	3.7	3.9	

Peak Vector Sum 1.165 mm/s at 1.324 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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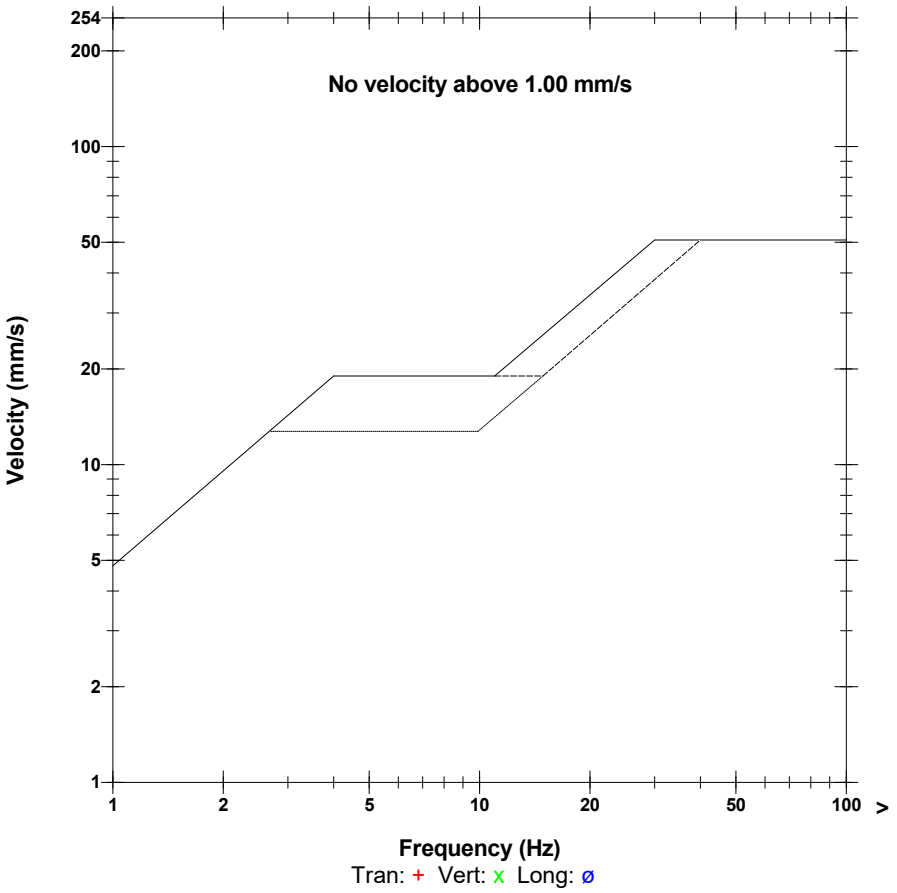
North of Brickworks

Date/Time	Tran at 12:00:02 February 21, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 15, 2025 by Saros Int.
File Name	R020KY6X.C20

Notes

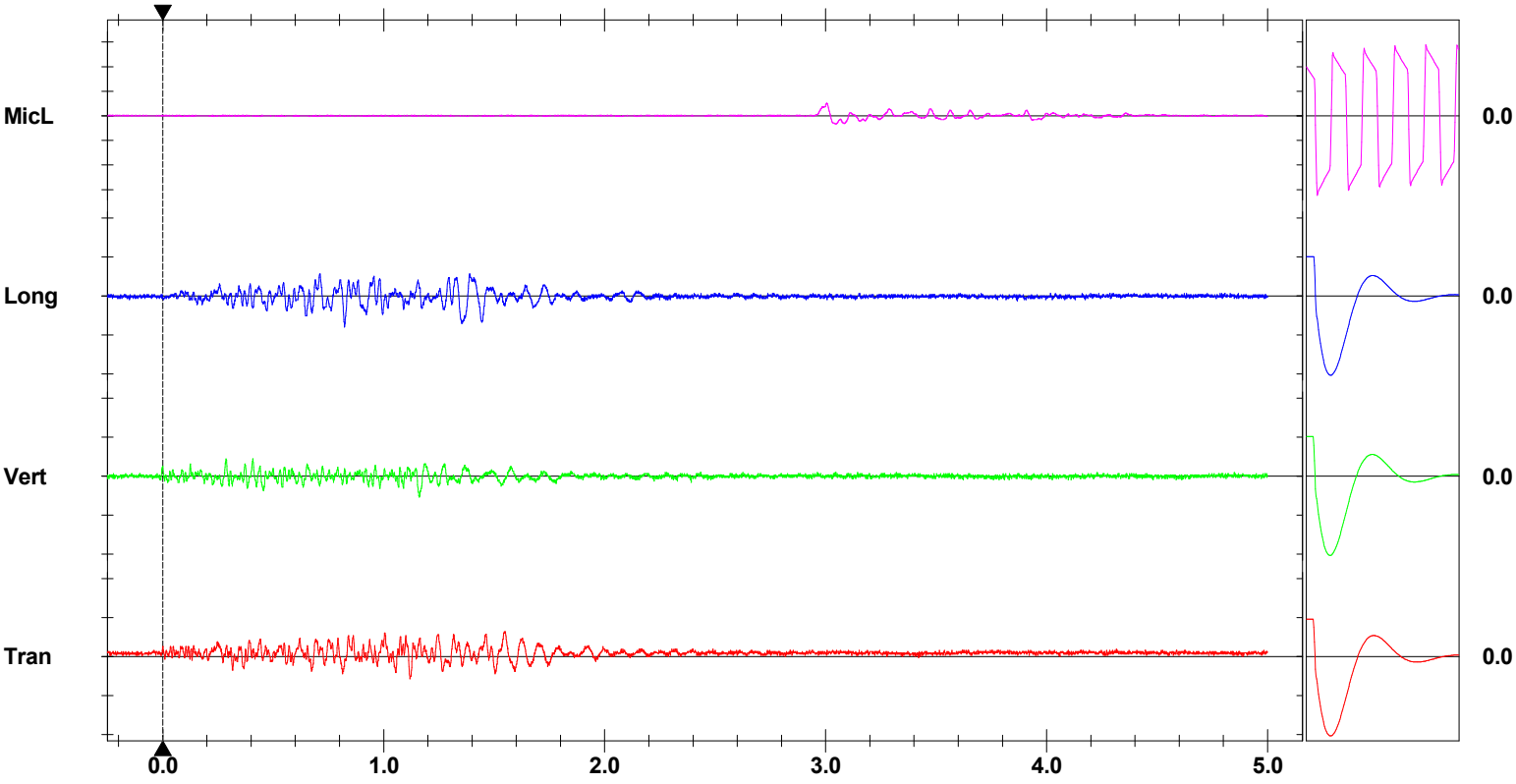
USBM RI8507 And OSMRE



	Tran	Vert	Long	
PPV	0.317	0.270	0.397	mm/s
ZC Freq	10	21	27	Hz
Time (Rel. to Trig)	1.546	1.161	0.823	sec
Peak Acceleration	0.010	0.008	0.010	g
Peak Displacement	0.005	0.002	0.005	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.5	Hz
Overswing Ratio	3.8	3.7	3.9	

Microphone	Linear Weighting
PSPL	108.4 dB(L) at 3.005 sec
ZC Freq	7.9 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 524 mv)

Peak Vector Sum 0.413 mm/s at 0.823 sec



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

Format © 1995-2015 Xmark Corporation

Commercial Properties

Date/Time	Vert at 12:30:01 May 21, 2025
Trigger Source	Geo: 0.130 mm/s, Mic: 100.0 dB(L)
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps
Job Number:	1

Serial Number	BE15377 V 10.72-1.1 Minimate Blaster
Battery Level	6.2 Volts
Unit Calibration	February 3, 2025 by Saros Int.
File Name	Q377L2RS.210

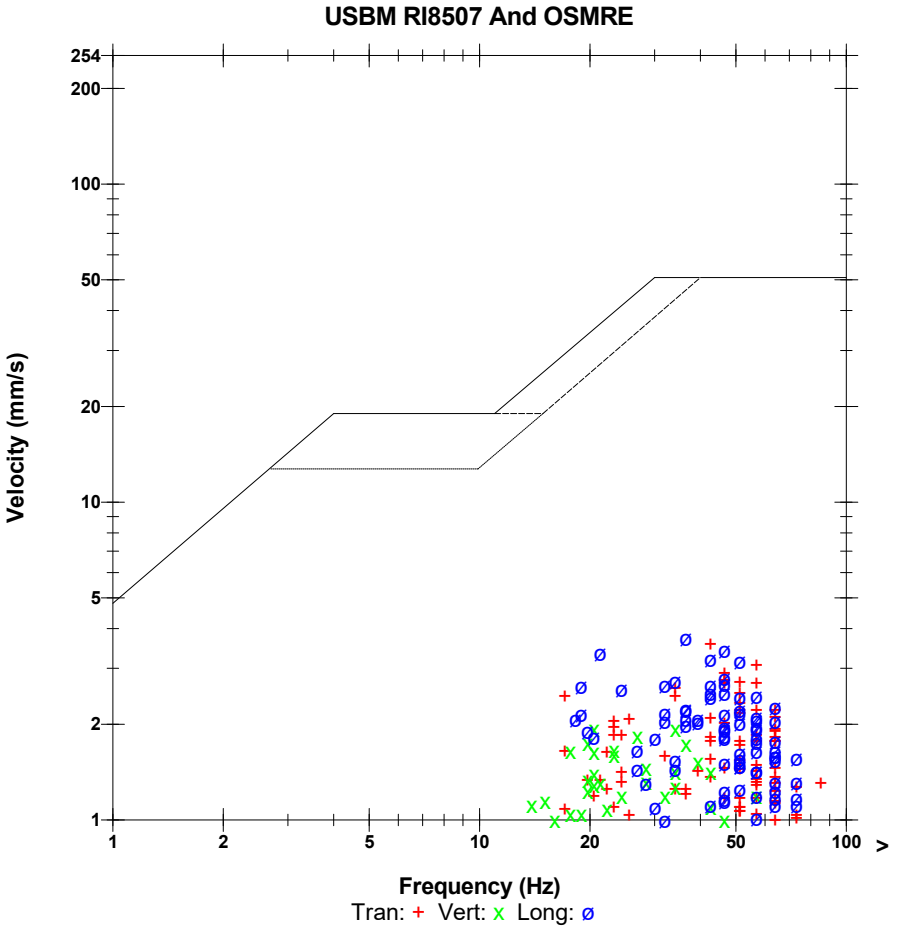
Notes
Location:
Client:
User Name:
General:

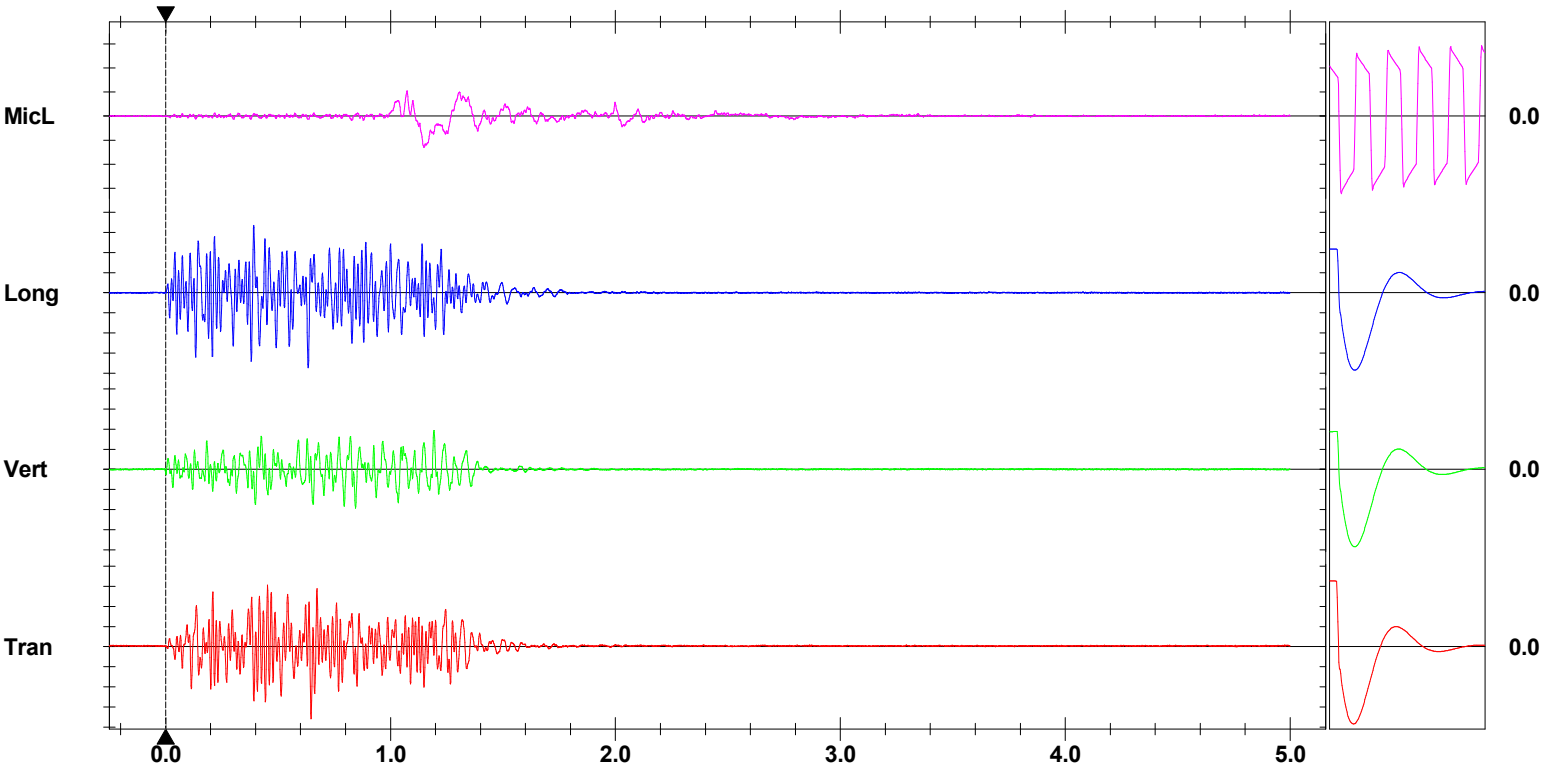
Extended Notes

Microphone	Linear Weighting
PSPL	116.3 dB(L) at 1.147 sec
ZC Freq	3.2 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 614 mv)

	Tran	Vert	Long	
PPV	3.588	1.937	3.731	mm/s
ZC Freq	43	20	37	Hz
Time (Rel. to Trig)	0.646	0.845	0.634	sec
Peak Acceleration	0.099	0.050	0.103	g
Peak Displacement	0.016	0.012	0.016	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.1	Hz
Overswing Ratio	3.9	3.9	3.9	

Peak Vector Sum 4.275 mm/s at 0.392 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Correctional Facility

Date/Time	Long at 12:30:00 May 21, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

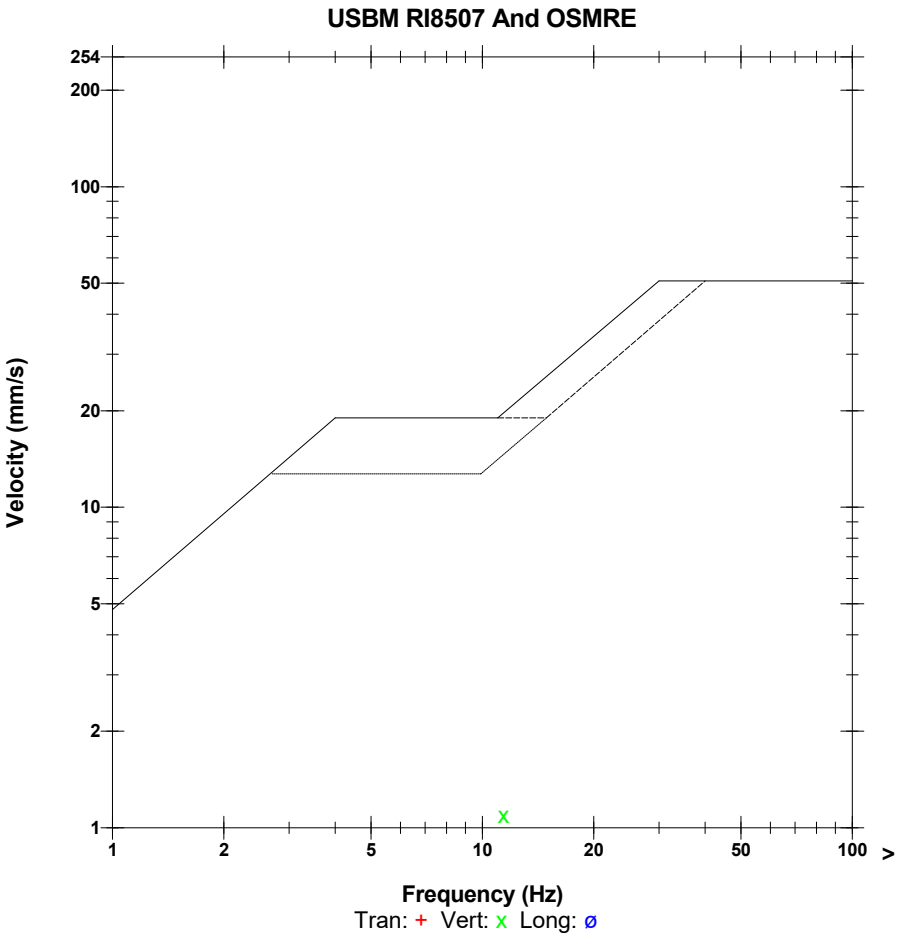
Serial Number	BE15777 V 10.72-1.1 Minimate Blaster
Battery Level	6.2 Volts
Unit Calibration	January 16, 2025 by Saros Int.
File Name	Q777L2RS.200

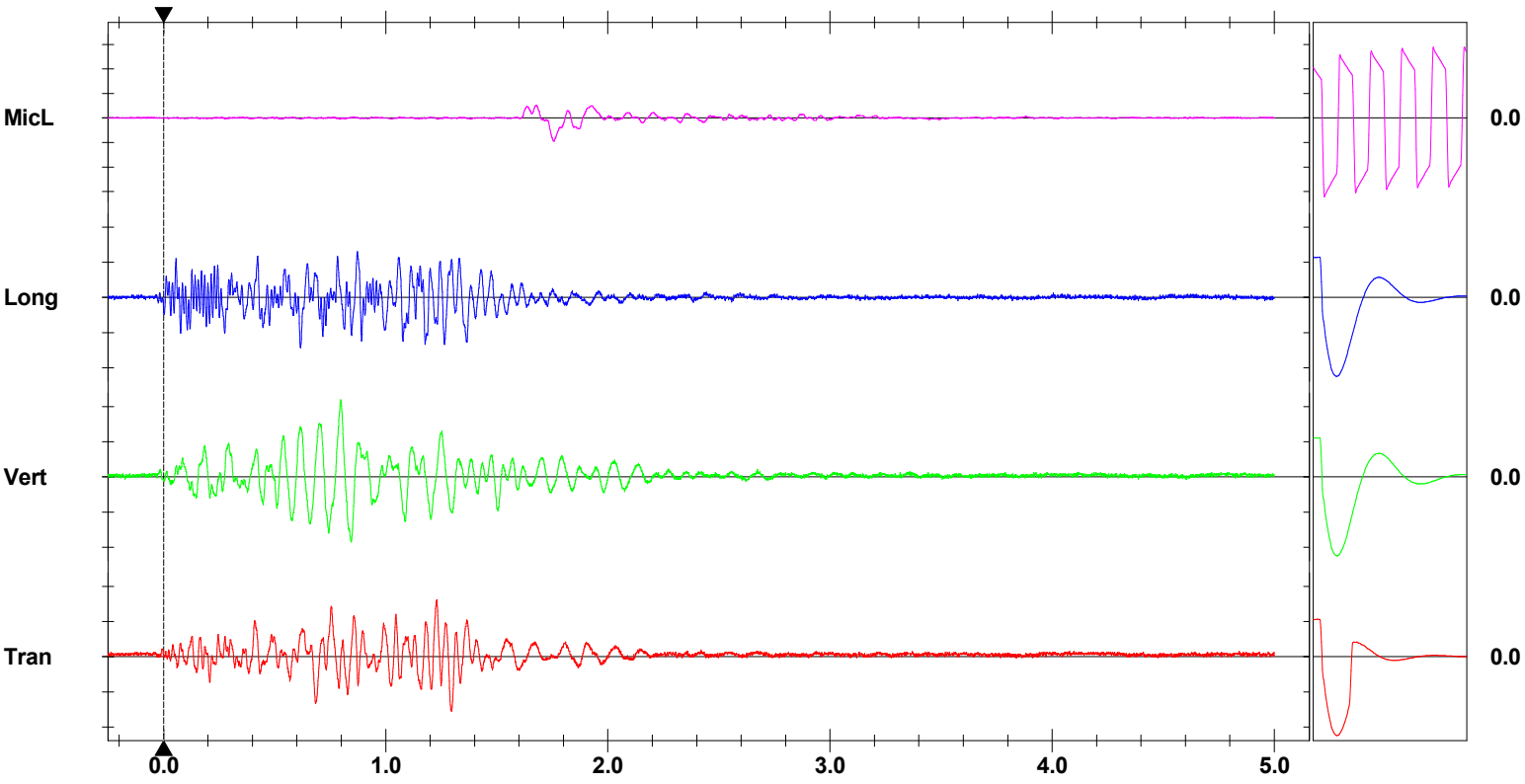
Notes

Microphone	Linear Weighting
PSPL	113.5 dB(L) at 1.756 sec
ZC Freq	4.7 Hz
Channel Test	Passed (Freq = 20.1 Hz Amp = 607 mv)

	Tran	Vert	Long	
PPV	0.810	1.095	0.714	mm/s
ZC Freq	17	11	18	Hz
Time (Rel. to Trig)	1.229	0.798	0.616	sec
Peak Acceleration	0.013	0.010	0.018	g
Peak Displacement	0.007	0.013	0.006	mm
Sensor Check	Check	Passed	Passed	
Frequency	10.6	7.7	7.6	Hz
Overswing Ratio	5.5	3.4	4.0	

Peak Vector Sum 1.098 mm/s at 0.798 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

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Goodsell Residence

Date/Time	Vert at 12:29:58 May 21, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

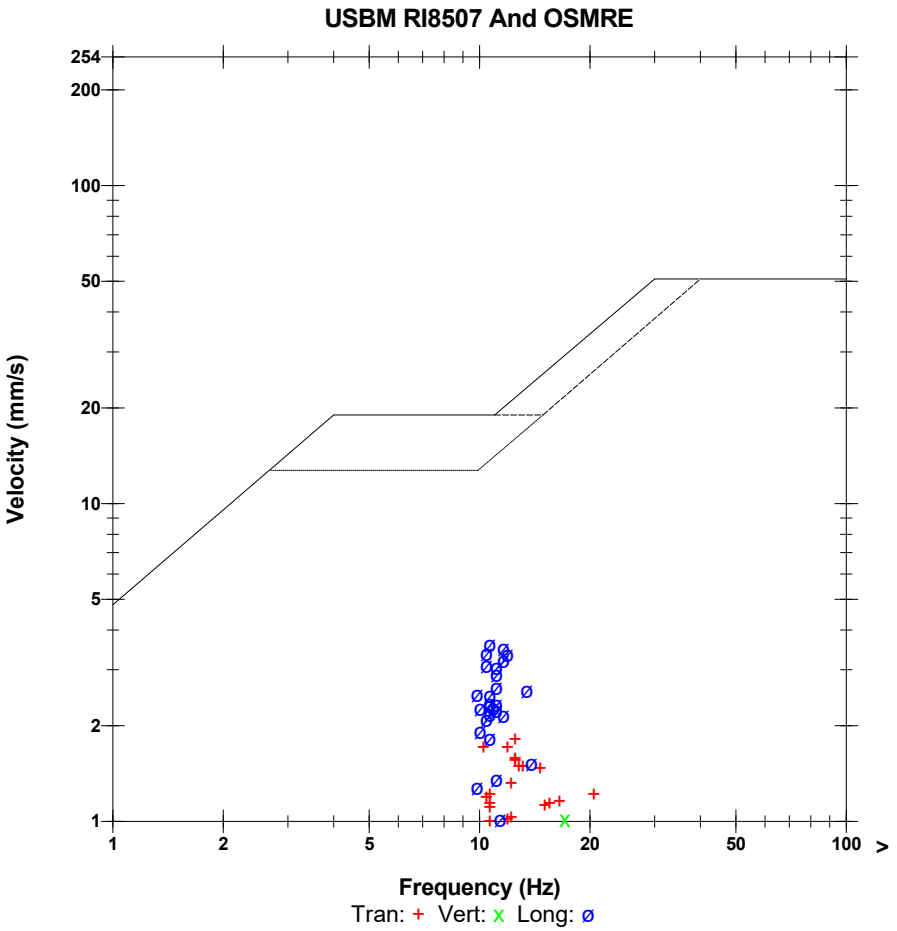
Serial Number	BE16020 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 15, 2025 by Saros Int.
File Name	R020L2RS.1Y0

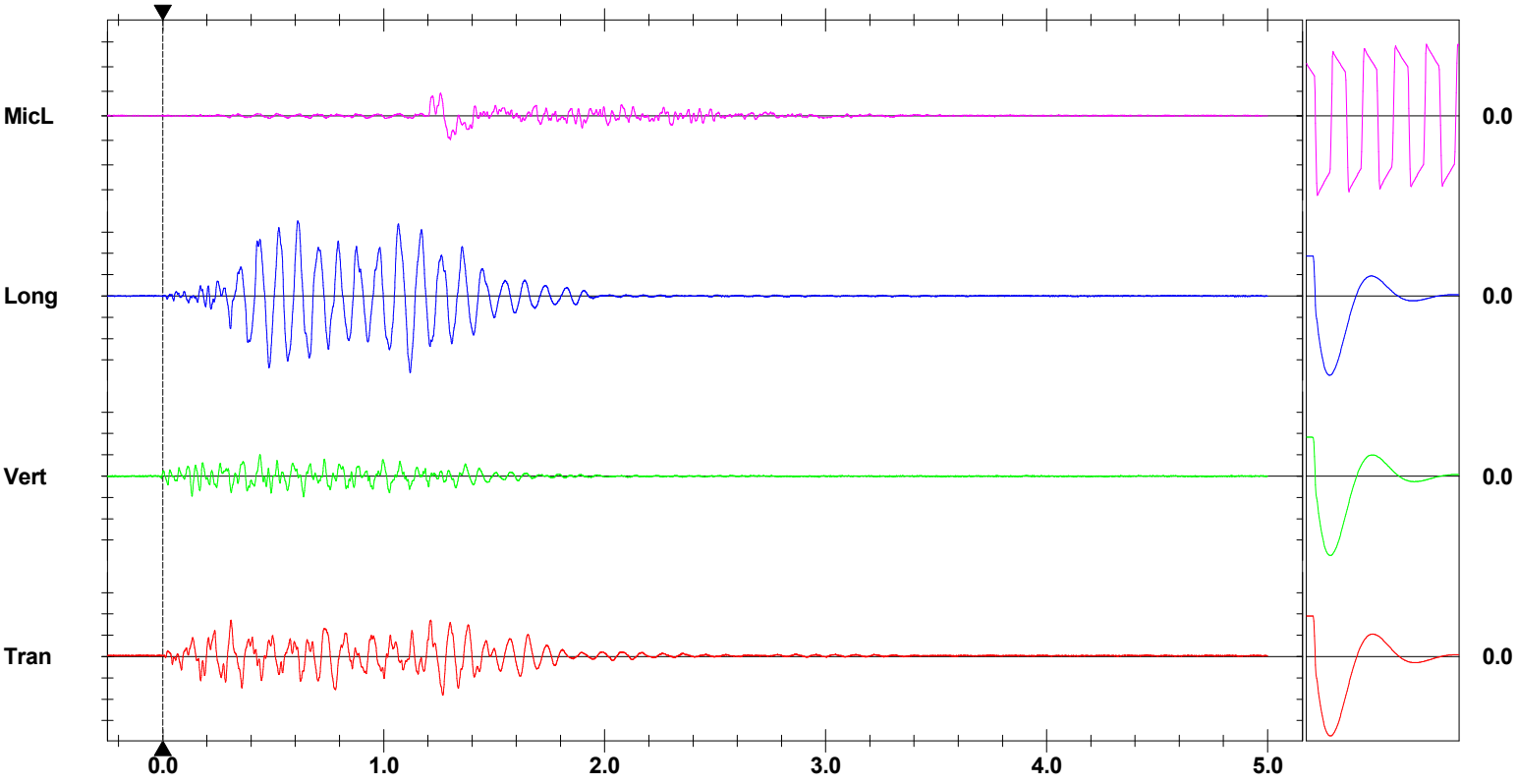
Notes

Microphone	Linear Weighting
PSPL	113.8 dB(L) at 1.302 sec
ZC Freq	8.0 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 594 mv)

	Tran	Vert	Long	
PPV	1.810	1.016	3.604	mm/s
ZC Freq	12	17	11	Hz
Time (Rel. to Trig)	1.267	0.440	1.120	sec
Peak Acceleration	0.022	0.020	0.038	g
Peak Displacement	0.020	0.009	0.050	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.6	Hz
Overswing Ratio	3.6	3.8	4.0	

Peak Vector Sum 3.668 mm/s at 1.120 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 1.000 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

Format © 1995-2015 Xmark Corporation

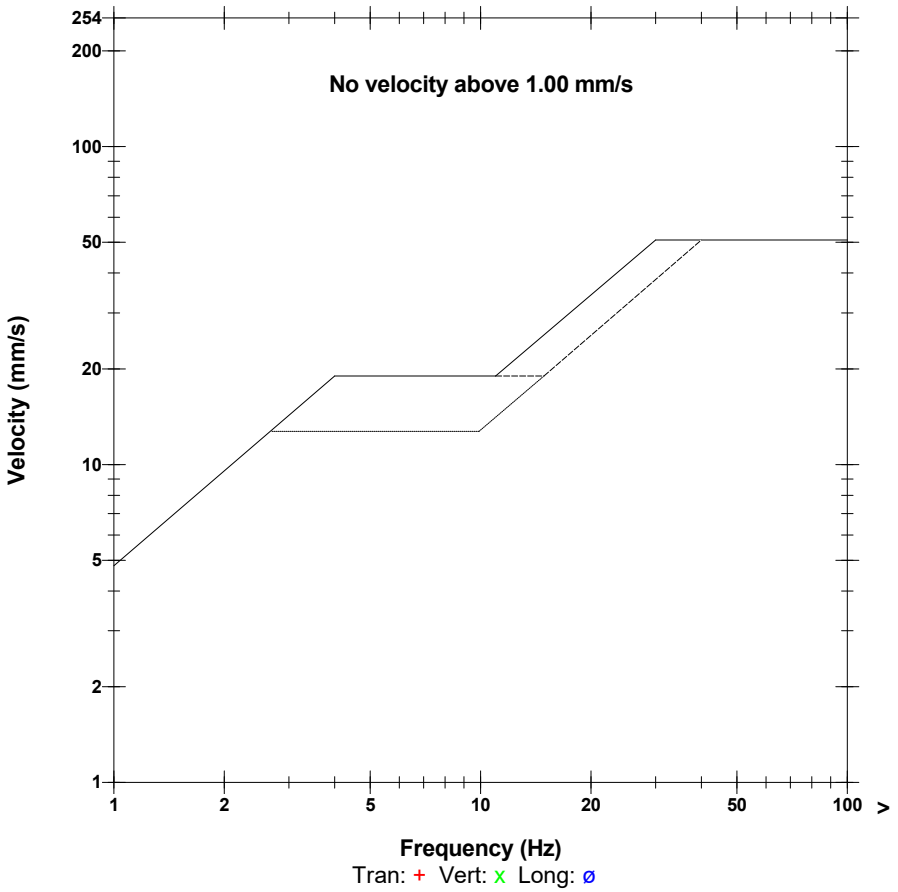
North of Brickworks

Date/Time	Vert at 12:30:00 May 21, 2025
Trigger Source	Geo: 0.130 mm/s
Range	Geo: 31.75 mm/s
Record Time	5.0 sec at 1024 sps

Serial Number	BE15569 V 10.72-1.1 Minimate Blaster
Battery Level	6.3 Volts
Unit Calibration	January 15, 2025 by Saros Int.
File Name	Q569L2RS.200

Notes

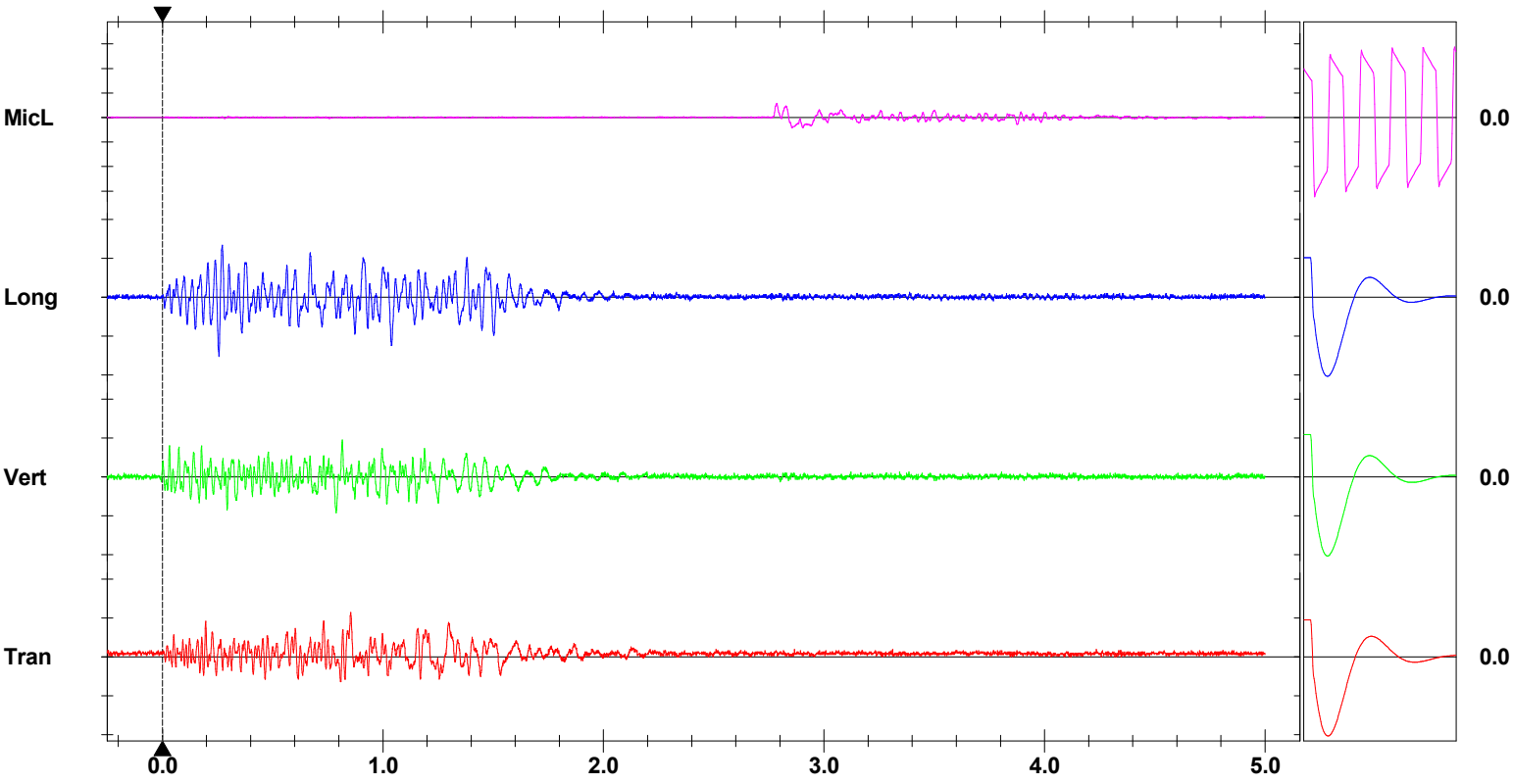
USBM RI8507 And OSMRE



Microphone	Linear Weighting
PSPL	109.2 dB(L) at 2.785 sec
ZC Freq	16 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 568 mv)

	Tran	Vert	Long	
PPV	0.571	0.476	0.762	mm/s
ZC Freq	16	32	32	Hz
Time (Rel. to Trig)	0.854	0.815	0.257	sec
Peak Acceleration	0.012	0.015	0.018	g
Peak Displacement	0.005	0.003	0.004	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.4	Hz
Overswing Ratio	3.9	3.8	4.0	

Peak Vector Sum 0.780 mm/s at 0.257 sec



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 0.500 mm/s/div Mic: 10.000 pa.(L)/div Sensor Check

Trigger = ▶----------◀

Format © 1995-2015 Xmark Corporation

Appendix D – Noise monitoring results

SLR Consulting Australia
Tenancy 202 Submarine School, Sub Base Platypus, 120 High Street, North Sydney NSW 2060, Australia

28 October 2024

SLR Ref No.: 610.031273-R06-v1.0 20240926.docx

Attention: Genaya

South Coast Concrete Crushing and Recycling Pty Ltd

245 Princes Hwy, South Nowra NSW 2541

SLR Project No.: 610.031273

RE: Noise Compliance Report Q3 2024
South Nowra Quarry

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by South Coast Concrete Crushing and Recycling Pty Ltd to conduct an operational compliance monitoring assessment for the quarry located at 245 Princes Hwy, South Nowra NSW 2541, in accordance with the Noise Monitoring plan (NMP) and Blast Management Plan (BMP), Report 10-5695 R3 Revision 3 dated 24 June 2010) to address the respective Project Approval Conditions.

Noise compliance measurements for quarter three, 2024 were undertaken on 19 September 2024.

2.0 Site Description

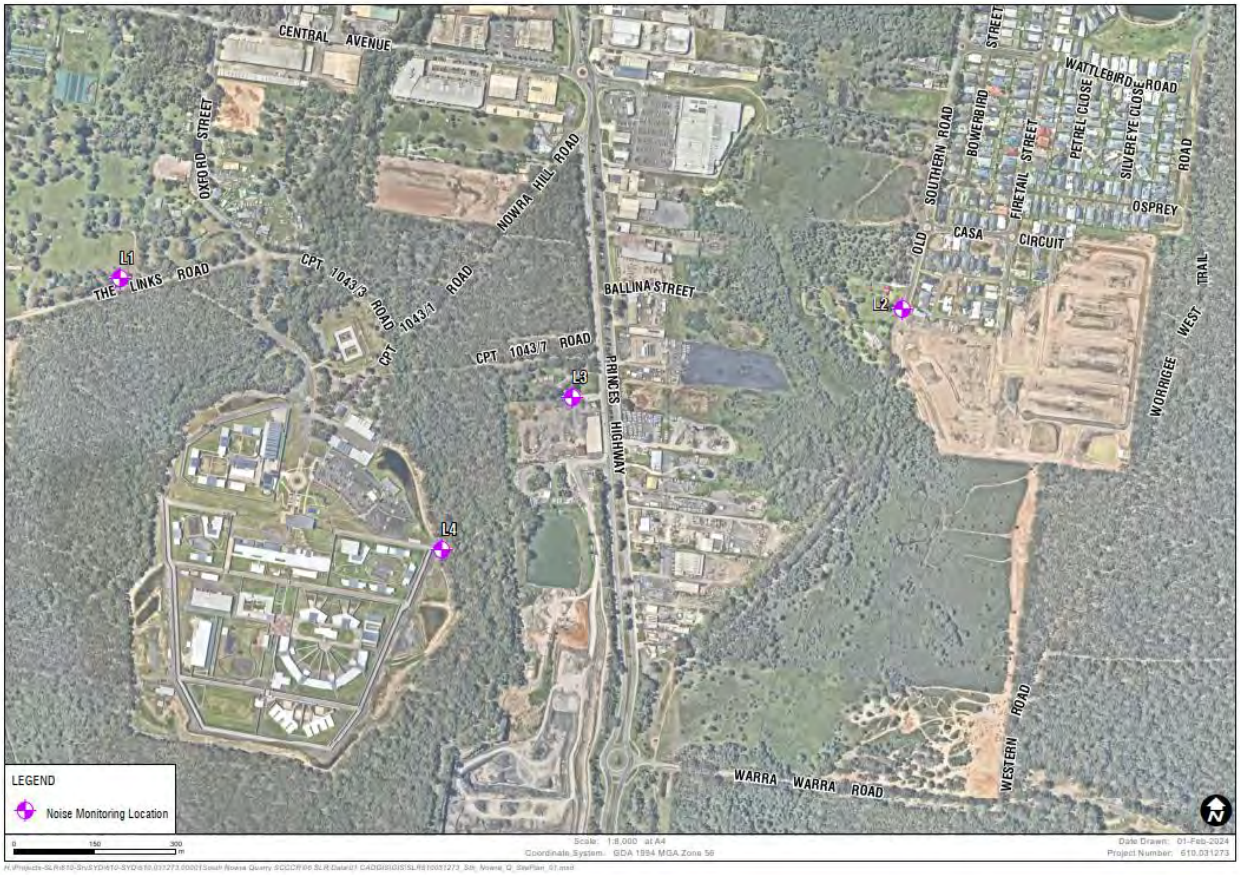
The quarry is located at South Nowra within the Shoalhaven City Council, approximately 5 km south of the Nowra CBD, adjacent to the Princes Highway. The Project Site comprises two mining lease areas, namely, ML 5087 to the north and ML 6322 to the south. ML 5087 has been largely disturbed by extraction-related activities. By contrast, ML 6322 has been partially disturbed by extraction-related activities, with the majority of the lease area covered by native vegetation.

To the east of the site, across the Princes Highway, is a low density commercial/industrial development. Enterprises situated directly opposite the main entrance to the quarry include a butchery and a concrete batching operation and various other commercial operations situated along the highway.

The nearest residences to the site comprise a residence located approximately 140 m to the north of the northern boundary of the quarry site; residences on Links Road, approximately 850 m to the west-northwest; and residences on Old Southern Road, approximately 630 m to the northeast.

The near point of the South Coast Correctional Facility is situated approximately 200 m west of the Project Site boundary.

Figure 1 Site Map



2.1 Quarry Operational Noise Survey

The quarry operations being conducted during noise monitoring comprised the following.

Two 38t excavators, two 35t excavators, one 25t excavator, a 35t excavator with hammer, one D10 dozer, two jaw crushers, one screen, a cone crusher, one impact crusher, one screen crusher, one watercart, one refuelling truck, two dump trucks and multiple trucks (approximately 220 movements throughout the working day) with trailers entering (tipping onsite) and exiting the quarry.

3.0 Noise Criteria

Conditions 2 and 3 Noise, Schedule 3 of the Mod 2 Project Approval state:

Operational Noise Criteria

2. *The Proponent must ensure that operational noise generated by the project does not exceed the criteria in **Table 1** at any residence on privately-owned land.*

Table 1 Operational noise criteria

Receiver	*Location*	*Day* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Evening* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Night* $L_{Aeq\ (15\ min)}$ *dB(A)*
1	*80 Links Road*	*39*	*35*	*NA*
2	*371 Old Southern Road*	*45*	*35*	*35*
3	*243 Princes Highway*	*49*	*38*	*38*
4	*South Coast Correctional Facility*	*51*	*37*	*37*

Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

*However, the noise criteria in **Table 1** do not apply if the Proponent has an agreement with the relevant landowner to exceed the noise criteria, and the Proponent has advised the Department in writing of the terms of this agreement.*

Noise Operating Conditions

3. The Proponent must:
- *(a) implement all reasonable and feasible noise mitigation measures to minimise the noise impacts of the project;*
- *(b) investigate ways to reduce the noise generated by the project;*
- *(c) take all reasonable steps to minimise the noise impacts of the project during meteorological conditions when the noise criteria in this approval do not apply (see Appendix 6);*
- *(d) carry out regular noise monitoring in accordance with Appendix 6 to determine whether the project is complying with the relevant conditions of this approval; and*
- *(e) modify or stop operations on the site to comply with the relevant conditions of this approval.*

3.1 Operating Hours

The approved hours for construction and operational activities are detailed in Table 1, Condition 1 in Schedule 3 of the Mod 2 Project Approval, and are as follows:

Hours of Operation

1. The Proponent must comply with the operating hours set out in Table 1.

Table 1: Operating hours

Activity	***Permissible Hours***
Quarrying operations	*7.00 am to 6.00 pm Monday to Friday*
	7.00 am to 4.00 pm Saturday
	At no time on Sundays or public holidays

Note: Limited truck movements are permitted outside of the permissible hours for quarrying operations, as specified in condition 8A of Schedule 2.

1A. The following activities may be carried out outside the hours specified in condition 1 of this Schedule:

(a) activities that are inaudible at residences on privately-owned land;
(b) the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
(c) emergency work to avoid the loss of life, property or to prevent material harm to the environment.

In such circumstances, the Proponent must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

3.2 Statement of Commitments

Further to the Consent Conditions from Section 8 of the Statement of Commitments in Appendix 2 of Mod 2 Project Approval state, in relation to noise, that the Proponent will:

8. Noise

8.1. Adhere to the approved hours of operation.

8.2. Use noise-mitigated mobile and processing equipment.

8.3. Undertake all processing operations within the deepest section of the quarry.

8.4. Maintain all mobile and processing equipment in accordance with the manufacturer's specifications.

8.5. Preferential selection of equipment with lower sound power levels over equipment with higher sound power levels.

8.6. Progressively install frequency modulated reversing alarms on mobile equipment.

3.3 Noise Compliance Assessment

In relation to determining compliance of the quarry's noise emissions with the operational noise criteria, Appendix 6 of the Mod 2 Project Approval states the following:

Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:

(a) wind speeds greater than 3 m/s at 10 m above ground level; or
(b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
(c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 16A of Schedule 3.

Compliance Monitoring

3. A noise compliance assessment must be undertaken within six months of the approval of Modification 2. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with the noise criteria in Table 2. A report must be provided to the Secretary and EPA within 1 month of the assessment.

4. *Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:*
   (a) monitoring locations for the collection of representative noise data;
   (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
   (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
   (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the NSW Industrial Noise Policy) and before comparison with the specified noise levels in the approval.

3.4 Noise Monitoring Program

The requirements of a Noise Monitoring Program, Condition 4 in Schedule 3 of the Mod 2 Project Approval states that:

Noise Monitoring Program

4. *The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. The Program must:*
   (a) be prepared in consultation with EPA and be submitted to the Secretary for approval within 6 ***months of the date of this approval;***
   (b) include annual attended noise monitoring;
   (c) describe the proposed noise management system; and
   (d) include a noise monitoring program that:
   - *is capable of evaluating the performance of the project;*
   - *includes a protocol for determining any exceedances of the relevant conditions of this approval; and*
   - *effectively supports the noise management system.*

   The Proponent must implement the Noise Monitoring Program as approved by the Secretary.

4.0 Instrumentation and Measurement Parameters

4.1 Operator Attended Surveys

All acoustic instrumentation employed throughout the noise compliance monitoring programme was designed to comply with the requirements of AS IEC 61672.1-2004 “Electroacoustics - Sound Level Meters”.

All instrumentation was programmed to continuously record statistical noise level indices over a 15 minute interval, which included the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{Amin} and the L_{Aeq}.

Instrument calibration was checked before and after each measurement survey, with the variation in calibrated levels not exceeding the acceptable variation of ±0.5 dBA (in accordance with AS 1055).

Table 2 Acoustic Instrumentation

Description	Type or Class	Serial Number
Brüel & Kjær 2270 Sound Level Meter	Type 1	3029485
Brüel & Kjær 4231 Sound Calibrator	Class 1	2218228

5.0 Attended Noise Measurements

5.1 Attended Noise Surveys

Operator attended ambient noise surveys were conducted at each of the locations on 19 September 2024 during the daytime period in order to quantify the noise emissions from the Brickworks Quarry activities as well as the overall level of ambient noise.

During the operator-attended noise measurements, the operator recorded any significant Brickworks Quarry related noise sources (ie haul trucks, dozer, processing plant, etc).

The results of the operator-attended noise measurements, including the ambient noise levels and the estimated contribution from the Brickworks Quarry noise sources at all monitoring locations, are contained in **Table 3** to **Table 6**.

Weather data was taken from field observations with a handheld anemometer at each location at 1.5m.

Note, the noise levels presented in this report are in dBA re 20 µPa.

Table 3 Noise Measurements 80 Links Road – Location 1

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/09/2024 13:32 Wind Calm 19°C	Ambient	60	79	70	62	50	44	**Site related noise events** Site inaudible **Other noise events:** Birds 60-65 Vehicle pass by 76-79 Distant traffic 50-53
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <40						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.
The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 4 Noise Measurements 371 Old Southern Road – Location 2

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/09/2024 13:58 Wind Calm 19°C	Ambient	62	80	72	64	56	52	**Site related noise events** Site inaudible **Other noise events:** Construction impact 56-57 Trucks 50-80 Light vehicle passby 66-70
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <45						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.
The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 5 Noise Measurements 243 Princes Highway – Location 3

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/09/2024 12:39 Wind Calm 19ºC	Ambient	57	72	62	59	53	49	**Site related noise events** inaudible **Other noise events:** Highway traffic 55-65 light vehicle passby 60-72 Motorbike 57-66 Highway -heavy vehicles 48-51 Highway - truck air brakes 58 highway - truck Impact 61
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <43						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 6 Noise Measurements South Coast Correctional Centre – Location 4

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/09/2024 13:07 Wind heavy 19ºC	Ambient	60	70	69	63	51	48	**Site related noise events** Engine noise 50-52 **Other noise events:** Wind gusts 64-70 Correctional Facility PA announcement 61-62 Birds 44-46 Highway motorbike 53-54
	Brickworks Quarry (BQ)	BQ engine noise briefly discernible between minutes 13 - 14 of measurement. L_{Aeq} BQ estimated contribution 40						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

5.2 Noise Impact assessment

The daytime operator-attended noise survey results are summarised in **Table 7** together with the respective noise criteria specified in Table 1 of the Mod 2 Project Approval Conditions.

Table 7 Daytime $L_{Aeq(15minute)}$ Brickworks Quarry Noise Emission Levels

Monitoring Locations	Brickworks Quarry Contributed $L_{Aeq(15minute)}$ dBA	Noise Emission Criteria $L_{Aeq(15minute)}$ dBA
Location 1 - 80 Links Road	<40[1]	*39*
Location 2 - 371 Old Southern Road	<46[1]	*45*
Location 3 - 243 Princes Highway	<43[1]	*49*
Location 4 - South Coast Correction Facility	40	*51*
Notes: 1. Site inaudible at these locations, contribution estimated to be at least 10dB less than the measured background L_{A90} noise level.		

Site was inaudible at Location 1 despite high noise levels from traffic on local roads, similarly Location 2 had high noise levels due to nearby construction site. Site was inaudible at both locations and it is unlikely that contribution for site was above the noise emission criteria.

The weather conditions were within those nominated in the notes under Table 2 of the Mod 2 Project Approval Conditions (which state that measurements have to be taken in accordance with the now superseded NSW Industrial Noise Policy).

Reference to the noise survey measurement results and the noise criteria in **Table 7** indicates compliance of the Brickworks Quarry operational noise level at all assessment locations.

6.0 Conclusion

Noise monitoring of South Nowra Quarry conducted on 19 September 2024 shows that South Coast Concrete Crushing and Recycling Pty Ltd complies at all locations

I trust that the above report meets your current requirements. Should you have any questions or require any additional information, please contact the undersigned.

Yours sincerely

Martin Jacobs

Noise & Vibration Project Consultant

Checked by: AM
Authorised by: AM

Enclosure A:

Instrument calibration certificates

SLR Consulting Australia
Tenancy 202 Submarine School, Sub Base Platypus, 120 High Street, North Sydney NSW 2060, Australia

5 December 2024

SLR Ref No.: 610.031273-R07-v0.1 20241108

Attention: Genaya

South Coast Concrete Crushing and Recycling Pty Ltd

245 Princes Hwy, South Nowra NSW 2541

SLR Project No.: 610.031273

RE: Noise Compliance Report Q4 2024
South Nowra Quarry

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by South Coast Concrete Crushing and Recycling Pty Ltd to conduct an operational compliance monitoring assessment for the quarry located at 245 Princes Hwy, South Nowra NSW 2541, in accordance with the Noise Monitoring plan (NMP) and Blast Management Plan (BMP), Report 10-5695 R3 Revision 3 dated 24 June 2010) to address the respective Project Approval Conditions.

Noise compliance measurements for Quarter Three, 2024 were undertaken on 6 November 2024.

2.0 Site Description

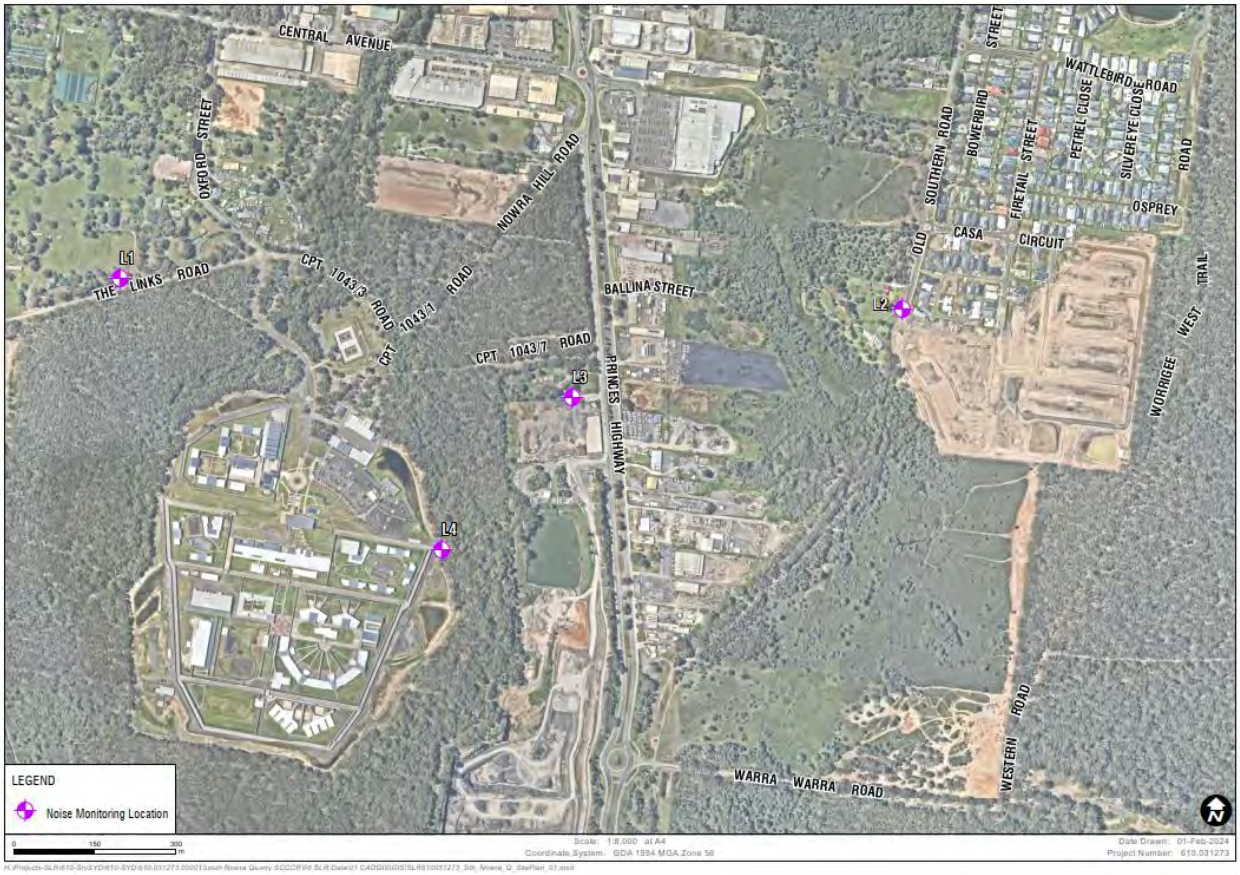
The quarry is located at South Nowra within the Shoalhaven City Council area, approximately 5 km south of the Nowra CBD, adjacent to the Princes Highway. The Project Site comprises two mining lease areas, namely, ML 5087 to the north and ML 6322 to the south. ML 5087 has been largely disturbed by extraction-related activities. By contrast, ML 6322 has been partially disturbed by extraction-related activities, with the majority of the lease area covered by native vegetation.

To the east of the site, across the Princes Highway, is a low density commercial/industrial development. Enterprises situated directly opposite the main entrance to the quarry include a butchery and a concrete batching operation and various other commercial operations situated along the highway.

The nearest residences to the site comprise a residence located approximately 140 m to the north of the northern boundary of the quarry site; residences on Links Road, approximately 850 m to the west-northwest; and residences on Old Southern Road, approximately 630 m to the northeast.

The near point of the South Coast Correctional Facility is situated approximately 200 m west of the Project Site boundary.

Figure 1 Site Map



2.1 Quarry Operational Noise Survey

The quarry operations being conducted during noise monitoring comprised the following:

Two 38t excavators, two 35t excavators, one 25t excavator, a 35t excavator with hammer, one D10 dozer, two jaw crushers, one screen, a cone crusher, one impact crusher, one screen crusher, one watercart, one refuelling truck, two dump trucks and multiple trucks (approximately 220 movements throughout the working day) with trailers entering (tipping onsite) and exiting the quarry.

3.0 Noise Criteria

Conditions 2 and 3 Noise, Schedule 3 of the Mod 2 Project Approval state:

Operational Noise Criteria

2. *The Proponent must ensure that operational noise generated by the project does not exceed the criteria in **Table 1** at any residence on privately-owned land.*

Table 1 Operational noise criteria

Receiver	*Location*	*Day* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Evening* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Night* $L_{Aeq\ (15\ min)}$ *dB(A)*
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4	*South Coast Correctional Facility*	*51*	*37*	*37*

Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

*However, the noise criteria in **Table 1** do not apply if the Proponent has an agreement with the relevant landowner to exceed the noise criteria, and the Proponent has advised the Department in writing of the terms of this agreement.*

Noise Operating Conditions

3. The Proponent must:
- *(a) implement all reasonable and feasible noise mitigation measures to minimise the noise impacts of the project;*
- *(b) investigate ways to reduce the noise generated by the project;*
- *(c) take all reasonable steps to minimise the noise impacts of the project during meteorological conditions when the noise criteria in this approval do not apply (see Appendix 6);*
- *(d) carry out regular noise monitoring in accordance with Appendix 6 to determine whether the project is complying with the relevant conditions of this approval; and*
- *(e) modify or stop operations on the site to comply with the relevant conditions of this approval.*

3.1 Operating Hours

The approved hours for construction and operational activities are detailed in Table 1, Condition 1 in Schedule 3 of the Mod 2 Project Approval, and are as follows:

Hours of Operation

1. The Proponent must comply with the operating hours set out in Table 1.

Table 1: Operating hours

Activity	***Permissible Hours***
Quarrying operations	*7.00 am to 6.00 pm Monday to Friday*
	7.00 am to 4.00 pm Saturday
	At no time on Sundays or public holidays

Note: Limited truck movements are permitted outside of the permissible hours for quarrying operations, as specified in condition 8A of Schedule 2.

1A. The following activities may be carried out outside the hours specified in condition 1 of this Schedule:

(a) activities that are inaudible at residences on privately-owned land;
(b) the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
(c) emergency work to avoid the loss of life, property or to prevent material harm to the environment.

In such circumstances, the Proponent must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

3.2 Statement of Commitments

Further to the Consent Conditions from Section 8 of the Statement of Commitments in Appendix 2 of Mod 2 Project Approval state, in relation to noise, that the Proponent will:

8. Noise

8.1. Adhere to the approved hours of operation.

8.2. Use noise-mitigated mobile and processing equipment.

8.3. Undertake all processing operations within the deepest section of the quarry.

8.4. Maintain all mobile and processing equipment in accordance with the manufacturer's specifications.

8.5. Preferential selection of equipment with lower sound power levels over equipment with higher sound power levels.

8.6. Progressively install frequency modulated reversing alarms on mobile equipment.

3.3 Noise Compliance Assessment

In relation to determining compliance of the quarry's noise emissions with the operational noise criteria, Appendix 6 of the Mod 2 Project Approval states the following:

Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:

(a) wind speeds greater than 3 m/s at 10 m above ground level; or
(b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
(c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 16A of Schedule 3.

Compliance Monitoring

3. A noise compliance assessment must be undertaken within six months of the approval of Modification 2. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with the noise criteria in Table 2. A report must be provided to the Secretary and EPA within 1 month of the assessment.

4. *Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:*
   (a) monitoring locations for the collection of representative noise data;
   (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
   (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
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3.4 Noise Monitoring Program

The requirements of a Noise Monitoring Program, Condition 4 in Schedule 3 of the Mod 2 Project Approval states that:

Noise Monitoring Program

4. *The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. The Program must:*
   (a) be prepared in consultation with EPA and be submitted to the Secretary for approval within 6 ***months of the date of this approval;***
   (b) include annual attended noise monitoring;
   (c) describe the proposed noise management system; and
   (d) include a noise monitoring program that:
   - *is capable of evaluating the performance of the project;*
   - *includes a protocol for determining any exceedances of the relevant conditions of this approval; and*
   - *effectively supports the noise management system.*

   The Proponent must implement the Noise Monitoring Program as approved by the Secretary.

4.0 Instrumentation and Measurement Parameters

4.1 Operator Attended Surveys

All acoustic instrumentation employed throughout the noise compliance monitoring programme was designed to comply with the requirements of AS IEC 61672.1-2004 “Electroacoustics - Sound Level Meters”.

All instrumentation was programmed to continuously record statistical noise level indices over a 15 minute interval, which included the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{Amin} and the L_{Aeq}.

Instrument calibration was checked before and after each measurement survey, with the variation in calibrated levels not exceeding the acceptable variation of ±0.5 dBA (in accordance with AS 1055).

Table 2 Acoustic Instrumentation

Description	Type or Class	Serial Number
Brüel & Kjær 2270 Sound Level Meter	Type 1	3029485
G.R.A.S. Sound Calibrator	Class 1	279049

5.0 Attended Noise Measurements

5.1 Attended Noise Surveys

Operator attended ambient noise surveys were conducted at each of the locations on 6 November 2024 during the daytime period in order to quantify the noise emissions from the Brickworks Quarry activities as well as the overall level of ambient noise.

During the operator-attended noise measurements, the operator recorded any significant Brickworks Quarry related noise sources (ie haul trucks, dozer, processing plant, etc).

The results of the operator-attended noise measurements, including the ambient noise levels and the estimated contribution from the Brickworks Quarry noise sources at all monitoring locations, are contained in **Table 3** to **Table 6**.

Weather data was taken from field observations with a handheld anemometer at each location at 1.5m.

Note that the noise levels presented in this report are in dBA re 20 µPa.

Table 3 Noise Measurements 80 Links Road – Location 1

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
06/11/2024 15:21 Wind Calm 24°C	Ambient	48	68	58	48	42	40	**Site related noise events** Impact noise 40-43 **Other noise events:** Birds 60-63 Vehicle pass by 65-68 Distant traffic 48-53
	Brickworks Quarry (BQ)	L_{Aeq} BQ estimated contribution <39						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.
The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 4 Noise Measurements 371 Old Southern Road – Location 2

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
06/11/2024 15:51 Wind Calm 24°C	Ambient	43	67	51	44	39	36	**Site related noise events** Site inaudible **Other noise events:** Construction impact 41-54 Heavy vehicle 43-47 Dog barking 47-54 Distant traffic 38-40
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <29						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.
The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 5 Noise Measurements 243 Princes Highway – Location 3

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
06/11/2024 14:20 Wind Calm 23°C	Ambient	57	76	66	59	51	46	**Site related noise events** Heavy vehicle 50-53 Trucks 50-55 Reverse alarm: 47-48 **Other noise events:** Highway traffic 54-65 Birds 54-59 Insects 56-58
	Brickworks Quarry (BQ)	L_{Aeq} BQ estimated contribution 42						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.
The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 6 Noise Measurements South Coast Correctional Centre – Location 4

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
06/11/2024 14:51 Wind calm 24°C	Ambient	48	63	54	50	44	42	**Site related noise events** Impact noise 48-50 Mechanical plant 40-43 Reverse alarm 44-50 Heavy vehicle movements 46-50 **Other noise events:** Aircraft 60-63 Insects 48-50 Birds 50-55 Highway traffic 46-48
	Brickworks Quarry (BQ)	BQ engine noise briefly discernible between minutes 13 - 14 of measurement. L_{Aeq} BQ estimated contribution 43						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.
The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

5.2 Noise Impact assessment

The daytime operator-attended noise survey results are summarised in **Table 7** together with the respective noise criteria specified in Table 1 of the Mod 2 Project Approval Conditions.

Table 7 Daytime $L_{Aeq(15minute)}$ Brickworks Quarry Noise Emission Levels

Monitoring Locations	Brickworks Quarry Contributed $L_{Aeq(15minute)}$ dBA	Noise Emission Criteria $L_{Aeq(15minute)}$ dBA
Location 1 - 80 Links Road	<39	*39*
Location 2 - 371 Old Southern Road	<29[1]	*45*
Location 3 - 243 Princes Highway	42	*49*
Location 4 - South Coast Correction Facility	43	*51*
Notes: 1. Site inaudible at these locations, contribution estimated to be at least 10dB less than the measured background L_{A90} noise level.		

Site was faintly audible at Location 1 and it is considered unlikely that contribution from site was above the noise emission criteria. Site was inaudible at Location 2, with contributions from Princes Highway, residential activities and nearby construction site

The weather conditions were within those nominated in the notes under Table 2 of the Mod 2 Project Approval Conditions (which state that measurements have to be taken in accordance with the now superseded NSW Industrial Noise Policy).

Reference to the noise survey measurement results and the noise criteria in **Table 7** indicates compliance of the Brickworks Quarry operational noise level at all assessment locations.

6.0 Conclusion

Noise monitoring of South Nowra Quarry conducted on 6 November 2024 shows that South Coast Concrete Crushing and Recycling Pty Ltd complies at all locations

I trust that the above report meets your current requirements. Should you have any questions or require any additional information, please contact the undersigned.

Yours sincerely

Martin Jacobs

Noise & Vibration Project Consultant

Checked by: MI
Authorised by: MI

SLR Consulting Australia
Tenancy 202 Submarine School, Sub Base Platypus, 120 High Street, North Sydney NSW 2060, Australia

28 March 2025

SLR Ref No.: 610.031273-R08-v1.0 20250321.docx

Attention: Genaya

South Coast Concrete Crushing and Recycling Pty Ltd

245 Princes Hwy, South Nowra NSW 2541

SLR Project No.: 610.031273

RE: Noise Compliance Report Q1 2025
South Nowra Quarry

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by South Coast Concrete Crushing and Recycling Pty Ltd to conduct an operational compliance monitoring assessment for the quarry located at 245 Princes Hwy, South Nowra NSW 2541, in accordance with the Noise Monitoring plan (NMP) and Blast Management Plan (BMP), Report 10-5695 R3 Revision 3 dated 24 June 2010) to address the respective Project Approval Conditions.

Noise compliance measurements for Quarter One, 2025 were undertaken on 19 February and 13 March 2025.

2.0 Site Description

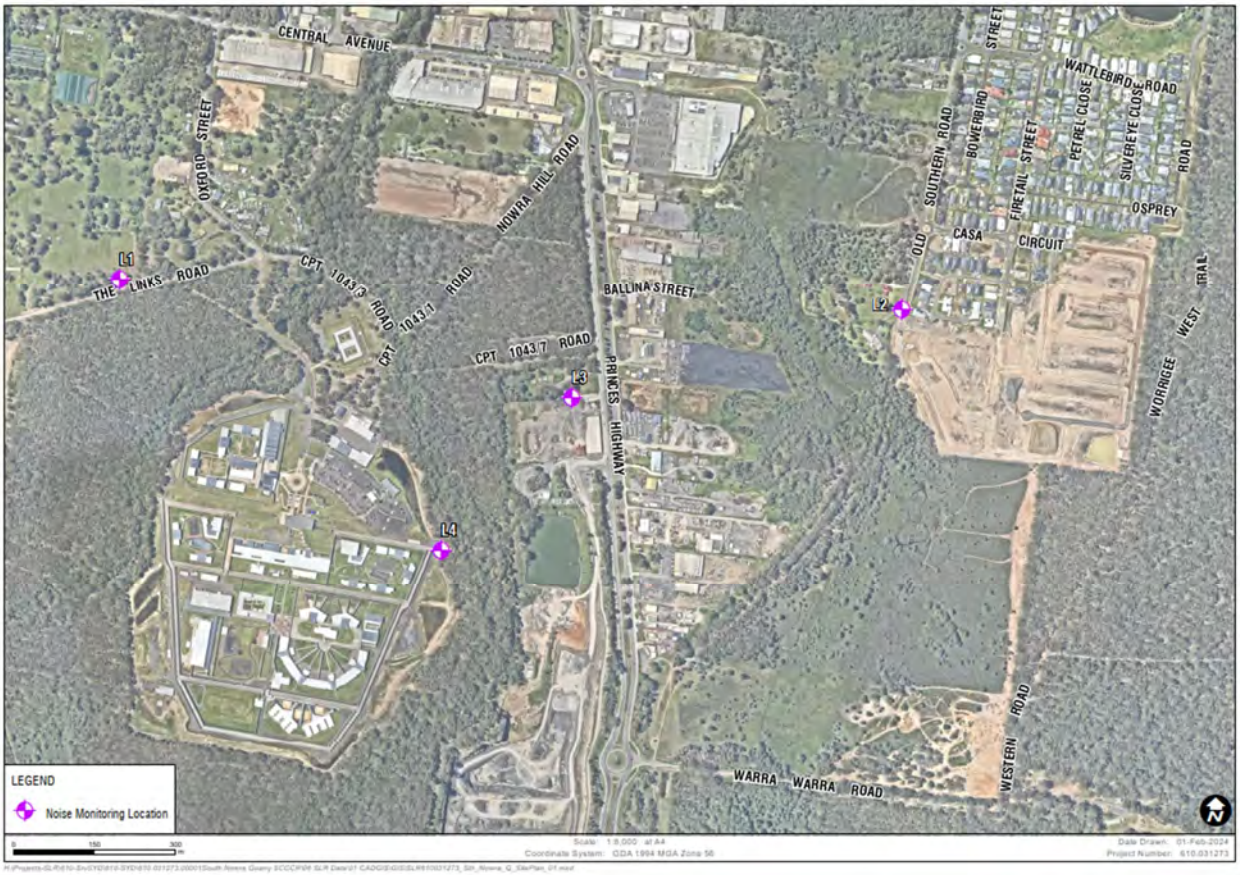
The quarry is located at South Nowra within the Shoalhaven City Council area, approximately 5 km south of the Nowra CBD, adjacent to the Princes Highway. The Project Site comprises two mining lease areas, namely, ML 5087 to the north and ML 6322 to the south. ML 5087 has been largely disturbed by extraction-related activities. By contrast, ML 6322 has been partially disturbed by extraction-related activities, with the majority of the lease area covered by native vegetation.

To the east of the site, across the Princes Highway, is a low density commercial/industrial development. Enterprises situated directly opposite the main entrance to the quarry include a butchery and a concrete batching operation and various other commercial operations situated along the highway.

The nearest residences to the site comprise a residence located approximately 140 m to the north of the northern boundary of the quarry site; residences on Links Road, approximately 850 m to the west-northwest; and residences on Old Southern Road, approximately 630 m to the northeast.

The near point of the South Coast Correctional Facility is situated approximately 200 m west of the Project Site boundary.

Figure 1 Site Map



2.1 Quarry Operational Noise Survey

The quarry operations being conducted during noise monitoring comprised the following:

Two 38t excavators, two 35t excavators, one 25t excavator, a 35t excavator with hammer, one D10 dozer, two jaw crushers, one screen, a cone crusher, one impact crusher, one screen crusher, one watercart, one refuelling truck, two dump trucks and multiple trucks (approximately 220 movements throughout the working day) with trailers entering (tipping onsite) and exiting the quarry.

3.0 Noise Criteria

Conditions 2 and 3 Noise, Schedule 3 of the Mod 2 Project Approval state:

Operational Noise Criteria

2. *The Proponent must ensure that operational noise generated by the project does not exceed the criteria in Table 1 at any residence on privately-owned land.*

Table 1 Operational noise criteria

Receiver	*Location*	*Day* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Evening* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Night* $L_{Aeq\ (15\ min)}$ *dB(A)*
1	*80 Links Road*	*39*	*35*	*NA*
2	*371 Old Southern Road*	*45*	*35*	*35*
3	*243 Princes Highway*	*49*	*38*	*38*
4	*South Coast Correctional Facility*	*51*	*37*	*37*

Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 1 do not apply if the Proponent has an agreement with the relevant landowner to exceed the noise criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Noise Operating Conditions

3. The Proponent must:

(a) implement all reasonable and feasible noise mitigation measures to minimise the noise impacts of the project;
(b) investigate ways to reduce the noise generated by the project;
(c) take all reasonable steps to minimise the noise impacts of the project during meteorological conditions when the noise criteria in this approval do not apply (see Appendix 6);
(d) carry out regular noise monitoring in accordance with Appendix 6 to determine whether the project is complying with the relevant conditions of this approval; and
(e) modify or stop operations on the site to comply with the relevant conditions of this approval.

3.1 Operating Hours

The approved hours for construction and operational activities are detailed in Table 1, Condition 1 in Schedule 3 of the Mod 2 Project Approval, and are as follows:

Hours of Operation

1. The Proponent must comply with the operating hours set out in Table 1.

Table 1: Operating hours

Activity	*Permissible Hours*
Quarrying operations	*7.00 am to 6.00 pm Monday to Friday*
	7.00 am to 4.00 pm Saturday
	At no time on Sundays or public holidays

Note: Limited truck movements are permitted outside of the permissible hours for quarrying operations, as specified in condition 8A of Schedule 2.

1A. The following activities may be carried out outside the hours specified in condition 1 of this Schedule:

(a) activities that are inaudible at residences on privately-owned land;

(b) the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or

(c) emergency work to avoid the loss of life, property or to prevent material harm to the environment.

In such circumstances, the Proponent must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

3.2 Statement of Commitments

Further to the Consent Conditions from Section 8 of the Statement of Commitments in Appendix 2 of Mod 2 Project Approval state, in relation to noise, that the Proponent will:

8. Noise

8.1. Adhere to the approved hours of operation.

8.2. Use noise-mitigated mobile and processing equipment.

8.3. Undertake all processing operations within the deepest section of the quarry.

8.4. Maintain all mobile and processing equipment in accordance with the manufacturer's specifications.

8.5. Preferential selection of equipment with lower sound power levels over equipment with higher sound power levels.

8.6. Progressively install frequency modulated reversing alarms on mobile equipment.

3.3 Noise Compliance Assessment

In relation to determining compliance of the quarry's noise emissions with the operational noise criteria, Appendix 6 of the Mod 2 Project Approval states the following:

Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:

(a) wind speeds greater than 3 m/s at 10 m above ground level; or

(b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or

(c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 16A of Schedule 3.

Compliance Monitoring

3. *A noise compliance assessment must be undertaken within six months of the approval of Modification 2. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with the noise criteria in Table 2. A report must be provided to the Secretary and EPA within 1 month of the assessment.*

4. *Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:*
   (a) monitoring locations for the collection of representative noise data;
   (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
   (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
   (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the NSW Industrial Noise Policy) and before comparison with the specified noise levels in the approval.

3.4 Noise Monitoring Program

The requirements of a Noise Monitoring Program, Condition 4 in Schedule 3 of the Mod 2 Project Approval states that:

Noise Monitoring Program

4. *The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. The Program must:*
   (a) be prepared in consultation with EPA and be submitted to the Secretary for approval within 6 months of the date of this approval;
   (b) include annual attended noise monitoring;
   (c) describe the proposed noise management system; and
   (d) include a noise monitoring program that:
      - *is capable of evaluating the performance of the project;*
      - *includes a protocol for determining any exceedances of the relevant conditions of this approval; and*
      - *effectively supports the noise management system.*

   The Proponent must implement the Noise Monitoring Program as approved by the Secretary.

4.0 Instrumentation and Measurement Parameters

4.1 Operator Attended Surveys

All acoustic instrumentation employed throughout the noise compliance monitoring programme was designed to comply with the requirements of AS IEC 61672.1-2004 “Electroacoustics - Sound Level Meters”.

All instrumentation was programmed to continuously record statistical noise level indices over a 15 minute interval, which included the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{Amin} and the L_{Aeq}.

Instrument calibration was checked before and after each measurement survey, with the variation in calibrated levels not exceeding the acceptable variation of ±0.5 dBA (in accordance with AS 1055).

Table 2 Acoustic Instrumentation

Description	Type or Class	Serial Number
Brüel & Kjær 2270 Sound Level Meter	Type 1	3029485
G.R.A.S. Sound Calibrator	Class 1	279049

5.0 Attended Noise Measurements

5.1 Attended Noise Surveys

Operator attended ambient noise surveys were conducted at each of the locations on 19 February 2025 and 13 March 2025 during the daytime period in order to quantify the noise emissions from the Brickworks Quarry activities as well as the overall level of ambient noise.

During the operator-attended noise measurements, the operator recorded any significant Brickworks Quarry related noise sources (ie haul trucks, dozer, processing plant, etc).

The results of the operator-attended noise measurements, including the ambient noise levels and the estimated contribution from the Brickworks Quarry noise sources at all monitoring locations, are contained in **Table 3** to **Table 6**.

Weather data was taken from field observations with a handheld anemometer at each location at 1.5m.

Note that the noise levels presented in this report are in dBA re 20 µPa.

Table 3 Noise Measurements 80 Links Road – Location 1

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/2/2025 11:30 Wind Calm 24°C	Ambient	59	80	74	55	41	39	**Site related noise events** Site broadcast 51-53 Brickworks inaudible **Other noise events:** Birds 47-57 Vehicle pass by 61-80 Distant traffic 42-44
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <31						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 4 Noise Measurements 371 Old Southern Road – Location 2

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/2/2025 11:57 Wind Calm 24°C	Ambient	47	66	53	49	44	42	**Site related noise events** Site inaudible **Other noise events:** Human activity: 66 Construction site: 47-49 Distant traffic: 47-49 Local traffic: 55
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <34						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 5 Noise Measurements 243 Princes Highway – Location 3

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
13/3/2025 15:12 Wind Calm 23°C	Ambient	50	58	56	53	47	44	**Site related noise events** Site plant operation audible throughout the measurement: 45-47 **Other noise events:** Highway traffic 49-52 Human activity 52-58
	Brickworks Quarry (BQ)	L_{Aeq} BQ estimated contribution 47						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

The noise monitoring was conducted at 245 Princes Highway due to site access is not given at consent location.

Table 6 Noise Measurements South Coast Correctional Centre – Location 4

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
19/2/2025 13:07 Wind calm 24°C	Ambient	48	60	52	50	46	44	**Site related noise events** Engine idling noise: 46-52 Vehicle movement: 57-59 **Other noise events:** Birds: 47-48
	Brickworks Quarry (BQ)	BQ engine noise throughout the measurement period. L_{Aeq} BQ estimated contribution 46						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

5.2 Noise Impact assessment

The daytime operator-attended noise survey results are summarised in **Table 7** together with the respective noise criteria specified in Table 1 of the Mod 2 Project Approval Conditions.

Table 7 Daytime $L_{Aeq(15minute)}$ Brickworks Quarry Noise Emission Levels

Monitoring Locations	Brickworks Quarry Contributed $L_{Aeq(15minute)}$ dBA	Noise Emission Criteria $L_{Aeq(15minute)}$ dBA
Location 1 - 80 Links Road	<31[1]	*39*
Location 2 - 371 Old Southern Road	<34[1]	*45*
Location 3 - 243 Princes Highway	47	*49*
Location 4 - South Coast Correction Facility	46	*51*
Notes: 1. Site inaudible at these locations, contribution estimated to be at least 10dB less than the measured background L_{A90} noise level.		

BQ was inaudible at Location 1, with contributions from traffic and animals. Site was inaudible at Location 2, with contributions from Princes Highway, residential activities and nearby construction site. BQ was audible at Location 3 and Location 4, the estimated contribution from BQ is lower than noise emission criteria.

The weather conditions were within those nominated in the notes under Table 2 of the Mod 2 Project Approval Conditions (which state that measurements have to be taken in accordance with the now superseded NSW Industrial Noise Policy).

Reference to the noise survey measurement results and the noise criteria in **Table 7** indicates compliance of the Brickworks Quarry operational noise level at all assessment locations.

6.0 Conclusion

Noise monitoring of South Nowra Quarry conducted on 19 February 2025 and 13 March 2025 shows that South Coast Concrete Crushing and Recycling Pty Ltd complies at all locations

I trust that the above report meets your current requirements. Should you have any questions or require any additional information, please contact the undersigned.

Yours sincerely

Alex Bian

Noise & Vibration Project Consultant

Checked by: MI
Authorised by: MI

SLR Consulting Australia
Tenancy 202 Submarine School, Sub Base Platypus, 120 High Street, North Sydney NSW 2060, Australia

31 July 2025

SLR Ref No.: 610.031273-R09-v1.0 20250731.docx

Attention: Genaya

South Coast Concrete Crushing and Recycling Pty Ltd

245 Princes Hwy, South Nowra NSW 2541

SLR Project No.: 610.031273

RE: Noise Compliance Report July 2025
South Nowra Quarry

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by South Coast Concrete Crushing and Recycling Pty Ltd to conduct an operational compliance monitoring assessment for the quarry located at 245 Princes Hwy, South Nowra NSW 2541, in accordance with the Noise Monitoring plan (NMP) and Blast Management Plan (BMP), Report 10-5695 R3 Revision 3 dated 24 June 2010) to address the respective Project Approval Conditions.

Noise compliance measurements for Quarter Two, 2025 were undertaken on 29 July 2025.

2.0 Site Description

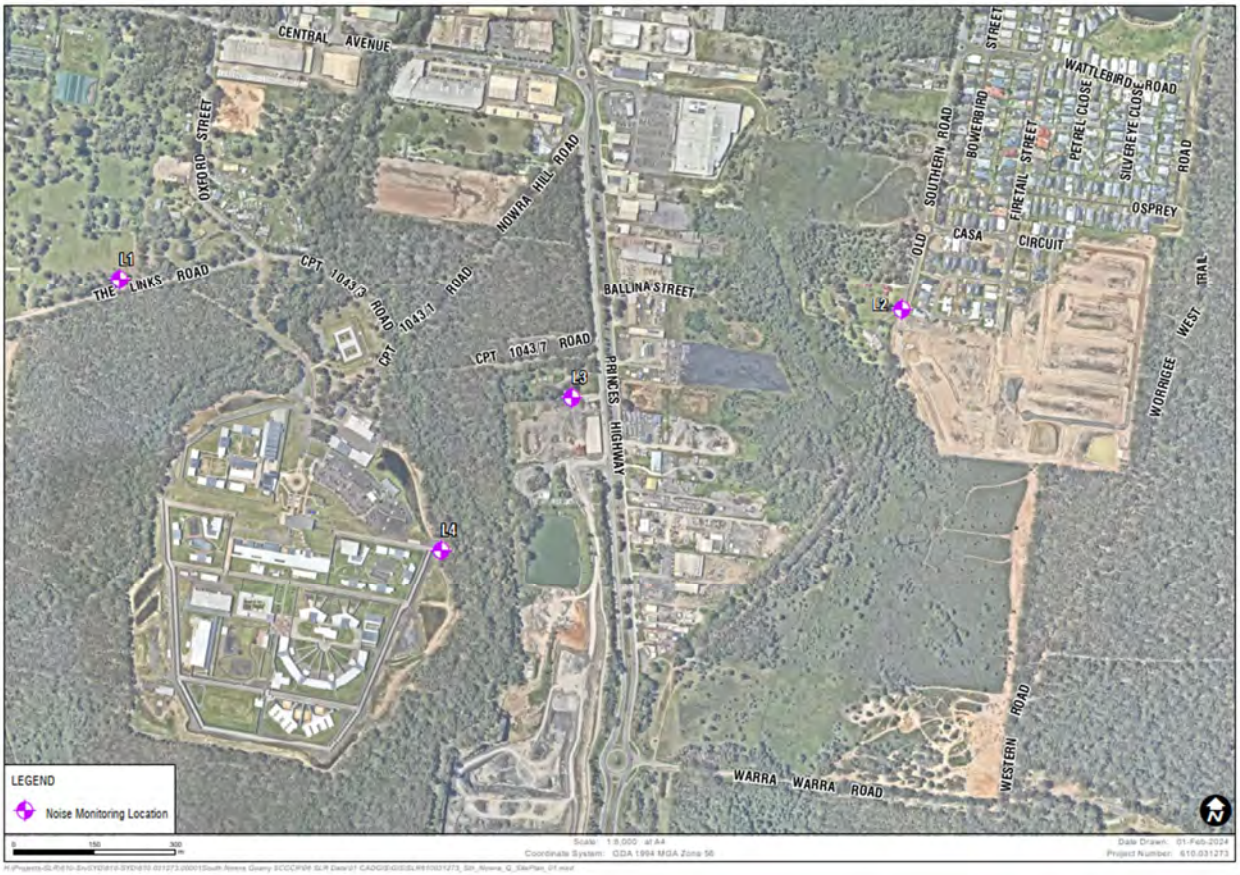
The quarry is located at South Nowra within the Shoalhaven City Council area, approximately 5 km south of the Nowra CBD, adjacent to the Princes Highway. The Project Site comprises two mining lease areas, namely, ML 5087 to the north and ML 6322 to the south. ML 5087 has been largely disturbed by extraction-related activities. By contrast, ML 6322 has been partially disturbed by extraction-related activities, with the majority of the lease area covered by native vegetation.

To the east of the site, across the Princes Highway, is a low density commercial/industrial development. Enterprises situated directly opposite the main entrance to the quarry include a butchery and a concrete batching operation and various other commercial operations situated along the highway.

The nearest residences to the site comprise a residence located approximately 140 m to the north of the northern boundary of the quarry site; residences on Links Road, approximately 850 m to the west-northwest; and residences on Old Southern Road, approximately 630 m to the northeast.

The near point of the South Coast Correctional Facility is situated approximately 200 m west of the Project Site boundary.

Figure 1 Site Map



2.1 Quarry Operational Noise Survey

The quarry operations being conducted during noise monitoring comprised the following:

Two 38t excavators, two 35t excavators, one 25t excavator, a 35t excavator with hammer, one D10 dozer, two jaw crushers, one screen, a cone crusher, one impact crusher, one screen crusher, one watercart, one refuelling truck, two dump trucks and multiple trucks (approximately 220 movements throughout the working day) with trailers entering (tipping onsite) and exiting the quarry.

3.0 Noise Criteria

Conditions 2 and 3 Noise, Schedule 3 of the Mod 2 Project Approval state:

Operational Noise Criteria

2. *The Proponent must ensure that operational noise generated by the project does not exceed the criteria in Table 1 at any residence on privately-owned land.*

Table 1 Operational noise criteria

Receiver	*Location*	*Day* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Evening* $L_{Aeq\ (15\ min)}$ *dB(A)*	*Night* $L_{Aeq\ (15\ min)}$ *dB(A)*
1	*80 Links Road*	*39*	*35*	*NA*
2	*371 Old Southern Road*	*45*	*35*	*35*
3	*243 Princes Highway*	*49*	*38*	*38*
4	*South Coast Correctional Facility*	*51*	*37*	*37*

Noise generated by the project is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 1 do not apply if the Proponent has an agreement with the relevant landowner to exceed the noise criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Noise Operating Conditions

3. The Proponent must:

(a) implement all reasonable and feasible noise mitigation measures to minimise the noise impacts of the project;
(b) investigate ways to reduce the noise generated by the project;
(c) take all reasonable steps to minimise the noise impacts of the project during meteorological conditions when the noise criteria in this approval do not apply (see Appendix 6);
(d) carry out regular noise monitoring in accordance with Appendix 6 to determine whether the project is complying with the relevant conditions of this approval; and
(e) modify or stop operations on the site to comply with the relevant conditions of this approval.

3.1 Operating Hours

The approved hours for construction and operational activities are detailed in Table 1, Condition 1 in Schedule 3 of the Mod 2 Project Approval, and are as follows:

Hours of Operation

1. The Proponent must comply with the operating hours set out in Table 1.

Table 1: Operating hours

Activity	*Permissible Hours*
Quarrying operations	*7.00 am to 6.00 pm Monday to Friday*
	7.00 am to 4.00 pm Saturday
	At no time on Sundays or public holidays

Note: Limited truck movements are permitted outside of the permissible hours for quarrying operations, as specified in condition 8A of Schedule 2.

1A. The following activities may be carried out outside the hours specified in condition 1 of this Schedule:

(a) activities that are inaudible at residences on privately-owned land;

(b) the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or

(c) emergency work to avoid the loss of life, property or to prevent material harm to the environment.

In such circumstances, the Proponent must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

3.2 Statement of Commitments

Further to the Consent Conditions from Section 8 of the Statement of Commitments in Appendix 2 of Mod 2 Project Approval state, in relation to noise, that the Proponent will:

8. Noise

8.1. Adhere to the approved hours of operation.

8.2. Use noise-mitigated mobile and processing equipment.

8.3. Undertake all processing operations within the deepest section of the quarry.

8.4. Maintain all mobile and processing equipment in accordance with the manufacturer's specifications.

8.5. Preferential selection of equipment with lower sound power levels over equipment with higher sound power levels.

8.6. Progressively install frequency modulated reversing alarms on mobile equipment.

3.3 Noise Compliance Assessment

In relation to determining compliance of the quarry's noise emissions with the operational noise criteria, Appendix 6 of the Mod 2 Project Approval states the following:

Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:

(a) wind speeds greater than 3 m/s at 10 m above ground level; or

(b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or

(c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 16A of Schedule 3.

Compliance Monitoring

3. *A noise compliance assessment must be undertaken within six months of the approval of Modification 2. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with the noise criteria in Table 2. A report must be provided to the Secretary and EPA within 1 month of the assessment.*

4. *Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:*
   (a) monitoring locations for the collection of representative noise data;
   (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
   (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
   (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the NSW Industrial Noise Policy) and before comparison with the specified noise levels in the approval.

3.4 Noise Monitoring Program

The requirements of a Noise Monitoring Program, Condition 4 in Schedule 3 of the Mod 2 Project Approval states that:

Noise Monitoring Program

4. *The Proponent must prepare a Noise Monitoring Program for the project to the satisfaction of the Secretary. The Program must:*
   (a) be prepared in consultation with EPA and be submitted to the Secretary for approval within 6 months of the date of this approval;
   (b) include annual attended noise monitoring;
   (c) describe the proposed noise management system; and
   (d) include a noise monitoring program that:
      - *is capable of evaluating the performance of the project;*
      - *includes a protocol for determining any exceedances of the relevant conditions of this approval; and*
      - *effectively supports the noise management system.*

   The Proponent must implement the Noise Monitoring Program as approved by the Secretary.

4.0 Instrumentation and Measurement Parameters

4.1 Operator Attended Surveys

All acoustic instrumentation employed throughout the noise compliance monitoring programme was designed to comply with the requirements of AS IEC 61672.1-2004 “Electroacoustics - Sound Level Meters”.

All instrumentation was programmed to continuously record statistical noise level indices over a 15 minute interval, which included the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{Amin} and the L_{Aeq}.

Instrument calibration was checked before and after each measurement survey, with the variation in calibrated levels not exceeding the acceptable variation of ±0.5 dBA (in accordance with AS 1055).

Table 2 Acoustic Instrumentation

Description	Type or Class	Serial Number
Brüel & Kjær 2270 Sound Level Meter	Type 1	3029485
G.R.A.S. Sound Calibrator	Class 1	279049

5.0 Attended Noise Measurements

5.1 Attended Noise Surveys

Operator attended ambient noise surveys were conducted at each of the locations on 29 July 2025 during the daytime period in order to quantify the noise emissions from the Brickworks Quarry activities as well as the overall level of ambient noise.

During the operator-attended noise measurements, the operator recorded any significant Brickworks Quarry related noise sources (ie haul trucks, dozer, processing plant, etc).

The results of the operator-attended noise measurements, including the ambient noise levels and the estimated contribution from the Brickworks Quarry noise sources at all monitoring locations, are contained in **Table 3** to **Table 6**.

Weather data was taken from field observations with a handheld anemometer at each location at 1.5m.

Note that the noise levels presented in this report are in dBA re 20 µPa.

Table 3 Noise Measurements 80 Links Road – Location 1

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
29/7/2025 12:04 Wind Calm 16°C	Ambient	63	83	78	61	44	41	**Site related noise events** Site broadcast 40-42 Brickworks inaudible **Other noise events:** Birds 42-67 Aircraft: 40-54 Vehicle pass by 70-83 Remote traffic 44-45
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <34						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 4 Noise Measurements 371 Old Southern Road – Location 2

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
29/7/2025 13:23 Wind Calm 17°C	Ambient	53	74	65	50	44	42	**Site related noise events** Brickworks inaudible **Other noise events:** Remote traffic 48-51 Dog 52-54 Local traffic 56-74 Construction site 52-55 Birds 46-49
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <34						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

Table 5 Noise Measurements 243 Princes Highway – Location 3

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		L_{eq}	L_{max}	L_1	L_{10}	L_{90}	L_{min}	
29/7/2025 12:57 Wind Calm 16°C	Ambient	54	73	64	55	49	46	**Site related noise events** Brickworks inaudible Site broadcast audible but can't be measured **Other noise events:** Aircraft 51-60 Brid 49-52 Traffic 52-73 Local human activity 50-55
	Brickworks Quarry (BQ)	BQ not discernible L_{Aeq} BQ estimated contribution <39						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

The noise monitoring was conducted at 245 Princes Highway due to site access is not given at consent location.

Table 6 Noise Measurements South Coast Correctional Centre – Location 4

Date/Start Time Weather		Primary Noise Descriptor (dBA)						Typical Maximum Noise Levels (dBA)
		Leq	Lmax	L1	L10	L90	Lmin	
29/7/2025 12:28 Wind calm 16°C	Ambient	54	76	67	51	44	42	**Site related noise events** Engine idling noise: 42-44 Site broadcast 46-47 **Other noise events:** Birds: 47-76 Aircraft: 52-55
	Brickworks Quarry (BQ)	BQ engine idling noise throughout the measurement period. LAeq BQ estimated contribution 44						

Note: The measured **overall ambient (Ambient)** noise levels include contributions from all noise sources which may include traffic, animals, birds, insects, domestic activity, wind in trees, aircraft and Brickwork Quarry operations.

The estimated **Brickworks Quarry** noise contributions are the overall ambient noise levels adjusted to remove (as far as practical) the noise contribution from extraneous noise sources.

5.2 Noise Impact assessment

The daytime operator-attended noise survey results are summarised in **Table 7** together with the respective noise criteria specified in Table 1 of the Mod 2 Project Approval Conditions.

Table 7 Daytime $L_{Aeq(15minute)}$ Brickworks Quarry Noise Emission Levels

Monitoring Locations	Brickworks Quarry Contributed $L_{Aeq(15minute)}$ dBA	Noise Emission Criteria $L_{Aeq(15minute)}$ dBA
Location 1 - 80 Links Road	<34[1]	*39*
Location 2 - 371 Old Southern Road	<34[1]	*45*
Location 3 - 243 Princes Highway	<39[1]	*49*
Location 4 - South Coast Correction Facility	44	*51*
Notes: 1. Site inaudible at these locations, contribution estimated to be at least 10dB less than the measured background L_{A90} noise level.		

BQ was inaudible at Location 1 and Location 3, with contributions from traffic and animals. Site was inaudible at Location 2, with contributions from Princes Highway, local traffic and nearby construction site. BQ was audible at Location 4, the estimated contribution from BQ is lower than noise emission criteria.

The weather conditions were within those nominated in the notes under Table 2 of the Mod 2 Project Approval Conditions (which state that measurements have to be taken in accordance with the now superseded NSW Industrial Noise Policy).

Reference to the noise survey measurement results and the noise criteria in **Table 7** indicates compliance of the Brickworks Quarry operational noise level at all assessment locations.

6.0 Conclusion

Noise monitoring of South Nowra Quarry conducted on 29 July 2025 shows that South Coast Concrete Crushing and Recycling Pty Ltd complies at all locations

I trust that the above report meets your current requirements. Should you have any questions or require any additional information, please contact the undersigned.

Yours sincerely

Alex Bian

Noise & Vibration Project Consultant

Checked by: MI
Authorised by: MI

Appendix E – Air monitoring results

DDG results
TsP results
Pm10 results

CERTIFICATE OF ANALYSIS

Work Order	: **EW2403672**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks	Date Samples Received	: 06-Aug-2024 17:00
Order number	: GS12330	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 16:42
Sampler	: Client - G Shephard		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

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Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- **Unless otherwise stated, analytical work for this work order will be conducted at ALS Sydney, NATA accreditation no. 825, site no. 10911.**
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)

			Sample ID	Station 1 01/07/2024 - 31/07/2024	Station 2 01/07/2024 - 31/07/2024	Station 3 01/07/2024 - 31/07/2024	Station 4 01/07/2024 - 31/07/2024	----
			Sampling date / time	31-Jul-2024 00:00	31-Jul-2024 00:00	31-Jul-2024 00:00	31-Jul-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2403672-001	EW2403672-002	EW2403672-003	EW2403672-004	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**0.7**	**1.0**	**0.4**	**0.5**	----
Ash Content (mg)	----	2	mg	**12**	**17**	**7**	**6**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.1**	**0.1**	**0.1**	**0.7**	----
Combustible Matter (mg)	----	2	mg	**3**	**2**	**2**	**9**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**0.8**	**1.1**	**0.5**	**1.2**	----
Total Insoluble Matter (mg)	----	2	mg	**15**	**19**	**9**	**15**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2404164**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 09-Sep-2024 16:25
Order number	: GS12330	Date Analysis Commenced	: 11-Sep-2024
C-O-C number	: ----	Issue Date	: 17-Sep-2024 18:08
Sampler	: Client - G Shephard		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **Dust analysis conducted by ALS Newcastle, NATA Accreditation No. 825, Site No. 1656.**
- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)

			Sample ID	Station 1 01/08/2024 - 31/08/2024	Station 2 01/08/2024 - 31/08/2024	Station 3 01/08/2024 - 31/08/2024	Station 4 01/08/2024 - 31/08/2024	----
			Sampling date / time	31-Aug-2024 00:00	31-Aug-2024 00:00	31-Aug-2024 00:00	31-Aug-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2404164-001**	**EW2404164-002**	**EW2404164-003**	**EW2404164-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**1.0**	**0.3**	**1.6**	**1.8**	----
Ash Content (mg)	----	2	mg	**17**	**6**	**22**	**31**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.3**	**0.2**	**1.1**	**0.6**	----
Combustible Matter (mg)	----	2	mg	**6**	**2**	**16**	**11**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**1.3**	**0.5**	**2.7**	**2.4**	----
Total Insoluble Matter (mg)	----	2	mg	**23**	**8**	**38**	**42**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405061**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 06-Nov-2024
C-O-C number	: ----	Issue Date	: 12-Nov-2024 12:04
Sampler	: Client - G Shephard		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)			*Sample ID*	**Station 1 01/09/2024 - 30/09/2024**	**Station 2 01/09/2024 - 30/09/2024**	**Station 3 01/09/2024 - 30/09/2024**	**Station 4 01/09/2024 - 30/09/2024**	----
			Sampling date / time	30-Sep-2024 00:00	30-Sep-2024 00:00	30-Sep-2024 00:00	30-Sep-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2405061-001**	**EW2405061-002**	**EW2405061-003**	**EW2405061-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**1.1**	**0.8**	**1.3**	**0.7**	----
Ash Content (mg)	----	2	mg	**19**	**12**	**23**	**12**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.5**	**0.5**	**0.3**	**0.2**	----
Combustible Matter (mg)	----	2	mg	**8**	**8**	**5**	**3**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**1.6**	**1.3**	**1.6**	**0.9**	----
Total Insoluble Matter (mg)	----	2	mg	**27**	**20**	**28**	**15**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405063**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 10-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 20-Dec-2024
C-O-C number	: ----	Issue Date	: 27-Dec-2024 16:45
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Shane Merrell	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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^ = This result is computed from individual analyte detections at or above the level of reporting
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- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**
(Matrix: **AIR**)

			Sample ID	Station 1 01/10/2024 - 31/10/2024	Station 2 01/10/2024 - 31/10/2024	Station 3 01/10/2024 - 31/10/2024	Station 4 01/10/2024 - 31/10/2024	-----
			Sampling date / time	31-Oct-2024 00:00	31-Oct-2024 00:00	31-Oct-2024 00:00	31-Oct-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405063-001	EW2405063-002	EW2405063-003	EW2405063-004	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	1.8	2.8	1.2	0.7	----
Ash Content (mg)	----	2	mg	31	49	21	12	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	0.4	0.5	0.4	0.1	----
Combustible Matter (mg)	----	2	mg	7	10	7	3	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	2.2	3.3	1.6	0.8	----
Total Insoluble Matter (mg)	----	2	mg	38	59	28	15	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405957**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 18-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 24-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024 17:12
Sampler	: Client - G Shephard		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **Dust analysis conducted by ALS Newcastle, NATA Accreditation No. 825, Site No. 1656.**
- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)			*Sample ID*	**Station 1 01/11/2024 - 30/11/2024**	**Station 2 01/11/2024 - 30/11/2024**	**Station 3 01/11/2024 - 30/11/2024**	**Station 4 01/11/2024 - 30/11/2024**	----
			Sampling date / time	30-Nov-2024 00:00	30-Nov-2024 00:00	30-Nov-2024 00:00	30-Nov-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2405957-001**	**EW2405957-002**	**EW2405957-003**	**EW2405957-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**2.2**	**2.5**	**0.9**	**1.3**	----
Ash Content (mg)	----	2	mg	**38**	**45**	**16**	**23**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**1.0**	**0.6**	**0.4**	**0.5**	----
Combustible Matter (mg)	----	2	mg	**19**	**9**	**6**	**7**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**3.2**	**3.1**	**1.3**	**1.8**	----
Total Insoluble Matter (mg)	----	2	mg	**57**	**54**	**22**	**30**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2500303**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Dust	Date Samples Received	: 20-Jan-2025 13:00
Order number	: GS12330	Date Analysis Commenced	: 23-Jan-2025
C-O-C number	: ----	Issue Date	: 29-Jan-2025 15:05
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Sampling completed by ALS Wollongong in accordance with in-house sampling method EN/66.1 Sampling and Siting of Dust Deposition Gauges.
- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)

			Sample ID	**Station 1 01/12/2024 - 30/12/2024**	**Station 2 01/12/2024 - 30/12/2024**	**Station 3 01/12/2024 - 30/12/2024**	**Station 4 01/12/2024 - 30/12/2024**	----
			Sampling date / time	30-Dec-2024 00:00	30-Dec-2024 00:00	30-Dec-2024 00:00	30-Dec-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2500303-001**	**EW2500303-002**	**EW2500303-003**	**EW2500303-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**1.1**	**1.6**	**1.8**	**1.3**	----
Ash Content (mg)	----	2	mg	**18**	**27**	**31**	**23**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.4**	**0.7**	**1.1**	**0.6**	----
Combustible Matter (mg)	----	2	mg	**8**	**13**	**19**	**10**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**1.5**	**2.3**	**2.9**	**1.9**	----
Total Insoluble Matter (mg)	----	2	mg	**26**	**40**	**50**	**33**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501071**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks	Date Samples Received	: 04-Feb-2025 14:58
Order number	: GS12330	Date Analysis Commenced	: 10-Feb-2025
C-O-C number	: ----	Issue Date	: 14-Feb-2025 13:05
Sampler	: Client -		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
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ISO/IEC 17025 - Testing

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
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ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **Analytical work for this work order will be conducted at ALS Newcastle.**
- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited. ALS Mudgee laboratory is NATA accredited for dust sampling, therefore ALS Mudgee reported deposition units are accredited.
- The dust gauges for all samples were full when received by the laboratory. They may have overflowed in the field. Results for these gauges are thus reported on an 'as received' basis. No algaecide correction has been applied to EA139 Soluble Matter or EA142 Total Solids results (where applicable).
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**
(Matrix: **AIR**)

			Sample ID	**Station 1 01/01/2025 - 31/01/2025**	**Station 2 01/01/2025 - 31/01/2025**	**Station 3 01/01/2025 - 31/01/2025**	**Station 4 01/01/2025 - 31/01/2025**	----
			Sampling date / time	31-Jan-2025 00:00	31-Jan-2025 00:00	31-Jan-2025 00:00	31-Jan-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501071-001**	**EW2501071-002**	**EW2501071-003**	**EW2501071-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**1.9**	**1.0**	**1.4**	**0.3**	----
Ash Content (mg)	----	2	mg	**33**	**18**	**17**	**5**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**1.6**	**0.3**	**0.9**	**0.1**	----
Combustible Matter (mg)	----	2	mg	**28**	**5**	**11**	**2**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**3.5**	**1.3**	**2.3**	**1.4**	----
Total Insoluble Matter (mg)	----	2	mg	**61**	**23**	**28**	**7**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry and Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501267**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Dust	Date Samples Received	: 06-Mar-2025 12:57
Order number	: GS12330	Date Analysis Commenced	: 17-Mar-2025
C-O-C number	: ----	Issue Date	: 21-Mar-2025 18:58
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
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Signatories

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Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

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~ = Indicates an estimated value.

- Dust conducted by ALS Newcastle, NATA Accreditation No. 825, Site No. 1656.
- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- Sample exposure period is outside the typical exposure period of 30 +/- 2 days as per AS3580.10.1/AS3580.10.2
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)			Sample ID	**Station 1 01/02/2025 - 28/02/2025**	**Station 2 01/02/2025 - 28/02/2025**	**Station 3 01/02/2025 - 28/02/2025**	**Station 4 01/02/2025 - 28/02/2025**	----
			Sampling date / time	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	28-Feb-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501267-001**	**EW2501267-002**	**EW2501267-003**	**EW2501267-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**1.1**	**1.6**	**2.6**	**1.3**	----
Ash Content (mg)	----	2	mg	**17**	**26**	**32**	**20**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.7**	**1.4**	**0.5**	**0.6**	----
Combustible Matter (mg)	----	2	mg	**11**	**23**	**6**	**10**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**1.8**	**3.0**	**3.1**	**1.9**	----
Total Insoluble Matter (mg)	----	2	mg	**28**	**49**	**38**	**30**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501879**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Dust	Date Samples Received	: 09-Apr-2025 10:00
Order number	: GS12330	Date Analysis Commenced	: 14-Apr-2025
C-O-C number	: ----	Issue Date	: 21-Apr-2025 11:29
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

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~ = Indicates an estimated value.

- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)			*Sample ID*	**Station 1 01/03/2025 - 31/03/2025**	**Station 2 01/03/2025 - 31/03/2025**	**Station 3 01/03/2025 - 31/03/2025**	**Station 4 01/03/2025 - 31/03/2025**	----
			Sampling date / time	31-Mar-2025 00:00	31-Mar-2025 00:00	31-Mar-2025 00:00	31-Mar-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501879-001**	**EW2501879-002**	**EW2501879-003**	**EW2501879-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**2.1**	**1.3**	**1.9**	**1.6**	----
Ash Content (mg)	----	2	mg	**29**	**23**	**34**	**28**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.4**	**0.2**	**0.6**	**0.6**	----
Combustible Matter (mg)	----	2	mg	**6**	**3**	**10**	**10**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**2.5**	**1.5**	**2.5**	**2.2**	----
Total Insoluble Matter (mg)	----	2	mg	**35**	**26**	**44**	**38**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503364**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Dust	Date Samples Received	: 24-Jun-2025 13:18
Order number	: GS	Date Analysis Commenced	: 30-Jun-2025
C-O-C number	: ----	Issue Date	: 03-Jul-2025 10:12
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST**
(Matrix: **AIR**)

			Sample ID	**Station 1 01/04/2025 - 01/05/2025**	**Station 2 01/04/2025 - 01/05/2025**	**Station 3 01/04/2025 - 01/05/2025**	**Station 4 01/04/2025 - 01/05/2025**	----
			Sampling date / time	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2503364-001**	**EW2503364-002**	**EW2503364-003**	**EW2503364-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**0.9**	**1.2**	**1.8**	**1.1**	----
Ash Content (mg)	----	2	mg	**14**	**15**	**31**	**19**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.4**	**0.3**	**0.6**	**0.3**	----
Combustible Matter (mg)	----	2	mg	**7**	**4**	**12**	**6**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**1.3**	**1.5**	**2.4**	**1.4**	----
Total Insoluble Matter (mg)	----	2	mg	**21**	**19**	**43**	**25**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503365**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Dust	Date Samples Received	: 24-Jun-2025 13:18
Order number	: GS	Date Analysis Commenced	: 30-Jun-2025
C-O-C number	: ----	Issue Date	: 03-Jul-2025 10:02
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

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^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Dust analysis as per AS3580.10.1-2016. Samples passed through a 1mm sieve prior to analysis. NATA accreditation does not apply for results reported in deposition units e.g., g/m².mth where the sampling procedure is not NATA accredited.
- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: **DEPOSITIONAL DUST** (Matrix: **AIR**)			*Sample ID*	**Station 1 01/05/2025 - 31/05/2025**	**Station 2 01/05/2025 - 31/05/2025**	**Station 3 01/05/2025 - 31/05/2025**	**Station 4 01/05/2025 - 31/05/2025**	----
			Sampling date / time	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2503365-001**	**EW2503365-002**	**EW2503365-003**	**EW2503365-004**	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	**1.7**	**0.8**	**0.8**	**2.1**	----
Ash Content (mg)	----	2	mg	**27**	**12**	**12**	**34**	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	**0.6**	**0.1**	**0.3**	**0.7**	----
Combustible Matter (mg)	----	2	mg	**9**	**3**	**5**	**11**	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	**2.3**	**0.9**	**1.1**	**2.8**	----
Total Insoluble Matter (mg)	----	2	mg	**36**	**15**	**17**	**45**	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503570**	Page	: 1 of 3
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Dust	Date Samples Received	: 08-Jul-2025 14:37
Order number	: GS	Date Analysis Commenced	: 16-Jul-2025
C-O-C number	: ----	Issue Date	: 21-Jul-2025 15:41
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories

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Signatories	*Position*	*Accreditation Category*
Shane Merrell	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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~ = Indicates an estimated value.

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- For dust analysis, the Limit of Reporting (LOR) referenced in the reports for deposited matter parameters represents the reporting increment rather than reporting limit.

Analytical Results

Sub-Matrix: DEPOSITIONAL DUST (Matrix: AIR)			Sample ID	Station 1 02/06/2025 - 02/07/2025	Station 2 02/06/2025 - 02/07/2025	Station 3 02/06/2025 - 02/07/2025	Station 4 02/06/2025 - 02/07/2025	----
			Sampling date / time	02-Jul-2025 00:00	02-Jul-2025 00:00	02-Jul-2025 00:00	02-Jul-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2503570-001	EW2503570-002	EW2503570-003	EW2503570-004	--------
				Result	Result	Result	Result	----
EA120: Ash Content								
Ash Content	----	0.1	g/m².month	1.0	1.3	1.6	2.3	----
Ash Content (mg)	----	2	mg	18	21	29	40	----
EA125: Combustible Matter								
Combustible Matter	----	0.1	g/m².month	0.8	0.6	0.4	1.0	----
Combustible Matter (mg)	----	2	mg	13	9	6	19	----
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m².month	1.8	1.9	2.0	3.3	----
Total Insoluble Matter (mg)	----	2	mg	31	30	35	59	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA125: Combustible Matter

(AIR) EA120: Ash Content

(AIR) EA141: Total Insoluble Matter

CERTIFICATE OF ANALYSIS

Work Order	: **EW2403708**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks	Date Samples Received	: 07-Aug-2024 10:00
Order number	: GS12330	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 21-Aug-2024 17:19
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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~ = Indicates an estimated value.

- No atmospheric corrections were used in the calculation of the µg/m³ results.
- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: FILTER (Matrix: AIR)			Sample ID	TSP North A0331536	PM10 North A0331535	PM10 South A0331538	TSP South A0331537	----
			Sampling date / time	10-Jul-2024 00:00	10-Jul-2024 00:00	11-Jul-2024 00:00	11-Jul-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2403708-001	EW2403708-002	EW2403708-003	EW2403708-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	**9.3**	----	----	**12.8**	----
ø PM10	----	0.1	µg/m³	----	**6.8**	**8.1**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	**5.1**	----	----	**7.4**	----
PM10 (mass per filter)	----	0.1	mg/filter	----	**3.9**	**7.4**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2403709**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks	Date Samples Received	: 07-Aug-2024 10:00
Order number	: GS12330	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 13:24
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories	*Position*	*Accreditation Category*
Shane Merrell	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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~ = Indicates an estimated value.

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- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			*Sample ID*	**PM10 North A0190171**	**TSP North A0190172**	**PM10 South A0323991**	**TSP South A0323975**	----
			Sampling date / time	17-Jul-2024 00:00	17-Jul-2024 00:00	18-Jul-2024 00:00	18-Jul-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2403709-001**	**EW2403709-002**	**EW2403709-003**	**EW2403709-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**17.4**	----	**2.8**	----
ø PM10	----	0.1	µg/m³	**20.1**	----	**1.9**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**10.0**	----	**1.6**	----
PM10 (mass per filter)	----	0.1	mg/filter	**11.5**	----	**1.1**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2403710**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks	Date Samples Received	: 07-Aug-2024 10:00
Order number	: GS12330	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 13:25
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories	*Position*	*Accreditation Category*
Shane Merrell	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

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~ = Indicates an estimated value.

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- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: **FILTER**
(Matrix: AIR)

			Sample ID	PM10 North A0331539	TSP North A0331540	PM10 South A0331543	TSP South A0331544	----
			Sampling date / time	24-Jul-2024 00:00	24-Jul-2024 00:00	25-Jul-2024 00:00	25-Jul-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2403710-001	EW2403710-002	EW2403710-003	EW2403710-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	11.0	----	10.1	----
ø PM10	----	0.1	µg/m³	3.8	----	6.7	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	6.4	----	5.9	----
PM10 (mass per filter)	----	0.1	mg/filter	2.2	----	3.8	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2403711**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks	Date Samples Received	: 07-Aug-2024 10:00
Order number	: GS12330	Date Analysis Commenced	: 13-Aug-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 13:25
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Shane Merrell	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

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ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

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- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			*Sample ID*	**PM10 North A0331545**	**TSP North A0331546**	**PM10 South A0331547**	**TSP South A0331548**	----
			Sampling date / time	31-Jul-2024 00:00	31-Jul-2024 00:00	01-Aug-2024 00:00	01-Aug-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2403711-001**	**EW2403711-002**	**EW2403711-003**	**EW2403711-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	19.4	----	14.2	----
ø PM10	----	0.1	µg/m³	13.5	----	13.6	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	11.2	----	8.2	----
PM10 (mass per filter)	----	0.1	mg/filter	7.7	----	7.8	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405074**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 11-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 13:07
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			*Sample ID*	**PM10 North A0333826**	**TSP North A0325984**	**PM10 South A0333827**	**TSP South A0325983**	----
			Sampling date / time	08-Aug-2024 00:00	08-Aug-2024 00:00	07-Aug-2024 00:00	07-Aug-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2405074-001**	**EW2405074-002**	**EW2405074-003**	**EW2405074-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**17.4**	----	**12.8**	----
ø PM10	----	0.1	µg/m³	**8.8**	----	**23.3**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**10.0**	----	**7.4**	----
PM10 (mass per filter)	----	0.1	mg/filter	**5.0**	----	**13.3**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405075**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 11-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 13:07
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- Analytical Results

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			Sample ID	**PM10 North A0333825**	**TSP North A0325985**	**PM10 South A0333824**	**TSP South A0325986**	----
			Sampling date / time	14-Aug-2024 00:00	14-Aug-2024 00:00	15-Aug-2024 00:00	15-Aug-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2405075-001**	**EW2405075-002**	**EW2405075-003**	**EW2405075-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**25.7**	----	**77.2**	----
ø PM10	----	0.1	µg/m³	**5.2**	----	**12.2**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**15.1**	----	**44.9**	----
PM10 (mass per filter)	----	0.1	mg/filter	**2.8**	----	**6.6**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405084**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 11-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 13:08
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			Sample ID	**PM10 North A0333822**	**TSP North A0333819**	**PM10 South A0333823**	**TSP South A0325987**	----
			Sampling date / time	21-Aug-2024 00:00	21-Aug-2024 00:00	22-Aug-2024 00:00	22-Aug-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2405084-001**	**EW2405084-002**	**EW2405084-003**	**EW2405084-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**18.8**	----	**0.7**	----
ø PM10	----	0.1	µg/m³	**1.6**	----	<0.1	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**11.1**	----	**0.4**	----
PM10 (mass per filter)	----	0.1	mg/filter	**0.9**	----	<0.1	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405085**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 11-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 13:07
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0333820	TSP North A0333818	PM10 South A0333821	TSP South A0333817	----
			Sampling date / time	29-Aug-2024 00:00	29-Aug-2024 00:00	28-Aug-2024 00:00	28-Aug-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405085-001	EW2405085-002	EW2405085-003	EW2405085-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	6.8	----	47.0	----
ø PM10	----	0.1	µg/m³	8.4	----	15.5	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	4.0	----	27.3	----
PM10 (mass per filter)	----	0.1	mg/filter	4.9	----	8.4	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405086**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 11-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 13:07
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			Sample ID	**PM10 North A0325982**	**TSP North A0325981**	**PM10 South A0325979**	**TSP South A0325980**	----
			Sampling date / time	04-Sep-2024 00:00	04-Sep-2024 00:00	05-Sep-2024 00:00	05-Sep-2024 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2405086-001**	**EW2405086-002**	**EW2405086-003**	**EW2405086-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**59.9**	----	**69.1**	----
ø PM10	----	0.1	µg/m³	**22.4**	----	**24.3**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**34.5**	----	**39.8**	----
PM10 (mass per filter)	----	0.1	mg/filter	**12.8**	----	**13.9**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405091**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 11-Nov-2024
C-O-C number	: ----	Issue Date	: 13-Nov-2024 13:08
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0323977	TSP North A0323976	PM10 South A0333828	TSP South A0333829	----
			Sampling date / time	12-Sep-2024 00:00	12-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405091-001	EW2405091-002	EW2405091-003	EW2405091-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**14.7**	----	**38.3**	----
ø PM10	----	0.1	µg/m³	**11.9**	----	**13.3**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**9.1**	----	**22.1**	----
PM10 (mass per filter)	----	0.1	mg/filter	**6.4**	----	**7.6**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405107**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 13-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 15:35
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories

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Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0323981	TSP North A0323980	PM10 South A0323979	TSP South A0323978	----
			Sampling date / time	19-Sep-2024 00:00	19-Sep-2024 00:00	18-Sep-2024 00:00	18-Sep-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405107-001	EW2405107-002	EW2405107-003	EW2405107-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	38.9	----	4.7	----
ø PM10	----	0.1	µg/m³	7.1	----	16.6	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	23.0	----	2.9	----
PM10 (mass per filter)	----	0.1	mg/filter	4.1	----	9.6	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405108**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 13-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 15:35
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- General Comments
- Analytical Results

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Signatories

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Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0323984	TSP North A0323985	PM10 South A0323982	TSP South A0323983	----
				Sampling date / time	26-Sep-2024 00:00	26-Sep-2024 00:00	25-Sep-2024 00:00	25-Sep-2024 00:00	----
					EW2405108-001	EW2405108-002	EW2405108-003	EW2405108-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	14.0	----	27.8	----
ø PM10	----	0.1	µg/m³		7.4	----	10.0	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	8.1	----	16.0	----
PM10 (mass per filter)	----	0.1	mg/filter		4.2	----	5.7	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405109**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
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Order number	: GS12330	Date Analysis Commenced	: 13-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 15:35
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0333832	TSP North A0333831	PM10 South A0323986	TSP South A0333830	----
			Sampling date / time	24-Oct-2024 00:00	24-Oct-2024 00:00	23-Oct-2024 00:00	23-Oct-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405109-001	EW2405109-002	EW2405109-003	EW2405109-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	8.2	----	10.5	----
ø PM10	----	0.1	µg/m³	10.6	----	7.7	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	5.1	----	6.5	----
PM10 (mass per filter)	----	0.1	mg/filter	6.6	----	4.8	----	----

Inter-Laboratory Testing

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(AIR) EA143: Particulates in Air - HVAFs

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Order number	: GS12330	Date Analysis Commenced	: 13-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 15:35
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0323989	TSP North A0323990	PM10 South A0323987	TSP South A0323988	----
			Sampling date / time	31-Oct-2024 00:00	31-Oct-2024 00:00	30-Oct-2024 00:00	30-Oct-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405110-001	EW2405110-002	EW2405110-003	EW2405110-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	36.6	----	42.3	----
ø PM10	----	0.1	µg/m³	14.9	----	40.8	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	21.1	----	24.8	----
PM10 (mass per filter)	----	0.1	mg/filter	8.5	----	23.3	----	----

Inter-Laboratory Testing

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(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

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Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 13-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 15:35
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
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Analytical Results

Sub-Matrix: FILTER (Matrix: AIR)				Sample ID	PM10 North A0323294	TSP North A0323295	PM10 South A0323296	TSP South A0323297	----
				Sampling date / time	09-Oct-2024 00:00	09-Oct-2024 00:00	10-Oct-2024 00:00	10-Oct-2024 00:00	----
Compound	CAS Number	LOR	Unit		EW2405111-001	EW2405111-002	EW2405111-003	EW2405111-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	2.9	----	0.3	----
ø PM10	----	0.1	µg/m³		0.8	----	<0.1	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	1.7	----	0.2	----
PM10 (mass per filter)	----	0.1	mg/filter		0.5	----	<0.1	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405112**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 04-Nov-2024 12:00
Order number	: GS12330	Date Analysis Commenced	: 13-Nov-2024
C-O-C number	: ----	Issue Date	: 14-Nov-2024 15:35
Sampler	: Client - G Shepherd		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0323298	TSP North A0323299	PM10 South A0323300	TSP South A0323301	----
			Sampling date / time	17-Oct-2024 00:00	17-Oct-2024 00:00	16-Oct-2024 00:00	16-Oct-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405112-001	EW2405112-002	EW2405112-003	EW2405112-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	9.9	----	2.7	----
ø PM10	----	0.1	µg/m³	5.5	----	1.4	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	5.8	----	1.8	----
PM10 (mass per filter)	----	0.1	mg/filter	3.2	----	0.8	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405959**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 18-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024 17:13
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0333083	TSP North A0333084	PM10 South A0333085	TSP South A0333086	----
				Sampling date / time	06-Nov-2024 00:00	06-Nov-2024 00:00	07-Nov-2024 00:00	07-Nov-2024 00:00	----
					EW2405959-001	EW2405959-002	EW2405959-003	EW2405959-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	27.3	----	37.3	----
ø PM10	----	0.1	µg/m³		19.0	----	45.7	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	14.8	----	20.1	----
PM10 (mass per filter)	----	0.1	mg/filter		10.3	----	24.6	----	----

Inter-Laboratory Testing

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(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405961**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
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C-O-C number	: ----	Issue Date	: 30-Dec-2024 17:13
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0333087	TSP North A0333088	PM10 South A0333090	TSP South A0333089	----
			Sampling date / time	13-Nov-2024 00:00	13-Nov-2024 00:00	14-Nov-2024 00:00	14-Nov-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405961-001	EW2405961-002	EW2405961-003	EW2405961-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	54.6	----	56.4	----
ø PM10	----	0.1	µg/m³	14.5	----	13.6	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	31.5	----	32.5	----
PM10 (mass per filter)	----	0.1	mg/filter	8.3	----	7.8	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405962**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 18-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 31-Dec-2024 17:49
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- General Comments
- Analytical Results

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Signatories

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Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0333091	TSP North A0333092	TSP South A0333093	PM10 South A0333094	----
				Sampling date / time	20-Nov-2024 00:00	20-Nov-2024 00:00	21-Nov-2024 00:00	21-Nov-2024 00:00	----
					EW2405962-001	EW2405962-002	EW2405962-003	EW2405962-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	59.9	73.7	----	----
ø PM10	----	0.1	µg/m³		13.5	----	----	21.2	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	34.5	42.5	----	----
PM10 (mass per filter)	----	0.1	mg/filter		7.7	----	----	12.1	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405963**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 18-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024 17:13
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0333095	TSP North A0333096	PM10 South A0333097	TSP South A0333098	----
				Sampling date / time	27-Nov-2024 00:00	27-Nov-2024 00:00	28-Nov-2024 00:00	28-Nov-2024 00:00	----
					EW2405963-001	EW2405963-002	EW2405963-003	EW2405963-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	20.4	----	31.7	----
ø PM10	----	0.1	µg/m³		23.8	----	13.6	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	11.0	----	17.4	----
PM10 (mass per filter)	----	0.1	mg/filter		13.0	----	7.8	----	----

Inter-Laboratory Testing

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(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

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Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 18-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024 17:17
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0345500	TSP North A0345499	PM10 South A0345498	TSP South A0345497	----
			Sampling date / time	05-Dec-2024 00:00	05-Dec-2024 00:00	04-Dec-2024 00:00	04-Dec-2024 00:00	----
Compound	CAS Number	LOR	Unit	EW2405966-001	EW2405966-002	EW2405966-003	EW2405966-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	68.4	----	6.6	----
ø PM10	----	0.1	µg/m³	16.1	----	<0.1	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	39.4	----	3.8	----
PM10 (mass per filter)	----	0.1	mg/filter	9.2	----	<0.1	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2405967**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 18-Dec-2024 14:00
Order number	: GS12330	Date Analysis Commenced	: 23-Dec-2024
C-O-C number	: ----	Issue Date	: 30-Dec-2024 17:17
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: AIR)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0345805	TSP North A0345806	PM10 South A0345807	TSP South A0345808	----
				Sampling date / time	11-Dec-2024 00:00	11-Dec-2024 00:00	12-Dec-2024 00:00	12-Dec-2024 00:00	----
					EW2405967-001	EW2405967-002	EW2405967-003	EW2405967-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	67.7	----	41.3	----
ø PM10	----	0.1	µg/m³		7.0	----	11.0	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	39.0	----	23.8	----
PM10 (mass per filter)	----	0.1	mg/filter		4.0	----	6.3	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2500306**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 20-Jan-2025 13:00
Order number	: GS12330	Date Analysis Commenced	: 23-Jan-2025
C-O-C number	: ----	Issue Date	: 28-Jan-2025 16:06
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0345809	TSP North A0345810	PM10 South A0345812	TSP South A0345811	----
				Sampling date / time	18-Dec-2024 00:00	18-Dec-2024 00:00	19-Dec-2024 00:00	19-Dec-2024 00:00	----
					EW2500306-001	EW2500306-002	EW2500306-003	EW2500306-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	26.7	----	27.5	----
ø PM10	----	0.1	µg/m³		26.5	----	23.4	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	14.4	----	14.9	----
PM10 (mass per filter)	----	0.1	mg/filter		15.3	----	13.5	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2500310**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 20-Jan-2025 13:00
Order number	: GS12330	Date Analysis Commenced	: 23-Jan-2025
C-O-C number	: ----	Issue Date	: 28-Jan-2025 16:11
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: FILTER (Matrix: AIR)			Sample ID	PM10 North A0345813	TSP North A0345814	PM10 South A0345815	TSP South A0345816	----
			Sampling date / time	08-Jan-2025 00:00	08-Jan-2025 00:00	09-Jan-2025 00:00	09-Jan-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2500310-001	EW2500310-002	EW2500310-003	EW2500310-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**59.7**	----	**41.3**	----
ø PM10	----	0.1	µg/m³	**14.2**	----	**8.0**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**34.4**	----	**23.8**	----
PM10 (mass per filter)	----	0.1	mg/filter	**8.2**	----	**4.6**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2500312**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 20-Jan-2025 13:00
Order number	: GS12330	Date Analysis Commenced	: 23-Jan-2025
C-O-C number	: ----	Issue Date	: 28-Jan-2025 16:06
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			*Sample ID*	**PM10 North A0346089**	**TSP North A0346090**	**PM10 South A0346092**	**TSP South A0346091**	----
			Sampling date / time	15-Jan-2025 00:00	15-Jan-2025 00:00	16-Jan-2025 00:00	16-Jan-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2500312-001**	**EW2500312-002**	**EW2500312-003**	**EW2500312-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**63.2**	----	**26.0**	----
ø PM10	----	0.1	µg/m³	**16.3**	----	**10.6**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**36.4**	----	**15.0**	----
PM10 (mass per filter)	----	0.1	mg/filter	**9.4**	----	**6.1**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501072**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 04-Feb-2025 13:10
Order number	: GS12330	Date Analysis Commenced	: 23-Feb-2025
C-O-C number	: ----	Issue Date	: 28-Feb-2025 15:00
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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This Certificate of Analysis contains the following information:

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- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0346239	TSP North A0346240	PM10 South A0346241	TSP South A0346242	----
			Sampling date / time	22-Jan-2025 00:00	22-Jan-2025 00:00	23-Jan-2025 00:00	23-Jan-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2501072-001	EW2501072-002	EW2501072-003	EW2501072-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	2.6	----	10.0	----
ø PM10	----	0.1	µg/m³	0.5	----	5.2	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	1.5	----	5.8	----
PM10 (mass per filter)	----	0.1	mg/filter	0.3	----	3.0	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501073**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 04-Feb-2025 13:10
Order number	: GS12330	Date Analysis Commenced	: 23-Feb-2025
C-O-C number	: ----	Issue Date	: 28-Feb-2025 15:00
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0346243	TSP North A0346244	PM10 South A0346245	TSP South A0346246	----
			Sampling date / time	30-Jan-2025 00:00	30-Jan-2025 00:00	29-Jan-2025 00:00	29-Jan-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2501073-001	EW2501073-002	EW2501073-003	EW2501073-004	---------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	12.2	----	3.9	----
ø PM10	----	0.1	µg/m³	10.0	----	5.5	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	7.6	----	2.4	----
PM10 (mass per filter)	----	0.1	mg/filter	6.2	----	3.4	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501262**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 06-Mar-2025 12:43
Order number	: GS12330	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 17-Mar-2025 20:46
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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- TSP & PM10 conducted by ALS Newcastle, NATA Accreditation No. 825, Site No. 1656.
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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			*Sample ID*	**PM10 North A0352604**	**TSP North A0352605**	**PM10 South A0352606**	**TSP South A0352607**	----
			Sampling date / time	05-Feb-2025 00:00	05-Feb-2025 00:00	06-Feb-2025 00:00	06-Feb-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501262-001**	**EW2501262-002**	**EW2501262-003**	**EW2501262-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	**----**	**43.2**	**----**	**22.9**	**----**
ø PM10	----	0.1	µg/m³	**11.0**	**----**	**11.6**	**----**	**----**
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	**----**	**26.8**	**----**	**14.2**	**----**
PM10 (mass per filter)	----	0.1	mg/filter	**6.8**	**----**	**7.2**	**----**	**----**

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501263**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 06-Mar-2025 12:43
Order number	: GS12330	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 17-Mar-2025 20:46
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			Sample ID	**PM10 North A0352608**	**TSP North A0352609**	**PM10 South A0352610**	**TSP South A0352611**	----
			Sampling date / time	13-Feb-2025 00:00	13-Feb-2025 00:00	12-Feb-2025 00:00	12-Feb-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501263-001**	**EW2501263-002**	**EW2501263-003**	**EW2501263-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	**----**	**16.0**	**----**	**5.8**	**----**
ø PM10	----	0.1	µg/m³	**13.6**	**----**	**5.6**	**----**	**----**
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	**----**	**9.2**	**----**	**3.3**	**----**
PM10 (mass per filter)	----	0.1	mg/filter	**7.8**	**----**	**3.2**	**----**	**----**

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501264**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 06-Mar-2025 12:43
Order number	: GS12330	Date Analysis Commenced	: 10-Mar-2025
C-O-C number	: ----	Issue Date	: 17-Mar-2025 20:46
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
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Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0352824	TSP North A0352829	PM10 South A0352823	TSP South A0352822	----
				Sampling date / time	20-Feb-2025 00:00	20-Feb-2025 00:00	19-Feb-2025 00:00	19-Feb-2025 00:00	----
					EW2501264-001	EW2501264-002	EW2501264-003	EW2501264-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	41.8	----	26.7	----
ø PM10	----	0.1	µg/m³		6.8	----	33.4	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	24.1	----	14.4	----
PM10 (mass per filter)	----	0.1	mg/filter		3.9	----	19.1	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501266**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0352825	TSP North A0352826	PM10 South A0352827	TSP South A0352828	----
				Sampling date / time	26-Feb-2025 00:00	26-Feb-2025 00:00	27-Feb-2025 00:00	27-Feb-2025 00:00	----
					EW2501266-001	EW2501266-002	EW2501266-003	EW2501266-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	23.8	----	99.6	----
ø PM10	----	0.1	µg/m³		3.7	----	27.1	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	13.7	----	57.4	----
PM10 (mass per filter)	----	0.1	mg/filter		2.1	----	15.5	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501433**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 17-Mar-2025 13:25
Order number	: GS12330	Date Analysis Commenced	: 21-Mar-2025
C-O-C number	: ----	Issue Date	: 26-Mar-2025 10:03
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0356615	TSP North A0356614	PM10 South A0356613	TSP South A0356612	----
			Sampling date / time	12-Mar-2025 00:00	12-Mar-2025 00:00	13-Mar-2025 00:00	13-Mar-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2501433-001	EW2501433-002	EW2501433-003	EW2501433-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	80.3	----	34.2	----
ø PM10	----	0.1	µg/m³	19.4	----	10.3	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	46.3	----	19.7	----
PM10 (mass per filter)	----	0.1	mg/filter	11.1	----	5.9	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501434**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 17-Mar-2025 13:31
Order number	: GS12330	Date Analysis Commenced	: 21-Mar-2025
C-O-C number	: ----	Issue Date	: 26-Mar-2025 10:03
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0356611	TSP North A0356609	PM10 South A0356610	TSP South A0356608	----
				Sampling date / time	05-Mar-2025 00:00	05-Mar-2025 00:00	06-Mar-2025 00:00	06-Mar-2025 00:00	----
					EW2501434-001	EW2501434-002	EW2501434-003	EW2501434-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	86.2	----	42.7	----
ø PM10	----	0.1	µg/m³		20.0	----	9.3	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	49.7	----	24.6	----
PM10 (mass per filter)	----	0.1	mg/filter		11.4	----	5.3	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2502307**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 01-May-2025 15:00
Order number	: GS208240	Date Analysis Commenced	: 06-May-2025
C-O-C number	: ----	Issue Date	: 08-May-2025 12:30
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Signatories

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Signatories	*Position*	*Accreditation Category*
Shane Merrell	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

				Sample ID	PM10 North A0356618	TSP North A0356619	PM10 South A0356616	TSP South A0356617	----
				Sampling date / time	19-Mar-2025 00:00	19-Mar-2025 00:00	20-Mar-2025 00:00	20-Mar-2025 00:00	----
Compound	CAS Number	LOR	Unit		EW2502307-001	EW2502307-002	EW2502307-003	EW2502307-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	57.6	----	55.0	----
ø PM10	----	0.1	µg/m³		11.1	----	13.2	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	33.2	----	31.7	----
PM10 (mass per filter)	----	0.1	mg/filter		6.4	----	7.6	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2502308**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 01-May-2025 15:00
Order number	: GS208240	Date Analysis Commenced	: 06-May-2025
C-O-C number	: ----	Issue Date	: 08-May-2025 12:30
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0356622	TSP North A0356623	PM10 South A0356620	TSP South A0356621	----
				Sampling date / time	27-Mar-2025 00:00	27-Mar-2025 00:00	26-Mar-2025 00:00	26-Mar-2025 00:00	----
					EW2502308-001	EW2502308-002	EW2502308-003	EW2502308-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	**37.7**	----	**58.6**	----
ø PM10	----	0.1	µg/m³		**22.6**	----	**9.9**	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	**20.3**	----	**33.8**	----
PM10 (mass per filter)	----	0.1	mg/filter		**13.0**	----	**5.7**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2502310**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 01-May-2025 15:00
Order number	: GS208240	Date Analysis Commenced	: 06-May-2025
C-O-C number	: ----	Issue Date	: 08-May-2025 11:59
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0370464	TSP North A0370463	PM10 South A0370465	TSP South A0370466	----
			Sampling date / time	10-Apr-2025 00:00	10-Apr-2025 00:00	09-Apr-2025 00:00	09-Apr-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2502310-001	EW2502310-002	EW2502310-003	EW2502310-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	37.6	----	23.4	----
ø PM10	----	0.1	µg/m³	10.6	----	6.8	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	21.7	----	13.5	----
PM10 (mass per filter)	----	0.1	mg/filter	6.1	----	3.9	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2502311**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 01-May-2025 15:00
Order number	: GS208240	Date Analysis Commenced	: 06-May-2025
C-O-C number	: ----	Issue Date	: 08-May-2025 11:59
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0356622	TSP North A0356623	PM10 South A0356624	TSP South A0356625	----
				Sampling date / time	02-Apr-2025 00:00	02-Apr-2025 00:00	03-Apr-2025 00:00	03-Apr-2025 00:00	----
					EW2502311-001	EW2502311-002	EW2502311-003	EW2502311-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	4.5	----	22.9	----
ø PM10	----	0.1	µg/m³		4.3	----	9.3	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	2.6	----	13.1	----
PM10 (mass per filter)	----	0.1	mg/filter		2.8	----	5.3	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503416**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-Jun-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 11:16
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0370471	TSP North A0370472	PM10 South A0370473	TSP South A0370474	-----
				Sampling date / time	30-Apr-2025 00:00	30-Apr-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	-----
					EW2503416-001	EW2503416-002	EW2503416-003	EW2503416-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	28.1	----	18.9	----
ø PM10	----	0.1	µg/m³		9.4	----	5.2	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	16.2	----	10.9	----
PM10 (mass per filter)	----	0.1	mg/filter		5.4	----	3.0	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503417**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-May-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 10:46
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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- General Comments
- Analytical Results

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Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

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~ = Indicates an estimated value.

- No atmospheric corrections were used in the calculation of the µg/m³ results.
- NATA accreditation is not held for results reported in µg/m³. Concentration in µg/m³ is calculated from air volume data provided by the client.

Analytical Results

Sub-Matrix: **FILTER**
(Matrix: AIR)

			Sample ID	PM10 North A0369066	TSP North A0369069	PM10 South A0369067	TSP South A0369068	----
			Sampling date / time	07-May-2025 00:00	07-May-2025 00:00	08-May-2025 00:00	08-May-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2503417-001	EW2503417-002	EW2503417-003	EW2503417-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	29.5	----	76.2	----
ø PM10	----	0.1	µg/m³	5.1	----	21.4	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	17.0	----	43.9	----
PM10 (mass per filter)	----	0.1	mg/filter	2.9	----	12.2	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503418**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-Jun-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 10:46
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

General Comments

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0369070	TSP North A0369071	PM10 South A0369072	TSP South A0369073	----
				Sampling date / time	14-May-2025 00:00	14-May-2025 00:00	15-May-2025 00:00	15-May-2025 00:00	----
					EW2503418-001	EW2503418-002	EW2503418-003	EW2503418-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	26.0	----	46.3	----
ø PM10	----	0.1	µg/m³		4.4	----	44.6	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	15.0	----	26.4	----
PM10 (mass per filter)	----	0.1	mg/filter		2.5	----	25.5	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503419**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-Jun-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 10:47
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Accredited for compliance with
ISO/IEC 17025 - Testing

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0369077	TSP North A0369075	PM10 South A0369076	TSP South A0369074	----
			Sampling date / time	21-May-2025 00:00	21-May-2025 00:00	22-May-2025 00:00	22-May-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2503419-001	EW2503419-002	EW2503419-003	EW2503419-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	10.4	----	0.5	----
ø PM10	----	0.1	µg/m³	2.4	----	<0.1	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	6.0	----	0.3	----
PM10 (mass per filter)	----	0.1	mg/filter	1.4	----	<0.1	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503420**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-Jun-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 10:49
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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ISO/IEC 17025 - Testing

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Analytical Results

Sub-Matrix: **FILTER** (Matrix: **AIR**)			*Sample ID*	**PM10 North A0406417**	**TSP North A0406418**	**PM10 South A0406420**	**TSP South A0406419**	----
			Sampling date / time	12-Jun-2025 00:00	12-Jun-2025 00:00	11-Jun-2025 00:00	11-Jun-2025 00:00	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2503420-001**	**EW2503420-002**	**EW2503420-003**	**EW2503420-004**	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	**27.8**	----	**3.8**	----
ø PM10	----	0.1	µg/m³	**3.2**	----	<0.1	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	**16.0**	----	**2.2**	----
PM10 (mass per filter)	----	0.1	mg/filter	**1.8**	----	<0.1	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503421**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-Jun-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 10:47
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Zoran Grozdanovski	Team Leader - Chemistry	Newcastle - Inorganics, Mayfield West, NSW

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

Compound	CAS Number	LOR	Unit	Sample ID	PM10 North A0406421	TSP North A0406422	PM10 South A0406423	TSP South A0406424	----
				Sampling date / time	19-Jun-2025 00:00	19-Jun-2025 00:00	18-Jun-2025 00:00	18-Jun-2025 00:00	----
					EW2503421-001	EW2503421-002	EW2503421-003	EW2503421-004	--------
					Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs									
ø Total Suspended Particulates	----	0.1	µg/m³		----	42.7	----	18.0	----
ø PM10	----	0.1	µg/m³		18.7	----	1.4	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter		----	24.6	----	10.4	----
PM10 (mass per filter)	----	0.1	mg/filter		10.7	----	0.8	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503422**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 24-Jun-2025 16:00
Order number	: GS208240	Date Analysis Commenced	: 01-Jul-2025
C-O-C number	: ----	Issue Date	: 07-Jul-2025 10:47
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0406104	TSP North A0406105	PM10 South A0406107	TSP South A0406106	----
			Sampling date / time	04-Jun-2025 00:00	04-Jun-2025 00:00	05-Jun-2025 00:00	05-Jun-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2503422-001	EW2503422-002	EW2503422-003	EW2503422-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	4.3	----	5.2	----
ø PM10	----	0.1	µg/m³	0.5	----	4.0	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	2.5	----	3.2	----
PM10 (mass per filter)	----	0.1	mg/filter	0.3	----	2.3	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

CERTIFICATE OF ANALYSIS

Work Order	: **EW2503572**	Page	: 1 of 2
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Air	Date Samples Received	: 08-Jul-2025 14:52
Order number	: GS208240	Date Analysis Commenced	: 11-Jul-2025
C-O-C number	: ----	Issue Date	: 14-Jul-2025 19:12
Sampler	: Client - GS		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 4		
No. of samples analysed	: 4		

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Signatories	*Position*	*Accreditation Category*
Thomas Regan	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW

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Analytical Results

Sub-Matrix: **FILTER**
(Matrix: **AIR**)

			Sample ID	PM10 North A0406425	TSP North A0406426	PM10 South A0406427	TSP South A0406428	----
			Sampling date / time	26-Jun-2025 00:00	26-Jun-2025 00:00	25-Jun-2025 00:00	25-Jun-2025 00:00	----
Compound	CAS Number	LOR	Unit	EW2503572-001	EW2503572-002	EW2503572-003	EW2503572-004	--------
				Result	Result	Result	Result	----
EA143: Particulates in Air - HVAFs								
ø Total Suspended Particulates	----	0.1	µg/m³	----	26.3	----	42.3	----
ø PM10	----	0.1	µg/m³	11.8	----	9.9	----	----
Total Suspended Particulates (mass per filter)	----	0.1	mg/filter	----	15.2	----	24.4	----
PM10 (mass per filter)	----	0.1	mg/filter	6.9	----	5.7	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry / Biology).

(AIR) EA143: Particulates in Air - HVAFs

Appendix F – Erosion and Sediment Control Log

Sediment and Erosion Control Log

Monitering In Accordance with AEMR timeframe which coincides with the Project approval. Ie December to end of November each year

Inspections to be carried out fortnightly unless heavy rainfall occurs in the interim when sediment fences should be inspected following the heavy rain to check for signs of sediment buildup and functionality.

Monitoring Plan 1: July 2024 until June 2025 **>10mm Only**

Inspection #	Location within Quarry	Date Inspected	Time Inspected	Inspected By	Reason for inspection	Any sediment removed from fences	Are sediment fences stable	Is there any further erosion hazard	Are any further sediment and erosion control required	Is there any damage to existing sediment control structures	Are exclusion zones being maintained by all workers and subcontractors	Comments
961	Riprarian Protection Zones	2/07/2024	7:30am	Genaya Shephard	15.4mm Rainfall	NO	YES	NO	NO	NO	YES	
962	Riprarian Protection Zones	3-4/07/2024	7:30am	Genaya Shephard	24.4mm Rainfall	NO	YES	NO	NO	NO	YES	
963	Riprarian Protection Zones	5/07/2024	7:30am	Genaya Shephard	26.0mm Rainfall	NO	YES	NO	NO	NO	YES	
964	Riprarian Protection Zones	26-29/09/2024	7:30am	Genaya Shephard	18.8mm Rainfall	NO	YES	NO	NO	NO	YES	
965	Riprarian Protection Zones	14/11/2024	7:30am	Benny Brookfield	21.6mm Rainfall	NO	YES	NO	NO	NO	YES	
966	Riprarian Protection Zones	29/11/2024	7:30am	Benny Brookfield	25.8mm Rainfall	NO	YES	NO	NO	NO	YES	
967	Riprarian Protection Zones	7/12/2024	7:30am	Benny Brookfield	24.8mm Rainfall	NO	YES	NO	NO	NO	YES	
968	Riprarian Protection Zones	6/01/2025-09/01/2025	7:30am	Benny Brookfield	31.6mm Rainfall	NO	YES	NO	NO	NO	YES	
969	Riprarian Protection Zones	16/01/2025-19/01/2025	7:30am	Benny Brookfield	67.4mm Rainfall	NO	YES	NO	NO	NO	YES	
970	Riprarian Protection Zones	09/02/2025-13/02/2025	7:30am	Benny Brookfield	21.4mm Rainfall	NO	YES	NO	NO	NO	YES	
971	Riprarian Protection Zones	28/03/2025-31/03/2025	7:30am	Benny Brookfield	124.4mm Rainfall	NO	YES	NO	NO	NO	YES	
972	Riprarian Protection Zones	22/04/2025-23/04/2025	7:30am	Benny Brookfield	70mm Rainfall	NO	YES	NO	NO	NO	YES	
973	Riprarian Protection Zones	28/04/2025	7:30am	Benny Brookfield	17.2mm Rainfall	NO	YES	NO	NO	NO	YES	
974	Riprarian Protection Zones	19/05/2025-24/05/2025	7:30am	Benny Brookfield	48.4mm Rainfall	NO	YES	NO	NO	NO	YES	

Appendix G – Landscape and Biodiversity Monitoring

PROUST LAND SERVICES **Milton NSW 2538 gerard@plsregen.com.au**

Table 1 Weed Treatment Table April 2025 Secondary/Maintenance weeding

Common Name	Control	Location / density/ quantity
Agapanthus	Cut/paint, manual removal	Eastern boundary /scattered seedlings **<10**
Asparagus Fern **WoNS N**	Hand dug crown (bag crown & removed off site)	Southern boundary / scattered seedlings **100+**
Bitou Bush **WoNS N**	Hand pulled	western boundary 1 seedling
Blackberry **WoNS N**	Spray after site prep	Eastern & western boundary / scattered patches **3 x 10m²**
Broom	Not recorded this round	
Castor Oil Plant	Hand pull seedlings, Cut/paint larger plants.	NW corner & Eastern boundary / scattered patches **100+**
Cotton Bush	Hand Pull	Eastern boundary **<10**
Crassula	Sprayed	eastern boundary/ scattered patch **20m²**
Crofton Weed **N**	Hand pull seedlings, cut paint larger plants, spray denser patches	Eastern & Western boundary /many patches **>300m²**
Euphorbia	Not recorded this round	
Fennel	Not recorded this round	
Lantana **WoNS N**	Hand pull seedlings, Cut/paint larger plants.	Eastern & western boundaries / scattered patches **>200m²**
Madeira Vine **N**	Spot spray after site prep	western boundaries / several patches. **>50m²**
Moth Vine	Hand pull. (bag & remove fruit off site).	All boundaries/ sparse **>100**
Polygala	Cut/paint	eastern boundary/ several patches **30**
Senna	Cut/paint / Hand pull	eastern boundary / scattered seedlings **<10**
Spear Thistle	Cut/paint / spray	all boundaries / scattered throughout **100+**
Spider Plant	Sprayed after site prep	eastern boundary / one patch **10m^{o2}**
Tobacco Bush	Cut/paint / Hand dug	all boundaries / scattered several large ones in flower
Turkey Rhubarb	Sprayed after prep	eastern & western boundaries / increasing. **>500m²**
Annuals such as Fleabane, Paddy's Lucerne,	Hand. Pull; Spray prep & spray	all areas. Not a major concern
Exotic Grasses mainly Paspalum	Manual removal, some sprayed. some areas the slopes were too steep.	**>500m²**

WoNS: Weed of national Significance **N: Noxious Weed**

- **The weeds in numbers, types and densities have overall been reduced over the last few years.**
- **Weeds like Bitou Bush have not been recorded for three years and Lantana has been greatly reduced though these have been sighted past the western boundary.**
- **The high priority weeds are Turkey Rhubarb, Lantana, Blackberry, Crofton Weed, Castor Oil Plant, Madeira Vine & Senna.**
- **The Eucalyptus Woodland / Open Forest remnant is in good condition with many understorey & shrub layer in flower early. Many shrubs like Pultenaea & Native Indigo and native scrambles / climber**
- **There were still some weeds like Crofton Weed in precarious places [i.e. Near cliff edges] that I would not let the crew do because of the obvious risks.**
- **The southern area [some amongst work areas] require more work at the next work day as there has been an increase in some weeds such as Asparagus Fern [3 bags of crowns were taken off site for safe disposal], Lantana, Castor Oil.**
- **3 x 12lt sprays from SE corner to just past roundabout. Dense patches of Crofton Weed, Blackberry, Turkey Rhubarb, Crassula, Cobblers Peg were sprayed [see photos].**
- **2 x 10lt sprays from NW corner to Crofton Weed patch. Dense patch of Madeira Vine, Turkey Rhubarb and Crofton Weed were sprayed.**
- **The next weed day should concentrate on any weed hotspots and other scattered priority weed [see weed table]. This day should be planned for summer [2025/26]. The works should be started along the southern zone.**

PROUST LAND SERVICES

Weed Photos

Lantana patch: cut & painted

Crofton Weed & Blackerry

Crassula

PROUST LAND SERVICES **Milton NSW 2538 gerard@plsregen.com.au**

Table 1 Weed Treatment Table August 2024 Secondary/Maintenance weeding

Common Name	Control	Location / density
Agapanthus	Cut/paint, manual removal	Eastern boundary /scattered seedlings
Asparagus Fern **WoNS N**	Hand dug crown (bag crown & removed off site)	Western boundary / scattered seedlings
Bitou Bush **WoNS N**	Not recorded this round.	
Blackberry **WoNS N**	Cut/paint & manual removal	Eastern & western boundary / scattered small plants
Broom	Cut/paint & manual removal	
Castor Oil Plant	Hand pull seedlings, Cut/paint larger plants.	Eastern boundary / scattered with medium patches
Cotton Bush	Hand Pull	Eastern boundary
Crassula	Hand dug	southern boundary/ scattered patches
Crofton Weed **N**	Hand pull seedlings, cut paint larger plants, spray denser patches	Eastern & Western boundary / medium patches
Euphorbia	Hand pull	Eastern boundary / scattered patches
Fennel	Hand dug	northwest corner / increasing in area
Lantana **WoNS N**	Hand pull seedlings, Cut/paint larger plants.	western boundaries / sparse to occasional
Madeira Vine **N**	Spot spray after site prep	western boundaries / several patches. **will need follow up**
Moth Vine	Hand pull. (bag & remove fruit off site).	All boundaries/ sparse
Polygala	Cut/paint	eastern boundary/ several patches
Senna	Cut/paint / Hand pull	eastern boundary / scattered seedlings
Spear Thistle	Cut/paint / spray	all boundaries / scattered has increased in numbers and area
Spider Plant	Not recorded this round	
Tobacco Bush	Cut/paint / Hand dug	all boundaries / scattered several large ones in flower
Turkey Rhubarb	Hand dug; spray prep	eastern & western boundaries / increasing. **Will need follow up**
Annuals such as Fleabane, Paddy's Lucerne,	Hand. Pull; Spray prep & spray	all areas. Not a major concern
Exotic Grasses mainly Paspalum	Manual removal, some sprayed. some areas the slopes were too steep.	

WoNS: Weed of national Significance N: Noxious Weed

- **The weeds in numbers, types and densities have overall been reduced over the last few years.**

- **Weeds like Bitou Bush have not been recorded for two years and Lantana has been greatly reduced though these have been sighted past the western boundary.**

- **The high priority weeds are Turkey Rhubarb, Lantana, Crofton Weed, Castor Oil Plant, Madeira Vine & Senna.**

- **The Eucalyptus Woodland / Open Forest remnant is in good condition with many understorey & shrub layer in flower early. Many shrubs like Pultenaea & Native Indigo and native scrambles / climber**

- **There were still some weeds like Crofton Weed in precarious places [i.e. Near cliff edges] that I would not let the crew do because of the obvious risks.**

- **Much of the site [see maps on next pages] is in maintenance weeding stage with several 'hotspots' that should have increased works frequency to be able to stop their spread. The next weed day should concentrate on these hotspots and other scattered priority weed [see weed table]. This day should be planned for summer [2024/25]**

PROUST LAND SERVICES

‘hotspots’ of priority weeds ranging from Madeira Vine to lantana, Crofton Weed, Castor Oil, Tobacco Bush, Turkey Rhubarb

PROUST LAND SERVICES

‘hotspots’ of priority weeds ranging from Turkey Rhubarb to Crofton Weed, Castor Oil and Madeira Vine

Appendix H – Surface water monitoring

CERTIFICATE OF ANALYSIS

Work Order	: **EW2500304**	Page	: 1 of 4
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Water	Date Samples Received	: 20-Jan-2025 13:00
Order number	: GS12014	Date Analysis Commenced	: 21-Jan-2025
C-O-C number	: ----	Issue Date	: 29-Jan-2025 18:04
Sampler	: Client - G.S		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- ED041G: LOR raised for Sulfate on sample 2 due to sample matrix.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	C1	C2	C10	S4	S5
			Sampling date / time	20-Jan-2025 00:00	20-Jan-2025 00:00	20-Jan-2025 00:00	20-Jan-2025 00:00	20-Jan-2025 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EW2500304-001**	**EW2500304-002**	**EW2500304-003**	**EW2500304-004**	**EW2500304-005**
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**6.25**	**6.52**	**6.20**	**6.99**	**8.16**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**186**	**162**	**188**	**514**	**4010**
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	**48**	**18**	**21**	**100**	**11**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**10**	**14**	**9**	**32**	**172**
Total Alkalinity as CaCO3	----	1	mg/L	**10**	**14**	**9**	**32**	**172**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**5**	<10	**3**	**160**	**569**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**40**	**32**	**40**	**41**	**884**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**4**	**4**	**4**	**38**	**74**
Magnesium	7439-95-4	1	mg/L	**3**	**3**	**3**	**12**	**87**
Sodium	7440-23-5	1	mg/L	**24**	**21**	**25**	**44**	**583**
Potassium	7440-09-7	1	mg/L	**3**	**3**	**3**	**3**	**8**
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**1.33**	**1.12**	**1.33**	<0.05	<0.05
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**4.30**	**2.78**	**4.02**	**3.33**	**0.09**
Arsenic	7440-38-2	0.001	mg/L	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**
Zinc	7440-66-6	0.005	mg/L	**0.014**	**0.011**	**0.012**	**0.018**	**0.011**
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.01	**0.01**	**0.02**	**0.04**	**0.21**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	C1	C2	C10	S4	S5
			Sampling date / time	20-Jan-2025 00:00	20-Jan-2025 00:00	20-Jan-2025 00:00	20-Jan-2025 00:00	20-Jan-2025 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EW2500304-001**	**EW2500304-002**	**EW2500304-003**	**EW2500304-004**	**EW2500304-005**
				Result	Result	Result	Result	Result
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser - Continued								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	<0.01	**2.02**	**1.81**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.4**	**1.2**	**0.8**	**1.4**	**1.0**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.10**	**0.08**	**0.36**	**0.08**	<0.01
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	**0.01**	<0.01	<0.01	<0.01
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**1.43**	**1.18**	**1.37**	**5.13**	**40.2**
ø Total Cations	----	0.01	meq/L	**1.57**	**1.44**	**1.61**	**4.87**	**36.4**
ø Ionic Balance	----	0.01	%	**----**	**----**	**----**	**2.53**	**4.96**

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EA005P: pH by PC Titrator
(WATER) EA010P: Conductivity by PC Titrator
(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EK071G: Reactive Phosphorus as P by discrete analyser
(WATER) EK055G: Ammonia as N by Discrete Analyser
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser
(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) ED045G: Chloride by Discrete Analyser
(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA
(WATER) ED037P: Alkalinity by PC Titrator
(WATER) ED093F: Dissolved Major Cations
(WATER) EA025: Total Suspended Solids dried at 104 ± 2°C
(WATER) EG020T: Total Metals by ICP-MS
(WATER) EN055: Ionic Balance

CERTIFICATE OF ANALYSIS

Work Order	: **EW2501871**	Page	: 1 of 4
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Water	Date Samples Received	: 08-Apr-2025 16:22
Order number	: GS12014	Date Analysis Commenced	: 09-Apr-2025
C-O-C number	: ----	Issue Date	: 17-Apr-2025 14:58
Sampler	: Client - Genaya Shepard		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW

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Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	C1	C2	C10	S4	S5
			Sampling date / time	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501871-001**	**EW2501871-002**	**EW2501871-003**	**EW2501871-004**	**EW2501871-005**
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**6.62**	**6.68**	**6.28**	**7.00**	**7.85**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**229**	**225**	**231**	**593**	**4070**
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	<5	**10**	**5**	**62**	<5
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**16**	**28**	**9**	**44**	**187**
Total Alkalinity as CaCO3	----	1	mg/L	**16**	**28**	**9**	**44**	**187**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**9**	**9**	**16**	**185**	**545**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**44**	**43**	**45**	**41**	**948**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**7**	**7**	**7**	**36**	**96**
Magnesium	7439-95-4	1	mg/L	**5**	**5**	**5**	**15**	**98**
Sodium	7440-23-5	1	mg/L	**30**	**29**	**29**	**64**	**657**
Potassium	7440-09-7	1	mg/L	**5**	**4**	**4**	**4**	**10**
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**0.67**	**0.65**	**0.64**	**0.08**	<0.05
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**2.27**	**1.94**	**1.80**	**6.53**	**0.25**
Arsenic	7440-38-2	0.001	mg/L	**0.001**	**0.001**	**0.001**	**0.002**	**0.001**
Zinc	7440-66-6	0.005	mg/L	**0.018**	**0.019**	**0.025**	**0.035**	**0.014**
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**0.02**	**0.02**	**0.02**	**0.17**	**0.51**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	C1	C2	C10	S4	S5
			Sampling date / time	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00	01-Apr-2025 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EW2501871-001**	**EW2501871-002**	**EW2501871-003**	**EW2501871-004**	**EW2501871-005**
				Result	Result	Result	Result	Result
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser - Continued								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.68**	**0.06**	**0.65**	**1.82**	**2.08**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.5**	**1.3**	**1.6**	**1.8**	**1.0**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.11**	**0.07**	**0.10**	**0.14**	**0.04**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	**0.01**	<0.01	<0.01
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**1.75**	**1.96**	**1.78**	**5.89**	**41.8**
ø Total Cations	----	0.01	meq/L	**2.19**	**2.12**	**2.12**	**5.92**	**41.7**
ø Ionic Balance	----	0.01	%	**----**	**----**	**----**	**0.25**	**0.16**

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EA005P: pH by PC Titrator

(WATER) EA010P: Conductivity by PC Titrator

(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser

(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser

(WATER) EK071G: Reactive Phosphorus as P by discrete analyser

(WATER) EK055G: Ammonia as N by Discrete Analyser

(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

(WATER) EG020F: Dissolved Metals by ICP-MS

(WATER) ED045G: Chloride by Discrete Analyser

(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA

(WATER) ED037P: Alkalinity by PC Titrator

(WATER) ED093F: Dissolved Major Cations

(WATER) EA025: Total Suspended Solids dried at 104 ± 2°C

(WATER) EG020T: Total Metals by ICP-MS

(WATER) EN055: Ionic Balance

CERTIFICATE OF ANALYSIS

Work Order	: **EW2502302**	Page	: 1 of 4
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry - Water	Date Samples Received	: 01-May-2025 12:00
Order number	: GS208240	Date Analysis Commenced	: 02-May-2025
C-O-C number	: ----	Issue Date	: 09-May-2025 16:05
Sampler	: Client		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- ED041G: LOR raised for Sulfate on various samples due to sample matrix.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- ED041G: LOR raised for Sulfate due to sample matrix
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	C1	C2	C10	S4	S5
			Sampling date / time	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EW2502302-001**	**EW2502302-002**	**EW2502302-003**	**EW2502302-004**	**EW2502302-005**
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**6.87**	**6.75**	**6.68**	**7.23**	**8.15**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**172**	**180**	**168**	**618**	**4230**
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	**12**	**12**	**16**	**91**	**9**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**16**	**18**	**16**	**42**	**226**
Total Alkalinity as CaCO3	----	1	mg/L	**16**	**18**	**16**	**42**	**226**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<10	<50	<10	**208**	**669**
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**34**	**36**	**35**	**58**	**882**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**6**	**6**	**6**	**38**	**110**
Magnesium	7439-95-4	1	mg/L	**4**	**4**	**4**	**16**	**93**
Sodium	7440-23-5	1	mg/L	**25**	**25**	**24**	**74**	**618**
Potassium	7440-09-7	1	mg/L	**4**	**4**	**4**	**4**	**10**
EG020F: Dissolved Metals by ICP-MS								
Iron	7439-89-6	0.05	mg/L	**1.16**	**1.02**	**0.56**	**1.03**	<0.05
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**3.95**	**3.63**	**2.73**	**1.85**	**0.24**
Arsenic	7440-38-2	0.001	mg/L	**0.001**	**0.001**	<0.001	**0.002**	**0.001**
Zinc	7440-66-6	0.005	mg/L	**0.033**	**0.020**	**0.019**	**0.032**	**0.011**
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	**0.03**	**0.03**	**0.04**	**0.04**	**0.37**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	C1	C2	C10	S4	S5
			Sampling date / time	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00	01-May-2025 00:00
Compound	*CAS Number*	*LOR*	*Unit*	**EW2502302-001**	**EW2502302-002**	**EW2502302-003**	**EW2502302-004**	**EW2502302-005**
				Result	Result	Result	Result	Result
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser - Continued								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.02**	**0.31**	**0.26**	**3.62**	**2.53**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.9**	**2.0**	**2.3**	**2.4**	**0.9**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.11**	**0.11**	**0.23**	**0.18**	**0.06**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**1.62**	**1.54**	**1.47**	**----**	**----**
ø Total Anions	----	0.01	meq/L	**----**	**----**	**----**	**6.80**	**43.3**
ø Total Cations	----	0.01	meq/L	**1.82**	**1.82**	**1.77**	**6.53**	**40.3**
ø Ionic Balance	----	0.01	%	**----**	**----**	**----**	**2.04**	**3.64**

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EA005P: pH by PC Titrator
(WATER) EA010P: Conductivity by PC Titrator
(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EK071G: Reactive Phosphorus as P by discrete analyser
(WATER) EK055G: Ammonia as N by Discrete Analyser
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser
(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) ED045G: Chloride by Discrete Analyser
(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA
(WATER) ED037P: Alkalinity by PC Titrator
(WATER) ED093F: Dissolved Major Cations
(WATER) EA025: Total Suspended Solids dried at 104 ± 2°C
(WATER) EG020T: Total Metals by ICP-MS
(WATER) EN055: Ionic Balance

Appendix I – Ground Water Monitoring

CERTIFICATE OF ANALYSIS

Work Order	: **EW2403152**	Page	: 1 of 4
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	: 02 42253125
Project	: Nowra Brickworks Quarry	Date Samples Received	: 05-Jul-2024 15:00
Order number	: SCCCR	Date Analysis Commenced	: 05-Jul-2024
C-O-C number	: ----	Issue Date	: 16-Jul-2024 16:33
Sampler	: Tom Roose		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 8		
No. of samples analysed	: 8		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Aneta Prosaroski	Environmental Services Representative	Laboratory - Wollongong, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **Analytical work for this work order will be conducted at ALS Sydney.**
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- pH performed by ALS Wollongong via in-house method EA005FD and EN67 PK.
- Electrical conductivity performed by ALS Wollongong via in-house method EA010FD and EN67 PK.
- Sampling and groundwater depth measurements completed by ALS Wollongong via inhouse sampling method EN/67.11 Groundwater Sampling Via Bailer Method.
- Sample collection of Ground Waters by in-house EN67 where the "surface layer of the aquifer was sampled".
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	P1	P2	P3	P4	P5
				Sampling date / time	05-Jul-2024 11:45	05-Jul-2024 00:00	05-Jul-2024 10:30	05-Jul-2024 11:00	05-Jul-2024 12:45
Compound	CAS Number	LOR	Unit		EW2403152-001	EW2403152-002	EW2403152-003	EW2403152-004	EW2403152-005
					Result	Result	Result	Result	Result
EA005FD: Field pH									
pH	----	0.1	pH Unit		7.0	----	7.4	7.0	8.2
EA010FD: Field Conductivity									
Electrical Conductivity (Non Compensated)	----	1	µS/cm		3460	----	388	351	612
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	----	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		197	----	33	25	199
Total Alkalinity as CaCO3	----	1	mg/L		197	----	33	25	199
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		121	----	52	27	56
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		958	----	46	39	30
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		58	----	10	8	67
Magnesium	7439-95-4	1	mg/L		83	----	7	5	19
Sodium	7440-23-5	1	mg/L		493	----	47	33	30
Potassium	7440-09-7	1	mg/L		9	----	2	2	4
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		33.5	----	3.04	2.16	5.99
ø Total Cations	----	0.01	meq/L		31.4	----	3.17	2.30	6.31
ø Ionic Balance	----	0.01	%		3.20	----	2.11	----	2.65
EN67 PK: Field Tests									
Field Observations	----	0.01	--		----	Destroyed	----	----	----
FWI-EN/001: Groundwater Sampling - Depth									
Depth	----	0.01	m		15.10	----	18.24	3.41	5.90

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Sample ID	P6	P7	P8	----	----
			Sampling date / time	05-Jul-2024 00:00	05-Jul-2024 00:00	05-Jul-2024 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**EW2403152-006**	**EW2403152-007**	**EW2403152-008**	--------	--------
				Result	Result	Result	----	----
EN67 PK: Field Tests								
Field Observations	----	0.01	--	**Not Accessible**	**Flooded**	**Destroyed**	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) ED045G: Chloride by Discrete Analyser

(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA

(WATER) ED037P: Alkalinity by PC Titrator

(WATER) ED093F: Dissolved Major Cations

(WATER) EN055: Ionic Balance

CERTIFICATE OF ANALYSIS

Work Order	: **EW2404567**	Page	: 1 of 5
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: Genaya Shepherd	Contact	Mechelle Sahyoun
Address	PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: +61 0421 790588	Telephone	02 42253125
Project	Nowra Brickworks - Bores	Date Samples Received	31-Oct-2024 16:30
Order number	GS	Date Analysis Commenced	31-Oct-2024
C-O-C number	: ----	Issue Date	08-Nov-2024 14:56
Sampler	: Tom Roose		
Site	----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	8		
No. of samples analysed	: 8		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Robert DaLio	Sampler	Laboratory - Wollongong, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- pH performed by ALS Wollongong via in-house method EA005FD and EN67 PK.
- Electrical conductivity performed by ALS Wollongong via in-house method EA010FD and EN67 PK.
- Sampling completed by ALS Wollongong in accordance with in-house sampling method EN/66.1 Sampling and Siting of Dust Deposition Gauges via Bailer Method.
- Sample collection of Ground Waters by in-house EN67 where the "surface layer of the aquifer was sampled".
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	P1	P2	P3	P4	P5
			Sampling date / time	31-Oct-2024 13:26	31-Oct-2024 00:00	31-Oct-2024 13:46	31-Oct-2024 00:00	31-Oct-2024 14:30
Compound	CAS Number	LOR	Unit	EW2404567-001	EW2404567-002	EW2404567-003	EW2404567-004	EW2404567-005
				Result	Result	Result	Result	Result
EA005FD: Field pH								
pH	----	0.1	pH Unit	7.5	----	7.4	----	8.2
EA010FD: Field Conductivity								
Electrical Conductivity (Non Compensated)	----	1	µS/cm	5200	----	8010	----	736
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	<1	----	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	<1	----	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	336	----	600	----	123
Total Alkalinity as CaCO3	----	1	mg/L	336	----	600	----	123
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	206	----	367	----	52
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	1220	----	1790	----	52
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	80	----	141	----	50
Magnesium	7439-95-4	1	mg/L	122	----	181	----	13
Sodium	7440-23-5	1	mg/L	751	----	1270	----	33
Potassium	7440-09-7	1	mg/L	13	----	12	----	4
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	45.4	----	70.1	----	5.01
ø Total Cations	----	0.01	meq/L	47.0	----	77.5	----	5.10
ø Ionic Balance	----	0.01	%	1.75	----	4.98	----	0.94
EN67 PK: Field Tests								
Field Observations	----	0.01	--	----	Destroyed	----	Dry	----
FWI-EN/001: Groundwater Sampling - Depth								
Depth	----	0.01	m	21.50	----	16.26	----	5.90

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	P6	P7	P8	----	----
				Sampling date / time	31-Oct-2024 00:00	31-Oct-2024 12:56	31-Oct-2024 00:00	----	----
Compound	CAS Number	LOR	Unit		EW2404567-006	EW2404567-007	EW2404567-008	--------	--------
					Result	Result	Result	----	----
EA005FD: Field pH									
pH	----	0.1	pH Unit		----	8.1	----	----	----
EA010FD: Field Conductivity									
Electrical Conductivity (Non Compensated)	----	1	µS/cm		----	5610	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		----	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		----	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		----	284	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		----	284	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		----	196	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		----	1410	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		----	165	----	----	----
Magnesium	7439-95-4	1	mg/L		----	154	----	----	----
Sodium	7440-23-5	1	mg/L		----	741	----	----	----
Potassium	7440-09-7	1	mg/L		----	12	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		----	49.5	----	----	----
ø Total Cations	----	0.01	meq/L		----	53.4	----	----	----
ø Ionic Balance	----	0.01	%		----	3.80	----	----	----
EN67 PK: Field Tests									
Field Observations	----	0.01	--		Not Accessible	----	Destroyed	----	----
FWI-EN/001: Groundwater Sampling - Depth									
Depth	----	0.01	m		----	14.21	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) ED045G: Chloride by Discrete Analyser

(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA

(WATER) ED037P: Alkalinity by PC Titrator

(WATER) ED093F: Dissolved Major Cations

(WATER) EN055: Ionic Balance

CERTIFICATE OF ANALYSIS

Work Order	: **EW2500090**	Page	: 1 of 5
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	: Mechelle Sahyoun
Address	: PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	: ----	Telephone	: 02 42253125
Project	: Nowra Brickworks - Bores	Date Samples Received	: 31-Jan-2025 15:00
Order number	: GS	Date Analysis Commenced	: 31-Jan-2025
C-O-C number	: ----	Issue Date	: 10-Feb-2025 11:58
Sampler	: Tom Roose		
Site	: ----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	: 8		
No. of samples analysed	: 8		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Aneta Prosaroski	Environmental Services Representative	Laboratory - Wollongong, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- pH performed by ALS Wollongong via in-house method EA005FD and EN67 PK.
- Electrical conductivity performed by ALS Wollongong via in-house method EA010FD and EN67 PK.
- Sampling and groundwater depth measurements completed by ALS Wollongong via inhouse sampling method EN/67.11 Groundwater Sampling bailer method.
- All field analysis performed by ALS Wollongong were completed at the time of sampling.
- Sample collection of Ground Waters by in-house EN67 where the "surface layer of the aquifer was sampled".
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	P1	P2	P3	P4	P5
			Sampling date / time	31-Jan-2025 11:10	31-Jan-2025 00:00	31-Jan-2025 00:00	31-Jan-2025 10:45	31-Jan-2025 11:34
Compound	CAS Number	LOR	Unit	EW2500090-001	EW2500090-002	EW2500090-003	EW2500090-004	EW2500090-005
				Result	Result	Result	Result	Result
EA005FD: Field pH								
pH	----	0.1	pH Unit	7.4	----	----	7.1	8.2
EA010FD: Field Conductivity								
Electrical Conductivity (Non Compensated)	----	1	µS/cm	999	----	----	3920	799
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	139	----	----	58	257
Total Alkalinity as CaCO3	----	1	mg/L	139	----	----	58	257
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	285	----	----	356	144
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	56	----	----	1330	43
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	31	----	----	16	102
Magnesium	7439-95-4	1	mg/L	19	----	----	71	26
Sodium	7440-23-5	1	mg/L	163	----	----	840	40
Potassium	7440-09-7	1	mg/L	7	----	----	3	7
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	10.3	----	----	46.1	9.34
ø Total Cations	----	0.01	meq/L	10.4	----	----	43.2	9.15
ø Ionic Balance	----	0.01	%	0.43	----	----	3.17	1.07
EN67 PK: Field Tests								
Field Observations	----	0.01	---	----	Destroyed	Destroyed	----	----
FWI-EN/001: Groundwater Sampling - Depth								
Depth	----	0.01	m	17.51	----	----	1.96	4.23

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	P6	P7	P8	----	----
			Sampling date / time	31-Jan-2025 00:00	31-Jan-2025 09:35	31-Jan-2025 00:00	----	----
Compound	CAS Number	LOR	Unit	EW2500090-006	EW2500090-007	EW2500090-008	--------	--------
				Result	Result	Result	----	----
EA005FD: Field pH								
pH	----	0.1	pH Unit	----	7.3	----	----	----
EA010FD: Field Conductivity								
Electrical Conductivity (Non Compensated)	----	1	µS/cm	----	3440	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	319	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	----	319	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	245	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	----	1170	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	125	----	----	----
Magnesium	7439-95-4	1	mg/L	----	109	----	----	----
Sodium	7440-23-5	1	mg/L	----	594	----	----	----
Potassium	7440-09-7	1	mg/L	----	10	----	----	----
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	----	44.5	----	----	----
ø Total Cations	----	0.01	meq/L	----	41.3	----	----	----
ø Ionic Balance	----	0.01	%	----	3.70	----	----	----
EN67 PK: Field Tests								
Field Observations	----	0.01	--	Not Accessible	----	Destroyed	----	----
FWI-EN/001: Groundwater Sampling - Depth								
Depth	----	0.01	m	----	1.30	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) ED045G: Chloride by Discrete Analyser

(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA

(WATER) ED037P: Alkalinity by PC Titrator

(WATER) ED093F: Dissolved Major Cations

(WATER) EN055: Ionic Balance

CERTIFICATE OF ANALYSIS

Work Order	: **EW2502171**	Page	1 of 5
Client	: **SCCCR QUARRIES**	Laboratory	: Environmental Division NSW South Coast
Contact	: SCCCR Info	Contact	Mechelle Sahyoun
Address	PO Box 121 Oak Flats 2529	Address	: 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia
Telephone	----	Telephone	02 42253125
Project	Nowra Brickworks - Bores	Date Samples Received	02-Jun-2025 11:40
Order number	GS	Date Analysis Commenced	30-May-2025
C-O-C number	: ----	Issue Date	11-Jun-2025 15:20
Sampler	: Tom Roose		
Site	----		
Quote number	: EW23SCCCRQ0002		
No. of samples received	8		
No. of samples analysed	: 8		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

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Signatories	*Position*	*Accreditation Category*
Aneta Prosaroski	Environmental Services Representative	Laboratory - Wollongong, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

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When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- pH performed by ALS Wollongong via in-house method EA005FD and EN67 PK.
- Electrical conductivity performed by ALS Wollongong via in-house method EA010FD and EN67 PK.
- Sampling and groundwater depth measurements completed by ALS Wollongong via inhouse sampling method EN/67.11 Groundwater Sampling Via Bailer Method.
- All field analysis performed by ALS Wollongong were completed at the time of sampling.
- Sample collection of Ground Waters by in-house EN67 where the "surface layer of the aquifer was sampled".
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	P1	P2	P3	P4	P5
			Sampling date / time	30-May-2025 09:45	30-May-2025 00:00	30-May-2025 10:30	30-May-2025 09:59	30-May-2025 00:00
Compound	CAS Number	LOR	Unit	EW2502171-001	EW2502171-002	EW2502171-003	EW2502171-004	EW2502171-005
				Result	Result	Result	Result	Result
EA005FD: Field pH								
pH	----	0.1	pH Unit	7.2	----	7.7	6.3	----
EA010FD: Field Conductivity								
Conductivity @ 25oC	----	1	µS/cm	7420	----	2270	345	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1700	----	193	27	----
Total Alkalinity as CaCO3	----	1	mg/L	1700	----	193	27	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	----	149	78	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	4000	----	759	30	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	261	----	52	13	----
Magnesium	7439-95-4	1	mg/L	410	----	61	7	----
Sodium	7440-23-5	1	mg/L	1960	----	453	40	----
Potassium	7440-09-7	1	mg/L	33	----	6	3	----
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	147	----	28.4	3.01	----
ø Total Cations	----	0.01	meq/L	133	----	27.5	3.04	----
ø Ionic Balance	----	0.01	%	4.98	----	1.60	0.52	----
EN67 PK: Field Tests								
Field Observations	----	0.01	-	----	Not Sampled - Destroyed	----	----	Not Sampled - Not Accessible
FWI-EN/001: Groundwater Sampling - Depth								
Depth	----	0.01	m	21.62	----	16.28	3.51	----

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	P6	P7	P8	----	----
				Sampling date / time	30-May-2025 00:00	30-May-2025 09:15	30-May-2025 00:00	----	----
					EW2502171-006	EW2502171-007	EW2502171-008	--------	--------
					Result	Result	Result	----	----
EA005FD: Field pH									
pH	----	0.1	pH Unit		----	7.7	----	----	----
EA010FD: Field Conductivity									
Conductivity @ 25oC	----	1	µS/cm		----	392	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		----	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		----	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		----	61	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		----	61	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		----	80	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		----	25	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		----	16	----	----	----
Magnesium	7439-95-4	1	mg/L		----	8	----	----	----
Sodium	7440-23-5	1	mg/L		----	47	----	----	----
Potassium	7440-09-7	1	mg/L		----	3	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		----	3.59	----	----	----
ø Total Cations	----	0.01	meq/L		----	3.58	----	----	----
ø Ionic Balance	----	0.01	%		----	0.16	----	----	----
EN67 PK: Field Tests									
Field Observations	----	0.01	-		Not Sampled - Not Accessible	----	Not Sampled - Destroyed	----	----
FWI-EN/001: Groundwater Sampling - Depth									
Depth	----	0.01	m		----	15.35	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) ED045G: Chloride by Discrete Analyser

(WATER) ED041G: Sulfate (Turbidimetric) as SO4 2- by DA

(WATER) ED037P: Alkalinity by PC Titrator

(WATER) ED093F: Dissolved Major Cations

(WATER) EN055: Ionic Balance

Appendix J – Contour Plans of Brickworks Quarry

VOLUME OF MATERIAL EXTRACTED 111,155m³
JULY 2024 - JUNE 2025

STOCKPILES

1 579m²
2 3157m²
3 556m²
4 47m²
5 94m²
6 208m²
7 6087m²
8 446m²
9 1394m²
10 1636m²
11 831m²
12 365m²
13 49m²
14 5226m²
15 93m²
16 108m²
17 199m²
18 62m²
19 102m²
20 183m²
21 199m²
22 657m²
23 472m²
24 516m²
25 246m²
26 6714m²
27 1012m²

LEGEND

- PREVIOUS REHABILITATED AREA
- NEW REHABILITATED AREA
- SHAPED EMPLACEMENT AREA
- SLOPE OVER 10° AND UNDER 18°
- ACCESS ROAD
- UNDISTURBED LAND

CONTROL	EASTING	NORTHING	RL
COORDINATE SYSTEM MGA 94 HEIGHT DATUM A.H.D.			
SSM 27776	281120.905	6132761.466	47.18
SSM-103837	281113.781	6132952.428	46.16

CEH Consulting Pty Ltd.
A.B.N. : 61 056 544 904
CONSULTING LAND, ENGINEERING AND MINING SURVEYORS. TOWN PLANNERS.
"THE LINK" 48 BAWN BAAN STREET, DAPTO, NSW 2530
PHONE: (02) 42 618566 FAX: (02) 42 618243

PLAN OF ML 5087 & ML 6322

NOWRA BRICKWORKS QUARRY

FOR SCCCR

DATE	04/07/2025	AMENDMENTS	SURVEY FILE	DRAWING No.
SURVEYOR	BM		DWG FILE	A1-D49-04072025
DRAWN	MS			SCALE 1:1500
CHECKED	MS			Sheet 1 of 1 Sheets

Appendix K – Complaints Register

SCCCR Quarries Complaints Register – 2024-2025

No	Date	Time	Mode of Complaint	Nature of Complaint	Complaint Comments	Action Taken
1						

No Complaints Recorded in reporting period.

Appendix L – VENM

Attached VENM certificates

WASTE CLASSIFICATION REPORT

Document Number	304000910_WC004_RevC	**Project Name**	Shoalhaven District Memorial Hospital Redevelopment – Acute Services Zone
Client Details	John Holland Group	**Client Contact**	Charlie McLeod
Site Contractor Details	N/A	**Contractor Contact**	N/A
Report Issuance Date	04/03/2024 – RevC – Updated to consider final cut volume; soil and rock volume and tonnage.		

WASTE GENERATION LOCATION

Site Address	Shoalhaven Street, Nowra NSW	Lot / DP	Part Lot 104 in DP1165533 Part Lot 373 in DP755952 Lot 7034 in DP1031852				
Local Government Authority	Shoalhaven City Council						
Current Land Use Zoning [1]	SP2: Infrastructure	Site Map Attached	☒	Yes	☐	No	
Site History	The site has predominantly been used for open space / park until the expansion of Shoalhaven Hospital in the late 1990's to early 2000's. Since this time the site area has been a landscaped area of the Shoalhaven Hospital grounds. For the purposes of advancing the early works for the Shoalhaven Hospital Redevelopment, John Holland Group require an in-situ waste classification assessment to be completed for underlying soils within the area stipulated in **Appendix A**. Sample locations are also depicted in **Appendix A**. Stantec (then Cardno) has previously undertaken contamination and geotechnical Preliminary and Detailed Site Investigations of this site as part of the planning and approvals process prior to the construction.						
Site Observations at Time of Sampling	The material was sampled in-situ via excavation of boreholes and test pits across an approximate 1.065ha site area adjacent to Shoalhaven Street. Refer to **Appendix B - Photographs** for details.						
Surrounding land use at sampling location	☒ North	Shoalhaven Hospital, with the Shoalhaven River beyond.					
	☒ South	Shoalhaven Community Preschool, public recreation (Nowra Recreation Park), and North Street and low residential housing beyond.					
	☒ East	Shoalhaven Street, and low-density residential housing beyond.					
	☒ West	Shoalhaven Hospital, and Scenic Drive and the Shoalhaven River beyond.					
Acid Sulfate Soil Risk	Acid Sulfate Soils (ASS) risk mapping was reviewed via NSW EPA eSpade v.2.1 online viewer, accessed on 26/06/2023. The source of materials is mapped as being an area with no mapped acid sulfate soils to date. Indicators of Acid Sulfate Soils (i.e. odour, discolouration) were not observed during field work.						
Proposed Site Use	Interim site use: Construction for the Shoalhaven Hospital Redevelopment, to include approximate final bulk excavation levels to elevations of between 17.75 and 14.19 mAHD or 0.25 to 7 m below pre-construction ground levels. Elevations and depths derived from Bulk Earthworks Overall Plan (Drawing Number-SHR-MHT-STW-DRG-CIV-10X001, Issue 08, Dated 13/09/2023) Final site use: Parkland and infrastructure to service the Shoalhaven Hospital, the new Acute Services Building, including access roads.						

WASTE LOCATION ON THE SITE

Is This an In-situ or Stockpile Waste Classification?	In-situ Waste Classification						
Waste Location Shown on Figure Attached?		☒	Yes	☐	No	Figure No.	Appendix A - Figure 1

Sample Identification Numbers	Samples were collected at the depths being assessed in this classification, from eight test pits, identified below and advanced over one sampling event undertaken on the 14 June 2023. Overlying soils, consisting of Silty SAND (Topsoil to approx. 0.1 m), Clayey SAND (reworked natural soils to approx. (0.4 m) and Gravelly Silty SAND (fill beneath former helipad to approx. 0.9m) were classified separately (Ref 304000910_WC003_RevC_APZ-GSW). Overlying soils (surface to 0.4 mbgl, except for helipad fill which was included to 0.9 mbgl) were assessed from 20 locations over three sampling events, 17-22 June 2021, 21-23 March 2022 and 14 June 2023. This included three geotechnical boreholes (BH02, BH03 and BH04) advanced into underlying bedrock to depths between 6.48 and 7.00 m below ground level. PAH impacted soils at TP206 were included in this waste classification (WC003 noted above) and recommended for segregation from potential VENM.		
	▪ TP205 ▪ TP206 ▪ TP207	▪ TP209 ▪ TP210 ▪ TP211	▪ TP212 ▪ TP213

WASTE MATERIAL CHARACTERISATION

Soil Description	Subject material	
	TP205_0.4	Silty SAND, brown, fine grained, well sorted, loose, no odour.
	TP206_0.4	Silty CLAY, brown mottled red-grey, medium plasticity, trace gravel, no odour.
	TP207_2.0	Sandy CLAY, red-grey-brown mottling, medium plasticity, gap graded, moderately stiff, dry.
	TP209_1.2	Gravelly CLAY, brown, medium plasticity, trace sand, no odour.
	TP210_0.5	Clayey SAND, brown, fine grained, loose, poorly graded, no odour, trace rootlets.
	TP210_1.3	Silty CLAY, red mottled grey and brown, medium to high plasticity, trace gravel.
	TP211_1.5	Silty CLAY, red-grey-brown mottling, medium to high plasticity, soft, minor gravel, dry.
	TP212_0.4	Clayey SAND, brown, loose, fine grained, poorly graded, trace rootlets, no odour.
	TP212_1.5	Silty CLAY, red-grey-brown mottling, medium to high plasticity, soft, minor gravel, dry.
	TP213_1.5	Silty CLAY, red-grey-brown mottling, medium to high plasticity, soft, minor gravel, dry.
	TP213_2.0	Silty CLAY, red-grey-brown mottling, medium to high plasticity, soft, minor gravel, dry.
	Sandstone bedrock underlying the above-described soils to the depth of assessment has also been considered. The sandstone bedrock is encountered at a depth of approximately 1.9 to 2.5m below ground level across the site (based on Stantec geotechnical boreholes BH02, BH03 and BH04) and has been described as: SANDSTONE: medium to coarse grained, bedded, pale grey stained orange-brown to red-brown, medium to high strength, slightly to moderately weathered with <10 cm bands of highly weathered. Except for limited seepage / wet soil at approximately 2.2 m bgl observed at BH02, no permanent groundwater was encountered at any sample location. This material is only considered VENM where: ▪ There is no evidence of previously unidentified onsite contamination sources; ▪ There is no evidence of previous material disturbance; and ▪ It remains above groundwater level, which may provide an avenue for lateral migration of offsite contamination sources.	

Estimated Waste Volume	Overlying soil material - 15,975 m^3 estimated to be approximately 25,560 tonnes Bedrock material – 7537.5 m^3, estimated to be approximately 15,075 tonnes Total estimated volume – 23,512.5 m^3 and total estimated tonnage – 40,635 tonnes

Source and Dimensions of Volume Information	Detailed information on expected volumes of bulk cut, depth of soil and depth of rock has not been provided, total volumes and weights have been estimated based on the method below. Total volume of soil materials has been estimated based on the area indicated on the Figure in Appendix A and the excavation to an average depth of approximately 1.9 m Shoalhaven Hospital Redevelopment Acute Services Zone, excluding the upper 0.4 m of natural soil which has been classified separately (Ref 304000910_WC003_RevC_APZ-GSW). 10,650 m^2 x 1.5 m depth = 15,975 m^3: 15,975 m^3 x 1.6 t/m^3 = 25,560 tonnes Conversion from m^3 to tonnes is 1.6 t/m^3 default value based on NSW EPA Application for a deduction for using waste for operational purposes (Nov. 2014). Total volume of the weathered sandstone rock materials have been estimated based on the footprint of the proposed Acute Services building, where pre-construction ground surface is between 20 and 24 m AHD (3,015m^2). Conservatively, a depth to rock of 2.5 m below ground level has been applied across this area. Based on indicated bulk excavation depths in this area (3.35 to 6.94 m) the total rock cut in this area has been estimated to between 0.85 and 4.44 m, with an average of 2.5 m. 3,015 m^2 x 2.5 m depth = 7,537.5 m^3 7,537.5 m^3 x 2.0 t/m3 = 15,075 t Conversion from m^3 to tonnes is 2.0 t/m^3 based on the indicated unit weight for Sandstone - Residual soil provided within Bertuzzi & Pells (2002) *Geotechnical Parameters of Sydney Sandstone and Shale*.
Waste Sampling Method [2]	The soils to the rock surface were sampled by test pitting using a 5-tonne excavator. Test pits were excavated to a minimum of 500 mm below ground level and were terminated at refusal on inferred rock surface. Grab samples of soil were collected using dedicated nitrile gloves direct from the excavator bucket, careful to collect soils that had not been in contact with the excavator bucket directly and transferred to laboratory supplied containers and stored in chilled containers for transport to the laboratory. The rock was not sampled or analysed as the overburden soils were tested for contamination. The depth of groundwater was assessed to determine the potential for lateral migration of contamination into the rock. No groundwater was encountered above the maximum depth of investigation (10 m at locations during the detailed geotechnical investigation) within the assessment area.
Number of Samples Analysed	Ten (10) primary soil samples were collected from in-situ soils.
Sample Analysis Identification	▪ Ten (10) primary soil samples were collected from soils and analysed for total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylenes (BTEX), polycyclic aromatic hydrocarbons (PAH), and metals including lead, arsenic, cadmium, chromium, mercury, copper, zinc and nickel. ▪ Two (2) primary soil samples were collected from soils and analysed for organochlorine and organophosphorus pesticides (OCP / OPP). ▪ Six (6) primary soil samples were analysed for the presence of asbestos.
Quality Control Procedure	The samples were collected by a suitably qualified and experienced environmental geoscientist in accordance with NSW EPA endorsed guidelines and methodologies. Soil samples were collected using dedicated and un-used nitrile gloves and placed into a new and clean 250g laboratory supplied glass jar with Teflon lined screw-on cap, and zip-locked plastic bags. Headspace was minimised as much as possible in sample jars to prevent volatilisation of contaminants. The samples were immediately stored in a chilled esky on-site and during transit to a National Association of Testing Authorities, Australia (NATA) accredited laboratory under Chain-of-Custody documentation.
Sampling Dates	14 June 2023
Primary Laboratory	Eurofins (NATA-accredited)
Secondary Laboratory	Envirolab Services (NATA-accredited)

MATERIAL SUITABILITY FOR BENEFICIAL ON-SITE RE-USE					
Has a site suitability assessment been undertaken?		☐	Yes	☒	No

MATERIAL SUITABILITY FOR BENEFICIAL OFF-SITE RE-USE					
Has an offsite beneficial reuse assessment been undertaken?		☒	Yes	☐	No
Do the waste materials meet the requirements of a NSW EPA issued Resource Recovery Order?	Not applicable.				
Comment:	The material has been assessed against the requirements of the Protection of the Environment Operations Act 1997 for Virgin Excavated Natural Material (VENM). The material considered to be VENM includes the following: ▪ Soils below 0.4 m bgl described as - Sandy CLAY to Silty CLAY, red-grey-brown mottling, medium to high plasticity, soft to moderately stiff, dry. ▪ Rock from approximately 1.9 to 2.5 m bgl to the base of excavation which is reported to extend to 17.75 and 14.19 mAHD or 0.25 to 7 m below pre-construction ground levels, described as – SANDSTONE, medium to coarse grained, bedded, pale grey stained orange-brown to red-brown, slightly to moderately weathered with <10 cm bands of highly weathered. The above-described materials are only considered VENM where: ▪ There is no evidence of previously unidentified onsite contamination sources; ▪ There is no evidence of previous material disturbance (i.e. reworking); and ▪ It remains above groundwater level. Rock or materials below ground water level are not classified in this report and would be subject to an assessment of groundwater quality., which may provide an avenue for lateral migration of offsite contamination sources. **Are manufactured chemicals or process residues present?** No historical evidence of manufacturing activities have been identified from site history information. Analysis results from soils as part of this assessment and overlying (Report Ref 304000910_WC003) contained no organic contaminants (TRH, BTEX, PAH, OCP and OPP) above limits of reporting with the exception of PAH at TP206_0.4 mbgl, inferred to be from charcoal impact associated with historical fire or burning at this location. This classification only applies to materials below 0.4 mbgl and not containing charcoal, ash or other combustion byproducts. Metals analysis identified all results below the criteria specified within the NSW EPA (2014) Excavated natural material Order and consistent with expected background concentrations. **Are sulfidic ores or soils present?** The site is no in an area of ASS risk and no evidence of ASS or sulfidic materials has been observed. **Is any other waste present?** Materials were undisturbed at the time of assessment; no waste or anthropogenic materials were observed other than charcoal observed at TP206_0.4 whose volume has been excluded from this classification. **Are naturally occurring asbestos soils present?** The site is not located in an area of naturally occurring asbestos risk				

CLASSIFICATION FOR OFF-SITE DISPOSAL	
NSW EPA Waste Classification Steps	
Step 1 – Is the waste special waste?	No
Step 2 – Is the waste liquid waste?	No
Step 3 – Is the waste pre-classified?	Yes – VENM is pre-classified as GSW
Step 4 – Are hazardous substances present?	No
Step 5 – Is chemical assessment required?	Yes
Analytical Certificates of Analyses attached?	Yes

Waste Classification [4]	Assessed Chemical Class	Soils and rock as described: General Solid Waste (Non-putrescible) – Pre-classified Virgin Excavated Natural Material
	Special Waste	Not applicable.
	Scheduled Waste	Not applicable.
Classification Comments	The soil and rock, described above, from 0.4 m below ground level, not previously disturbed (either as emplacement as fill or re-working in-situ), not impacted by unidentified contamination sources and above groundwater level, is considered to be classified as General Solid Waste (Non-putrescible) and Virgin Excavated Natural Material based on: ▪ The soil and rock described above meeting the requirements of Virgin Excavated Natural Material outlined within the POEO Act 1997. ▪ The concentration of contaminants analysed being less than or equal to CT1 criteria and VENM being pre-classified as General Solid Waste. ▪ No detection of organic contaminants above the Limits of Reporting; ▪ No asbestos was observed within the soil and rock, described above or detected in any of the collected and analysed samples. ▪ The soil and rock described above are not considered to contain acid sulfate soils based on laboratory screening analysis. During load out for off-site disposal, if any material is not consistent with observations in this report has been identified, work must be stopped to allow assessment by a suitably qualified environmental consultant.	
Disposal Options [5,6,7]	Suitable for disposal at premises licensed to receive: **VIRGIN EXCAVATED NATURAL MATERIAL**	

Report Author

C. Cook

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Report Reviewer

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Notes and Limitations	
1	Current land use zoning is based on NSW government ePlanning Spatial Viewer.
2	Sampling methodology in accordance with Stantec Pty Ltd Standard Operating Procedures and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (As amended 2013).
3	Site Acceptance Criteria in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 (As amended 2013), Schedule B2.
4	Waste Classification in accordance with the NSW Environment Protection Authority (EPA) Waste Classification Guidelines, Part 1: Classifying waste, November 2014; and Addendum to the Waste Classification Guidelines (2014) - Part 1: classifying waste, October 2016 (Re.: PFOS, PFHxS and PFOA).
5	The Protection of the Environment (POEO) Act 1997, Section 143 makes it an offence to transport waste to a place that cannot lawfully be used as a waste facility for that waste.
6	The Protection of the Environment (POEO) Act 1997, Section 144AA states that a person who supplies information about waste to another person in the course of dealing with the waste, being information that is false or misleading in a material respect, is guilty of an offence.
7	Asbestos waste has specific transportation and management requirements outlined in Part 7 of the Protection of the Environment (Waste) Regulation 2014 and the NSW EPA Asbestos and Waste Tyres Guidelines, October 2015 including requirements to use the NSW EPA Waste Locate (i.e. online tool developed by the EPA for reporting on the location and movement of certain waste types). Generators and transports must follow these requirements.

STATEMENT OF LIMITATIONS

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Delta Group						Aug-24		
Shoalhaven Hospital - Nowra						Delivered		
						Order Number:		
Docket No	**Date**	**Time**	**Client Name**	**Goods**	**Rego**	**Gross**	**Tare**	**Net**
265828	9/08/2024	8:24:24	Delta Group	InVENM	XN64RS	27.24	12.16	15.08
265844	9/08/2024	8:57:50	Delta Group	InVENM	CI31FI	30.56	12.02	18.54
265848	9/08/2024	9:12:57	Delta Group	InVENM	XN64RS	30.52	12.16	18.36
265855	9/08/2024	9:34:24	Delta Group	InVENM	CI31FI	28.44	12.02	16.42
265875	9/08/2024	10:38:22	Delta Group	InVENM	CI31FI	31.46	12.02	19.44
265883	9/08/2024	11:09:50	Delta Group	InVENM	XN64RS	32.7	12.16	20.54
265890	9/08/2024	11:35:01	Delta Group	InVENM	CI31FI	32.3	12.02	20.28
265896	9/08/2024	12:01:58	Delta Group	InVENM	XN64RS	32.44	12.16	20.28
265903	9/08/2024	12:37:52	Delta Group	InVENM	CI31FI	32.84	12.02	20.82
265910	9/08/2024	13:26:46	Delta Group	InVENM	XN64RS	31.26	12.16	19.1
265911	9/08/2024	13:35:10	Delta Group	InVENM	CI31FI	29.3	12.02	17.28
265914	9/08/2024	14:13:24	Delta Group	InVENM	XN64RS	29.56	12.16	17.4
265918	9/08/2024	14:29:26	Delta Group	InVENM	CI31FI	30.58	12.02	18.56
267512	28/08/2024	7:30:00	Delta Group	InVENM	XN64RS	28.6	12.16	16.44
267518	28/08/2024	7:41:21	Delta Group	InVENM	XN31MX	27.56	12	15.56
267519	28/08/2024	7:46:24	Delta Group	InVENM	CI31FI	28.36	12.02	16.34
267525	28/08/2024	8:06:08	Delta Group	InVENM	XN77IM	25.62	13.2	12.42
267528	28/08/2024	8:13:46	Delta Group	InVENM	XN64RS	30.94	12.16	18.78
267533	28/08/2024	8:35:40	Delta Group	InVENM	XN31MX	30.56	12	18.56
267535	28/08/2024	8:39:02	Delta Group	InVENM	CI31FI	31.5	12.02	19.48
267539	28/08/2024	8:48:05	Delta Group	InVENM	XN77IM	32.22	13.2	19.02
267545	28/08/2024	9:03:33	Delta Group	InVENM	XN64RS	33.66	12.16	21.5
267552	28/08/2024	9:29:31	Delta Group	InVENM	XN31MX	28.72	12	16.72
267557	28/08/2024	9:41:10	Delta Group	InVENM	CI31FI	29.04	12.02	17.02
267561	28/08/2024	9:46:57	Delta Group	InVENM	XN77IM	26.58	13.2	13.38
267564	28/08/2024	10:00:00	Delta Group	InVENM	XN64RS	29.68	12.16	17.52
267569	28/08/2024	10:20:10	Delta Group	InVENM	XN31MX	32.56	12	20.56
267572	28/08/2024	10:25:02	Delta Group	InVENM	CI31FI	32.94	12.02	20.92
267574	28/08/2024	10:31:09	Delta Group	InVENM	XN77IM	30.52	13.2	17.32
267580	28/08/2024	10:43:23	Delta Group	InVENM	XN64RS	30.34	12.16	18.18
267586	28/08/2024	11:02:30	Delta Group	InVENM	XN31MX	30.36	12	18.36
267591	28/08/2024	11:14:16	Delta Group	InVENM	XN64RS	31.36	12.16	19.2
267595	28/08/2024	11:18:24	Delta Group	InVENM	XN77IM	31.42	13.2	18.22
267597	28/08/2024	11:28:14	Delta Group	InVENM	XN64RS	32.48	12.16	20.32
267603	28/08/2024	11:48:29	Delta Group	InVENM	XN31MX	21.86	12	9.86
267605	28/08/2024	11:58:19	Delta Group	InVENM	CI31FI	31.74	12.02	19.72
267609	28/08/2024	12:15:59	Delta Group	InVENM	XN77IM	31.56	13.2	18.36
267611	28/08/2024	12:24:40	Delta Group	InVENM	XN64RS	30.88	12.16	18.72
267619	28/08/2024	12:56:24	Delta Group	InVENM	XN77IM	32.04	13.2	18.84
267623	28/08/2024	13:08:28	Delta Group	InVENM	XN64RS	30.2	12.16	18.04
267625	28/08/2024	13:12:16	Delta Group	InVENM	XN31MX	29.98	12	17.98
267627	28/08/2024	13:17:36	Delta Group	InVENM	CI31FI	31.26	12.02	19.24
267633	28/08/2024	13:36:12	Delta Group	InVENM	XN77IM	29.68	13.2	16.48
267641	28/08/2024	13:55:40	Delta Group	InVENM	XN31MX	30.06	12	18.06
267643	28/08/2024	14:02:34	Delta Group	InVENM	CI31FI	30.7	12.02	18.68
267650	28/08/2024	14:14:36	Delta Group	InVENM	XN77IM	30.16	13.2	16.96
267653	28/08/2024	14:19:05	Delta Group	InVENM	XN64RS	31.9	12.16	19.74
267660	28/08/2024	14:42:15	Delta Group	InVENM	XN31MX	32.98	12	20.98
267664	28/08/2024	14:53:10	Delta Group	InVENM	CI31FI	32.08	12.02	20.06
267667	28/08/2024	14:57:56	Delta Group	InVENM	XN77IM	32.74	13.2	19.54

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Delta Group						Jul-24		
Shoalhaven Hospital - Nowra						Delivered		
						Order Number:		
Docket No	**Date**	**Time**	**Client Name**	**Goods**	**Rego**	**Gross**	**Tare**	**Net**
263093	17/07/2024	7:39:50	Delta Group	InVENM	SXO96AU*	36.56	16.3	20.26
263096	17/07/2024	7:46:19	Delta Group	InVENM	SXN04EZ*	33.18	16.4	16.78
263101	17/07/2024	7:52:54	Delta Group	InVENM	SXN28XM*	32.64	18.4	14.24
263103	17/07/2024	7:56:30	Delta Group	InVENM	SXO00NK*	31.54	18.4	13.14
263116	17/07/2024	8:18:24	Delta Group	InVENM	SXN15AB*	33.06	17.7	15.36
263136	17/07/2024	8:42:46	Delta Group	InVENM	SXO14NK*	33.9	17.5	16.4
263145	17/07/2024	9:05:27	Delta Group	InVENM	SXN04EZ*	39.64	16.4	23.24
263148	17/07/2024	9:12:56	Delta Group	InVENM	SXO96AU*	36.04	16.3	19.74
263153	17/07/2024	9:28:25	Delta Group	InVENM	SXN15AB*	37.14	17.7	19.44
263154	17/07/2024	9:33:35	Delta Group	InVENM	SXO00NK*	38.62	18.4	20.22
263155	17/07/2024	9:36:49	Delta Group	InVENM	SXN28XM*	38.32	18.4	19.92
263157	17/07/2024	9:44:59	Delta Group	InVENM	SXO14NK*	36.82	17.5	19.32
263163	17/07/2024	9:57:17	Delta Group	InVENM	SXN04EZ*	38.82	16.4	22.42
263192	17/07/2024	10:36:44	Delta Group	InVENM	SXN15AB*	41.02	17.7	23.32
263194	17/07/2024	10:37:44	Delta Group	InVENM	SXO00NK*	40.38	18.4	21.98
263199	17/07/2024	10:47:33	Delta Group	InVENM	SXO14NK*	38.62	17.5	21.12
263204	17/07/2024	10:54:36	Delta Group	InVENM	SXN28XM*	42.96	18.4	24.56
263210	17/07/2024	11:01:49	Delta Group	InVENM	SXN04EZ*	40.74	16.4	24.34
263233	17/07/2024	11:35:34	Delta Group	InVENM	SXO00NK*	39.22	18.4	20.82
263241	17/07/2024	11:48:52	Delta Group	InVENM	SXN15AB*	38.72	17.7	21.02
263246	17/07/2024	11:54:25	Delta Group	InVENM	SXN28XM*	43.04	18.4	24.64
263247	17/07/2024	12:00:56	Delta Group	InVENM	SXO14NK*	41.64	17.5	24.14
263255	17/07/2024	12:10:07	Delta Group	InVENM	SXN04EZ*	42.26	16.4	25.86
263266	17/07/2024	12:23:44	Delta Group	InVENM	SXO91TR*	39.24	15.7	23.54
263275	17/07/2024	12:38:16	Delta Group	InVENM	SXO00NK*	40.08	18.4	21.68
263277	17/07/2024	12:51:12	Delta Group	InVENM	SXN28XM*	40.22	18.4	21.82
263279	17/07/2024	12:58:16	Delta Group	InVENM	SXN15AB*	36.6	17.7	18.9
263283	17/07/2024	13:05:03	Delta Group	InVENM	SXO14NK*	38.76	17.5	21.26
263286	17/07/2024	13:11:06	Delta Group	InVENM	SXN04EZ*	37.04	16.4	20.64
263298	17/07/2024	14:39:52	Delta Group	InVENM	SXO91TR*	41.76	15.7	26.06
263303	17/07/2024	14:53:49	Delta Group	InVENM	SXO00NK*	39.4	18.4	21
263304	17/07/2024	14:57:19	Delta Group	InVENM	SXN28XM*	39.92	18.4	21.52
263307	17/07/2024	15:03:59	Delta Group	InVENM	SXO14NK*	38.04	17.5	20.54
263311	17/07/2024	15:24:33	Delta Group	InVENM	SXN04EZ*	40.34	16.4	23.94
263314	17/07/2024	15:49:49	Delta Group	InVENM	SXO00NK*	41.48	18.4	23.08
263317	17/07/2024	15:59:14	Delta Group	InVENM	SXO14NK*	40.32	17.5	22.82
263612	22/07/2024	7:49:59	Delta Group	InVENM	AZ50GW	18.38	11.4	6.98
263614	22/07/2024	7:52:02	Delta Group	InVENM	XO73BM	20.08	10.94	9.14
263629	22/07/2024	8:21:56	Delta Group	InVENM	AZ50GW	19.8	11.4	8.4
263632	22/07/2024	8:30:14	Delta Group	InVENM	XO73BM	22.3	10.94	11.36
263642	22/07/2024	9:11:39	Delta Group	InVENM	AZ50GW	20.88	11.4	9.48
263645	22/07/2024	9:14:33	Delta Group	InVENM	XO73BM	22.62	10.94	11.68
263668	22/07/2024	10:14:23	Delta Group	InVENM	AZ50GW	21.38	11.4	9.98
263670	22/07/2024	10:16:34	Delta Group	InVENM	XO73BM	21.52	10.94	10.58
263681	22/07/2024	10:54:02	Delta Group	InVENM	AZ50GW	22.36	11.4	10.96
263682	22/07/2024	10:57:39	Delta Group	InVENM	XO73BM	21.62	10.94	10.68
263697	22/07/2024	11:34:10	Delta Group	InVENM	AZ50GW	21.56	11.4	10.16
263699	22/07/2024	11:36:31	Delta Group	InVENM	XO73BM	21.22	10.94	10.28
263714	22/07/2024	12:13:33	Delta Group	InVENM	AZ50GW	21.42	11.4	10.02

263717	22/07/2024	12:20:46	Delta Group	InVENM	XO73BM	21.56	10.94	10.62
263725	22/07/2024	12:50:48	Delta Group	InVENM	AZ50GW	22.5	11.4	11.1
263732	22/07/2024	13:08:24	Delta Group	InVENM	XO73BM	22.44	10.94	11.5
263748	22/07/2024	13:50:38	Delta Group	InVENM	XO73BM	22.16	10.94	11.22
263750	22/07/2024	13:52:58	Delta Group	InVENM	AZ50GW	20.64	11.4	9.24
263763	22/07/2024	14:32:18	Delta Group	InVENM	XO37BM	23.4	10.88	12.52
263764	22/07/2024	14:33:37	Delta Group	InVENM	AZ50GW	20.44	11.4	9.04
263774	22/07/2024	15:15:40	Delta Group	InVENM	XO73BM	23.6	10.94	12.66
263775	22/07/2024	15:17:02	Delta Group	InVENM	AZ50GW	21.4	11.4	10
263786	22/07/2024	15:58:49	Delta Group	InVENM	XO73BM	21.32	10.94	10.38
263787	22/07/2024	16:00:09	Delta Group	InVENM	AZ50GW	20.12	11.4	8.72
263953	24/07/2024	7:31:01	Delta Group	InVENM	AK04VT	24.36	10.96	13.4
263955	24/07/2024	7:38:14	Delta Group	InVENM	XN06PM	26.6	12.74	13.86
263956	24/07/2024	7:39:18	Delta Group	InVENM	JGT409	21.58	11.18	10.4
263958	24/07/2024	7:41:55	Delta Group	InVENM	AZ50GW	19.22	11.4	7.82
263961	24/07/2024	8:02:11	Delta Group	InVENM	XN67UN	21.22	10.08	11.14
263967	24/07/2024	8:26:36	Delta Group	InVENM	AK04VT	22.84	10.96	11.88
263971	24/07/2024	8:33:00	Delta Group	InVENM	JGT409	22.08	11.18	10.9
263973	24/07/2024	8:38:53	Delta Group	InVENM	XN06PM	24.44	12.74	11.7
263975	24/07/2024	8:47:07	Delta Group	InVENM	AZ50GW	19.98	11.4	8.58
263976	24/07/2024	8:51:00	Delta Group	InVENM	XN67UN	20.14	10.08	10.06
263983	24/07/2024	9:16:08	Delta Group	InVENM	AK04VT	22.76	10.96	11.8
263984	24/07/2024	9:22:30	Delta Group	InVENM	JGT409	21.54	11.18	10.36
263987	24/07/2024	9:31:34	Delta Group	InVENM	XN06PM	22.52	12.74	9.78
263991	24/07/2024	9:36:45	Delta Group	InVENM	XN67UN	19.84	10.08	9.76
263994	24/07/2024	9:40:53	Delta Group	InVENM	AZ50GW	21.34	11.4	9.94
263998	24/07/2024	10:09:10	Delta Group	InVENM	AK04VT	21.74	10.96	10.78
264000	24/07/2024	10:16:07	Delta Group	InVENM	JGT409	24.06	11.18	12.88
264003	24/07/2024	10:23:56	Delta Group	InVENM	XN06PM	23.32	12.74	10.58
264005	24/07/2024	10:27:06	Delta Group	InVENM	AZ50GW	20.92	11.4	9.52
264007	24/07/2024	10:33:59	Delta Group	InVENM	XN67UN	20.72	10.08	10.64
264013	24/07/2024	10:51:18	Delta Group	InVENM	AK04VT	21.06	10.96	10.1
264019	24/07/2024	11:02:29	Delta Group	InVENM	JGT409	22.68	11.18	11.5
264022	24/07/2024	11:06:11	Delta Group	InVENM	XN06PM	25.34	12.74	12.6
264024	24/07/2024	11:10:27	Delta Group	InVENM	AZ50GW	21.46	11.4	10.06
264025	24/07/2024	11:19:04	Delta Group	InVENM	XN67UN	21.52	10.08	11.44
264032	24/07/2024	11:34:13	Delta Group	InVENM	AK04VT	20.82	10.96	9.86
264036	24/07/2024	11:42:50	Delta Group	InVENM	JGT409	22.8	11.18	11.62
264040	24/07/2024	11:50:59	Delta Group	InVENM	XN06PM	28.1	12.74	15.36
264042	24/07/2024	11:54:36	Delta Group	InVENM	AZ50GW	19.96	11.4	8.56
264044	24/07/2024	12:02:24	Delta Group	InVENM	XN67UN	20.92	10.08	10.84
264055	24/07/2024	12:35:21	Delta Group	InVENM	JGT409	22.86	11.18	11.68
264064	24/07/2024	13:13:33	Delta Group	InVENM	XN67UN	21.94	10.08	11.86
264069	24/07/2024	13:19:53	Delta Group	InVENM	AK04VT	23.84	10.96	12.88
264070	24/07/2024	13:25:34	Delta Group	InVENM	JGT409	24.6	11.18	13.42
264082	24/07/2024	14:08:52	Delta Group	InVENM	XN67UN	22.08	10.08	12
264084	24/07/2024	14:13:12	Delta Group	InVENM	AK04VT	22.2	10.96	11.24
264086	24/07/2024	14:15:17	Delta Group	InVENM	XN06PM	24.74	12.74	12
264089	24/07/2024	14:21:08	Delta Group	InVENM	AZ50GW	20.7	11.4	9.3
264099	24/07/2024	15:00:43	Delta Group	InVENM	AK04VT	23.48	10.96	12.52
264101	24/07/2024	15:10:45	Delta Group	InVENM	XN06PM	24.5	12.74	11.76
264104	24/07/2024	15:22:40	Delta Group	InVENM	XN67UN	23.18	10.08	13.1
264107	24/07/2024	15:28:47	Delta Group	InVENM	AZ50GW	20.62	11.4	9.22
264283	26/07/2024	7:47:42	Delta Group	InVENM	XN96DZ	22.14	11.84	10.3
264285	26/07/2024	7:51:05	Delta Group	InVENM	XO91SZ	23.52	11.12	12.4
264287	26/07/2024	7:53:50	Delta Group	InVENM	XO65TR	21.92	10.76	11.16
264289	26/07/2024	7:56:41	Delta Group	InVENM	XN46JR	21.22	10.66	10.56
264290	26/07/2024	7:57:34	Delta Group	InVENM	AZ50GW	19.9	11.4	8.5
264295	26/07/2024	8:05:06	Delta Group	InVENM	XO73BM	20.9	10.94	9.96
264300	26/07/2024	8:18:46	Delta Group	InVENM	XN96DZ	21.96	11.84	10.12
264302	26/07/2024	8:27:27	Delta Group	InVENM	XO65TR	21.04	10.76	10.28

264304	26/07/2024	8:40:57	Delta Group	InVENM	XN46JR	21.64	10.66	10.98
264306	26/07/2024	8:46:15	Delta Group	InVENM	XO91SZ	22.06	11.12	10.94
264311	26/07/2024	8:58:43	Delta Group	InVENM	AZ50GW	19.64	11.4	8.24
264313	26/07/2024	9:00:23	Delta Group	InVENM	XO73BM	21.46	10.94	10.52
264315	26/07/2024	9:04:52	Delta Group	InVENM	XN96DZ	22.44	11.84	10.6
264319	26/07/2024	9:14:43	Delta Group	InVENM	XO65TR	21.14	10.76	10.38
264322	26/07/2024	9:22:27	Delta Group	InVENM	XN46JR	21.58	10.66	10.92
264327	26/07/2024	9:31:22	Delta Group	InVENM	XO91SZ	18.06	11.12	6.94
264335	26/07/2024	9:57:41	Delta Group	InVENM	XN96DZ	21.96	11.84	10.12
264336	26/07/2024	9:59:52	Delta Group	InVENM	AZ50GW	19.46	11.4	8.06
264337	26/07/2024	10:00:46	Delta Group	InVENM	XO73BM	21.9	10.94	10.96
264339	26/07/2024	10:06:50	Delta Group	InVENM	XO65TR	21.06	10.76	10.3
264340	26/07/2024	10:10:01	Delta Group	InVENM	XO45CH	20.12	8.4	11.72
264344	26/07/2024	10:16:28	Delta Group	InVENM	XN46JR	21.84	10.66	11.18
264349	26/07/2024	10:23:52	Delta Group	InVENM	XO91SZ	21.18	11.12	10.06
264359	26/07/2024	10:44:45	Delta Group	InVENM	XN96DZ	22.88	11.84	11.04
264362	26/07/2024	10:54:59	Delta Group	InVENM	AZ50GW	21.08	11.4	9.68
264363	26/07/2024	11:02:35	Delta Group	InVENM	XO73BM	21.04	10.94	10.1
264366	26/07/2024	11:10:52	Delta Group	InVENM	XO65TR	22.22	10.76	11.46
264370	26/07/2024	11:17:37	Delta Group	InVENM	XO45CH	20.68	8.4	12.28
264375	26/07/2024	11:26:26	Delta Group	InVENM	XN46JR	22.3	10.66	11.64
264378	26/07/2024	11:30:30	Delta Group	InVENM	XO91SZ	19.36	11.12	8.24
264385	26/07/2024	11:46:10	Delta Group	InVENM	AZ50GW	21.02	11.4	9.62
264387	26/07/2024	11:52:16	Delta Group	InVENM	XO73BM	21.52	10.94	10.58
264389	26/07/2024	11:59:21	Delta Group	InVENM	XO65TR	21.48	10.76	10.72
264393	26/07/2024	12:09:37	Delta Group	InVENM	XO45CH	21.74	8.4	13.34
264398	26/07/2024	12:20:05	Delta Group	InVENM	XN96DZ	21.96	11.84	10.12
264408	26/07/2024	12:46:57	Delta Group	InVENM	XN46JR	21.84	10.66	11.18
264409	26/07/2024	12:48:24	Delta Group	InVENM	XO91SZ	19.28	11.12	8.16
264415	26/07/2024	12:58:36	Delta Group	InVENM	XO45CH	21	8.4	12.6
264416	26/07/2024	13:02:20	Delta Group	InVENM	XN96DZ	22.86	11.84	11.02
264418	26/07/2024	13:07:16	Delta Group	InVENM	AZ50GW	22.46	11.4	11.06
264419	26/07/2024	13:08:25	Delta Group	InVENM	XO73BM	21.5	10.94	10.56
264421	26/07/2024	13:10:29	Delta Group	InVENM	XO65TR	22.8	10.76	12.04
264430	26/07/2024	13:35:17	Delta Group	InVENM	XN46JR	22.92	10.66	12.26
264434	26/07/2024	13:42:19	Delta Group	InVENM	XO91SZ	21.68	11.12	10.56
264435	26/07/2024	13:49:02	Delta Group	InVENM	XO45CH	20.62	8.4	12.22
264440	26/07/2024	13:58:12	Delta Group	InVENM	XN96DZ	21.64	11.84	9.8
264441	26/07/2024	14:02:40	Delta Group	InVENM	AZ50GW	19.06	11.4	7.66
264442	26/07/2024	14:08:00	Delta Group	InVENM	XO73BM	21.46	10.94	10.52
264446	26/07/2024	14:15:52	Delta Group	InVENM	XO65TR	23.72	10.76	12.96
264449	26/07/2024	14:23:19	Delta Group	InVENM	XN46JR	22.14	10.66	11.48
264451	26/07/2024	14:30:07	Delta Group	InVENM	XO91SZ	19.94	11.12	8.82
264452	26/07/2024	14:35:47	Delta Group	InVENM	XO45CH	20.88	8.4	12.48

ACN 095 243 584
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Delta Group						Oct-24		
Shoalhaven Hospital - Nowra						Delivered		
						Order Number:		
Docket No	**Date**	**Time**	**Client Name**	**Goods**	**Rego**	**Gross**	**Tare**	**Net**
271268	15/10/2024	7:24:44	Delta Group	InVENM	SXO96AU	22.88	10.6	12.28
271275	15/10/2024	8:04:13	Delta Group	InVENM	SXN28XM	19.66	10.7	8.96
271276	15/10/2024	8:08:00	Delta Group	InVENM	SXN04EZ	21.86	10.5	11.36
271278	15/10/2024	8:14:45	Delta Group	InVENM	SXN15AB	22.02	11.16	10.86
271282	15/10/2024	8:24:10	Delta Group	InVENM	SXO96AU	22.02	10.6	11.42
271290	15/10/2024	8:56:30	Delta Group	InVENM	SXN04EZ	21.76	10.6	11.16
271295	15/10/2024	9:19:06	Delta Group	InVENM	SXO96AU	21.36	10.6	10.76
271342	15/10/2024	13:37:55	Delta Group	InVENM	SXN28XM	21.92	10.7	11.22
271304	15/10/2024	10:07:20	Delta Group	InVENM	SXN15AB	21.82	11.16	10.66
271300	15/10/2024	9:31:00	Delta Group	InVENM	SXN85FJ*	42.08	16.2	25.88
271302	15/10/2024	9:58:10	Delta Group	InVENM	SXN04EZ*	43.56	16.4	27.16
271307	15/10/2024	10:27:36	Delta Group	InVENM	SXN85FJ*	40.66	16.2	24.46
271309	15/10/2024	10:39:47	Delta Group	InVENM	SXO96AU*	46.16	16.3	29.86
271312	15/10/2024	10:57:51	Delta Group	InVENM	SXN15AB*	41.68	17.7	23.98
271314	15/10/2024	11:33:24	Delta Group	InVENM	SXN85FJ*	43.6	16.2	27.4
271321	15/10/2024	11:55:27	Delta Group	InVENM	SXN15AB*	43.4	17.7	25.7
271326	15/10/2024	12:17:57	Delta Group	InVENM	SXN04EZ*	44.66	16.4	28.26
271330	15/10/2024	12:29:58	Delta Group	InVENM	SXN85FJ*	45.82	16.2	29.62
271333	15/10/2024	12:54:48	Delta Group	InVENM	SXO96AU*	46.64	16.3	30.34
271335	15/10/2024	12:59:46	Delta Group	InVENM	SXN15AB*	42.72	17.7	25.02
271338	15/10/2024	13:18:43	Delta Group	InVENM	SXN85FJ*	47.76	16.2	31.56
271341	15/10/2024	13:32:28	Delta Group	InVENM	SXN04EZ*	46.3	16.4	29.9
271344	15/10/2024	13:47:58	Delta Group	InVENM	SXO96AU*	47.8	16.3	31.5
271694	22/10/2024	7:29:22	Delta Group	InVENM	SXO31IR*	44.64	17.5	27.14
271697	22/10/2024	7:37:13	Delta Group	InVENM	SXO96AU*	46.66	16.3	30.36
271733	22/10/2024	8:37:21	Delta Group	InVENM	SXO31IR*	43.48	17.5	25.98
271761	22/10/2024	9:10:46	Delta Group	InVENM	SXO96AU*	46.04	16.3	29.74
271768	22/10/2024	9:28:36	Delta Group	InVENM	SXO31IR*	43.18	17.5	25.68
271780	22/10/2024	10:24:47	Delta Group	InVENM	SXO96AU*	47.98	16.3	31.68
271784	22/10/2024	10:29:27	Delta Group	InVENM	SXO31IR*	45.32	17.5	27.82
271797	22/10/2024	11:39:52	Delta Group	InVENM	SXO96AU*	48.46	16.3	32.16
271799	22/10/2024	11:41:46	Delta Group	InVENM	SXO31IR*	45.98	17.5	28.48
271815	22/10/2024	12:47:33	Delta Group	InVENM	SXO96AU*	46.68	16.3	30.38
271818	22/10/2024	12:51:48	Delta Group	InVENM	SXO31IR*	44.38	17.5	26.88
271833	22/10/2024	13:49:53	Delta Group	InVENM	SXO96AU*	48.44	16.3	32.14
271835	22/10/2024	13:56:13	Delta Group	InVENM	SXO31IR*	48.46	17.5	30.96
271851	22/10/2024	14:56:59	Delta Group	InVENM	SXO96AU*	48.5	16.3	32.2
271852	22/10/2024	15:09:09	Delta Group	InVENM	SXO31IR*	48.48	17.5	30.98

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SOIL REPORT

Date Issued:	12/08/2024
Project Number:	ENRS3230.01
Version Control	Revision 1

CLASSIFICATION: VIRGIN EXCAVATED NATURAL MATERIAL (VENM)

75m^3 or up to 150 tonnes
DM00561 (Wattamolla Road, CH3660)

1 Background

Commissioned by / Client	Shoalhaven City Council (SCC) Att: Chris Jones <Chris.Jones@shoalhaven.nsw.gov.au>
Owner of the Waste (landowner/client)	Shoalhaven City Council (SCC). ABN 59 855 182 344. Bridge Road (PO Box 42) Nowra NSW 2541
Location *(where the waste was generated)*	Project Site ID: DM00561. Wattamolla Road, Woodhill NSW. CH3660 (3.6km from corner of Woodhill Mountain Road) E285085 / N6154657.
History of the Material *(processes and activities to produce the waste)*	☒ No record of contamination ☐ Fill of unknown origin ☐ Top-down contamination (leaks, spills) ☐ Sub-surface leaks (pits, pipelines, sumps, tanks) ☐ In-situ contamination (existing plume, PSH) ☐ Other: .....
Site History *(Potential contaminating activities at the generated site)*	☒ No record of potential contaminating activities ☐ Industrial use ☐ Fire suppression ☐ Agriculture ☐ Hazardous building materials (asbestos, lead paint) ☐ Fill / stockpiles of unknown origin ☐ Other:
Acid Sulfate Soil (ASS) Screening	☒ Review of ASS maps indicates low risk (no further testing triggered) ☐ pH>5 (no further testing triggered) ☐ pH<5 (testing required)

2 Material Description

Description of the Material	CLAY, pale orange, sandy with some sandstone boulders.
Photographs	Refer to **Attachment C** for record of material composition
Visible Signs of Contamination	☒ None ☐ Discolouration ☐ Staining ☐ Odours ☐ Asbestos ☐ Other .....
Quantity of Material	~75 m^3, equivalent to ~150 Tonnes

3 Sampling and Analysis Plan & Sampling Methodology

Investigation	☐ Stockpile.	☒ Surface ☐ Excavation ☐ Test Pits. ☐ Boreholes.
Quantity / Area	~75 m^3 or ~150 Tonnes.	~75 m^3 or ~150 Tonnes.
Frequency	☒ 1/25m^3 (Table 3[1]) ☐ 95% UCL Ave. (Table 4[1]). ☐ 1/75m^3 (Asbestos Table 5[1]) ☐ ENM Table 1[2] ☐ 10 per 4,000 Tonnes	☐ Minimum No. of points (Table 2[1]) …… samples / ……m^2 ☐ ENM Table 2[2] …… samples / ……m^2
Locations	03 sample locations	
Number of Samples	03 field samples collected. 03 samples analysed.	
Sampling Method	Sampling density, pattern, methods and number of samples analysed in general accordance with the EPA (2022) sampling guideline and or relevant EPA order and exemption.	
Sample Pattern	☒ Judgmental sampling (targeted). ☒ Systematic sampling (gridded / probabilistic). ☐ Random sampling (offset grid / probabilistic). ☐ Stratified sampling (targeted and/ or probabilistic).	
Depth	☐ Entire stockpile, three-dimensional grid. ☒ Surface (0-100 mm, or 0-150 mm). ☐ Intervals no greater than 500 mm. ☐ At intervals where distinct differences occur. ☐ beneath where fill meets the underlying natural soil.	
Devices	☐ Manual grab sample ☒ Hand auger ☐ Mechanical auger ☐ Photoionization Detector (PID) ☐ Excavator ☐ Core sample	
Procedures	Composite and/or discrete samples were obtained using methods appropriate for the analytes. Equipment decontaminated between each sample or disposed and replaced. Samples placed immediately in laboratory prepared containers, filled to prevent headspace, labelled, and stored on ice for delivery to NATA laboratory supported by Chain of Custody documentation.	
Photographs	Refer to **Attachment C** for photos of samples and locations	
Analytes	Samples were analysed for chemicals and other attributes for comparison with the NSW EPA Excavated Natural Material order and exemption. Refer to summary of results table provided in **Attachment A**.	

[1] NSW EPA, 2022. Contaminated Land Guidelines: Sampling design part 1 – application.
[2] NSW EPA, 2014. The excavated natural material order 2014.

4 QA / QC

Field sampling QA/QC Procedures	Yes	N/A
Sampling team comprised tertiary qualified personnel with environmental training.	☒	☐
Sampling method, containers, filling, & preservation suitable for the type of analysis.	☒	☐
Samples labelled, logged, and transferred under chain of custody in holding times.	☒	☐
Quality control samples (such as field duplicate, split, rinsate, blank, trip).	☐	☒
Equipment decontaminated between each sample or disposed and replaced.	☒	☐
Laboratory QA/QC Procedures		
Refer to NATA Laboratory QA/QC report provided in **Attachment E**.	☒	☐

5 Results

Summary of Results	Refer to **Attachment A** for summary table of results with sample identifications, contaminants analysed, sample results. Review of the available site records did not identify potential sources of contamination to trigger material sampling or laboratory analysis. The results of the site inspection and observations did not identify foreign materials or visual and olfactory indicators of contamination. The site conditions and material observed during this assessment was consistent with Virgin Excavated Natural Material (VENM) as defined in Schedule 1 of the Protection of the Environment Operations Act 1997.
Photographs of the Material	Refer to **Attachment C** for representative photographs of the Material
Site Location	The site location is marked on the schematic provided in **Attachment B**.

6 Discussion

The material is determined to be VENM because:	
☒	The available site history records and current land use at the Site report no record of potential contaminating activities;
☒	The material was not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities;
☒	The material did not contain any sulfidic ores or soils;
☒	The material did not contain any other waste;
☒	No asbestos was observed during the site inspection for this assessment.

Material Classification	
☒	**Virgin Excavated Natural Material (VENM)**

7 Material Classification

This report is intended to assist site managers, soil/waste generators, contractors and/or receivers of the subject material to have confidence that a range of relevant factors have been considered in the classification of this material. This report should be endorsed by the site auditor or equivalent project certifier prior to action.

This material is classified as Virgin Excavated Natural Material (VENM).

This material classification is subject to additional visual screening during excavation and loading for any visual or olfactory evidence of contamination or foreign matter inconsistent with the above classification. Copies of transport records and disposal receipts should be appended to this document and maintained with site records. This letter report including the results of testing and discussion is prepared only for the above project and must be read in full in conjunction with the ENRS statement of Limitations. The discussions should not be used for any other project. ENRS should be informed if any of the above adopted/ assumed conditions, specifications etc. changes to refine the assessment accordingly.

For and on behalf of ENRS

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3 Sampling and Analysis Plan & Sampling Methodology

Investigation	☐ Stockpile.	☒ Surface ☐ Excavation ☐ Test Pits. ☐ Boreholes.
Quantity / Area	~75 m^3 or ~150 Tonnes.	~75 m^3 or ~150 Tonnes
Frequency	☒ 1/25m^3 (Table 3[1]) ☐ 95% UCL Ave. (Table 4[1]). ☐ 1/75m^3 (Asbestos Table 5[1]) ☐ ENM Table 1[2] ☐ 10 per 4,000 Tonnes	☐ Minimum No. of points (Table 2[1]) …… samples / ……m^2 ☐ ENM Table 2[2] …… samples / ……m^2
Locations	04 sample locations	
Number of Samples	04 field samples collected. 04 samples analysed.	
Sampling Method	Sampling density, pattern, methods and number of samples analysed in general accordance with the EPA (2022) sampling guideline and or relevant EPA order and exemption.	
Sample Pattern	☒ Judgmental sampling (targeted). ☒ Systematic sampling (gridded / probabilistic). ☐ Random sampling (offset grid / probabilistic). ☐ Stratified sampling (targeted and/ or probabilistic).	
Depth	☐ Entire stockpile, three-dimensional grid. ☒ Surface (0-100 mm, or 0-150 mm). ☐ Intervals no greater than 500 mm. ☐ At intervals where distinct differences occur. ☐ beneath where fill meets the underlying natural soil.	
Devices	☐ Manual grab sample ☒ Hand auger ☐ Mechanical auger ☐ Photoionization Detector (PID) ☐ Excavator ☐ Core sample	
Procedures	Composite and/or discrete samples were obtained using methods appropriate for the analytes. Equipment decontaminated between each sample or disposed and replaced. Samples placed immediately in laboratory prepared containers, filled to prevent headspace, labelled, and stored on ice for delivery to NATA laboratory supported by Chain of Custody documentation.	
Photographs	Refer to **Attachment C** for photos of samples and locations	
Analytes	Samples were analysed for chemicals and other attributes for comparison with the NSW EPA Excavated Natural Material order and exemption. Refer to summary of results table provided in **Attachment A**.	

[1] NSW EPA, 2022. Contaminated Land Guidelines: Sampling design part 1 – application.
[2] NSW EPA, 2014. The excavated natural material order 2014.

4 QA / QC

Field sampling QA/QC Procedures	Yes	N/A
Sampling team comprised tertiary qualified personnel with environmental training.	☒	☐
Sampling method, containers, filling, & preservation suitable for the type of analysis.	☒	☐
Samples labelled, logged, and transferred under chain of custody in holding times.	☒	☐
Quality control samples (such as field duplicate, split, rinsate, blank, trip).	☐	☒
Equipment decontaminated between each sample or disposed and replaced.	☒	☐
Laboratory QA/QC Procedures		
Refer to NATA Laboratory QA/QC report provided in **Attachment E**.	☒	☐

5 Results

Summary of Results	Refer to **Attachment A** for summary table of results with sample identifications, contaminants analysed, sample results. Review of the available site records did not identify potential sources of contamination to trigger material sampling or laboratory analysis. The results of the site inspection and observations did not identify foreign materials or visual and olfactory indicators of contamination. The site conditions and material observed during this assessment was consistent with Virgin Excavated Natural Material (VENM) as defined in Schedule 1 of the Protection of the Environment Operations Act 1997.
Photographs of the Material	Refer to **Attachment C** for representative photographs of the Material
Site Location	The site location is marked on the schematic provided in **Attachment B**.

6 Discussion

The material is determined to be VENM because:	
☒	The available site history records and current land use at the Site report no record of potential contaminating activities;
☒	The material was not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities;
☒	The material did not contain any sulfidic ores or soils;
☒	The material did not contain any other waste;
☒	No asbestos was observed during the site inspection for this assessment.
Material Classification	
☒	**Virgin Excavated Natural Material (VENM)**

7 Material Classification

This report is intended to assist site managers, soil/waste generators, contractors and/or receivers of the subject material to have confidence that a range of relevant factors have been considered in the classification of this material. This report should be endorsed by the site auditor or equivalent project certifier prior to action.

This material is classified as Virgin Excavated Natural Material (VENM).

This material classification is subject to additional visual screening during excavation and loading for any visual or olfactory evidence of contamination or foreign matter inconsistent with the above classification. Copies of transport records and disposal receipts should be appended to this document and maintained with site records. This letter report including the results of testing and discussion is prepared only for the above project and must be read in full in conjunction with the ENRS statement of Limitations. The discussions should not be used for any other project. ENRS should be informed if any of the above adopted/ assumed conditions, specifications etc. changes to refine the assessment accordingly.

For and on behalf of ENRS

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Shoalhaven City Council						Oct-24		
Monthly Material Purchases						EXBIN		
Supervisor - Scott Hughes						Order Number: PU094768		
270793	8/10/2024	10:59:21	Shoalhaven City Council	InVENM	XO27CB	18.14	10.54	7.6
270794	8/10/2024	11:08:18	Shoalhaven City Council	InVENM	XN11HC	21.38	11.64	9.74
270803	8/10/2024	13:14:01	Shoalhaven City Council	InVENM	XO27CB	19.98	10.68	9.3
270808	8/10/2024	13:39:53	Shoalhaven City Council	InVENM	XN11HC	22.4	11.64	10.76

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Shoalhaven City Council						Sep-24			
Monthly Material Purchases						EXBIN			
Supervisor - Chris Jones						Order Number: PU092449			
Docket No	**Date**	**Time**	**Client Name**	**Goods**	**Rego**	**Gross**	**Tare**	**Net**	**Location**
268273	4/09/2024	12:16:15	Shoalhaven City Council	InVENM	XN90DZ	20.76	11.76	9	Wattamolla Rd VENM Ch.3660 C Jones
268275	4/09/2024	12:21:33	Shoalhaven City Council	InVENM	XO28CB	17.74	10.42	7.32	Wattamolla Rd VENM Ch.3660 C Jones
268277	4/09/2024	12:24:04	Shoalhaven City Council	InVENM	XN54OP	19.22	10.68	8.54	Wattamolla Rd VENM Ch.3660 C Jones
268304	4/09/2024	14:11:01	Shoalhaven City Council	InVENM	XN90DZ	22.84	11.76	11.08	Wattamolla Rd VENM Ch.3660 C Jones
268316	4/09/2024	15:04:15	Shoalhaven City Council	InVENM	XN54OP	20.96	10.68	10.28	Wattamolla Rd VENM Ch.3660 C Jones
268318	4/09/2024	15:06:39	Shoalhaven City Council	InVENM	XO28CB	19.18	10.42	8.76	Wattamolla Rd VENM Ch.3660 C Jones
268357	5/09/2024	8:00:38	Shoalhaven City Council	InVENM	XO31UH	18.26	10.62	7.64	Wattamolla Rd VENM Ch.3660 C Jones
268361	5/09/2024	8:07:45	Shoalhaven City Council	InVENM	XN90DZ	20.1	11.76	8.34	Wattamolla Rd VENM Ch.3660 C Jones
268360	5/09/2024	8:10:22	Shoalhaven City Council	InVENM	CL82GY	17.74	10.44	7.3	Wattamolla Rd VENM Ch.3660 C Jones
268371	5/09/2024	8:32:03	Shoalhaven City Council	InVENM	XO28CB	19.08	10.42	8.66	Wattamolla Rd VENM Ch.3660 C Jones
268439	5/09/2024	11:52:38	Shoalhaven City Council	InVENM	XO31UH	18.98	10.62	8.36	Wattamolla Rd VENM Ch.3660 C Jones
268447	5/09/2024	12:26:22	Shoalhaven City Council	InVENM	CL82GY	20.06	10.44	9.62	Wattamolla Rd VENM Ch.3660 C Jones
268459	5/09/2024	13:06:33	Shoalhaven City Council	InVENM	XN90DZ	22.42	11.76	10.66	Wattamolla Rd VENM Ch.3660 C Jones
268467	5/09/2024	13:45:59	Shoalhaven City Council	InVENM	XO28CB	20.88	10.42	10.46	Wattamolla Rd VENM Ch.3660 C Jones
268153	3/09/2024	12:36:25	Shoalhaven City Council	InVENM	XN54OP	18.7	10.68	8.02	Wattamolla Rd VENM Ch.4050 C Jones
268158	3/09/2024	12:49:01	Shoalhaven City Council	InVENM	XN90DZ	20.84	11.76	9.08	Wattamolla Rd VENM Ch.4050 C Jones
268162	3/09/2024	13:07:17	Shoalhaven City Council	InVENM	XO31UH	17.76	10.62	7.14	Wattamolla Rd VENM Ch.4050 C Jones
268177	3/09/2024	14:35:39	Shoalhaven City Council	InVENM	XN54OP	20.44	10.68	9.76	Wattamolla Rd VENM Ch.4050 C Jones
268178	3/09/2024	14:37:42	Shoalhaven City Council	InVENM	XN90DZ	22.92	11.76	11.16	Wattamolla Rd VENM Ch.4050 C Jones
268181	3/09/2024	14:53:15	Shoalhaven City Council	InVENM	XO31UH	19.56	10.62	8.94	Wattamolla Rd VENM Ch.4050 C Jones
268403	5/09/2024	9:58:02	Shoalhaven City Council	InVENM	XO31UH	20	10.62	9.38	Wattamolla Rd VENM Ch.4050 C Jones
268406	5/09/2024	10:06:49	Shoalhaven City Council	InVENM	XN90DZ	21.4	11.76	9.64	Wattamolla Rd VENM Ch.4050 C Jones
268407	5/09/2024	10:14:53	Shoalhaven City Council	InVENM	CL82GY	19.86	10.44	9.42	Wattamolla Rd VENM Ch.4050 C Jones
268426	5/09/2024	11:01:39	Shoalhaven City Council	InVENM	XO31UH	20.94	10.62	10.32	Wattamolla Rd VENM Ch.4050 C Jones

It is understood that the surplus material subject to this assessment (comprising clay and weathered siltstone) is being generated through the adjacent service trench excavation and is being stockpiled along the western portion of the proposed alignment, as shown on the attached Drawing No. 1.

DP is unaware of the ultimate disposal location of the stockpiled soil subject to this assessment.

The VENM assessment was conducted with reference to the NSW EPA *Waste Classification Guidelines, Part 1: Classifying Waste* (NSW EPA, 2014), the Protection of the Environment Operations (POEO) Act and NSW EPA web site.

3. Scope of Works

The scope of works was as follows:

- Review of geological and acid sulfate soil mapping;
- Inspection of the site to assess the potential for contamination;
- Excavation and logging of three test pits (TP1 to TP3) to depths of between 0.3 m and 0.5 m below stockpile surface using hand tools;
- Collection of soil samples and dispatch to a national association of testing authority (NATA) accredited laboratory for analysis of a general suite of common contaminants of concern (CoC); and
- Preparation of this letter report.

4. Sampling and Analytical Rationale

The basis for the analytical rationale is provided in Table 2.

Table 2: Site Information

Item	Description
Site Description	At the time of conducting the field work for the VENM assessment (3 August 2023) the site was undergoing excavation in the south-western end, and the service placed into the excavated trench. The excavated material was stockpiled along the proposed excavation alignment. The site was relatively flat, gently grading to the south-west. The site was bounded by residential structures to the east, and Cambewarra Public School to the south. The western adjacent land appeared to be used for agricultural / grazing purposes. Trace quantities of non-soil anthropogenic material was observed on the stockpile surface comprising tie-down straps, plastic and general litter. At the time of sampling, the field engineer noted the general cleanliness of the site.

Item	Description
Geology and Soil Landscapes	Reference to the NSW Seamless Geology mapping indicates that the site is underlain by mid to dark grey siltstone, grading up sequence to fine-grained sandstone, belonging to the Berry Siltstone formation, of Permian Age. The orange-brown mottled grey residual clay material observed appeared consistent with the weathering of this formation.
Acid Sulfate Soils	Reference to the NSW Acid Sulfate Soil Risk mapping indicates that the site is in an area of no known occurrence of acid sulfate soils. The site is located approximately 4.5 km west of an area mapped as having a "*low probability of occurrence*".
Identified Potential Contamination Sources	• Fill of unknown origin or quality; and • The use of pesticides for agricultural land applications.

Due to the absence of site history information, a general contaminant suite was chosen to classify the material, comprising:

- Eight metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc;
- Total recoverable hydrocarbons (TRH);
- Benzene, toluene, ethylbenzene and xylenes (BTEX);
- Polycyclic aromatic hydrocarbons (PAH);
- Organochlorine pesticides (OCP);
- Organophosphorus pesticides (OPP);
- Total phenols;
- Polychlorinated biphenyls (PCB); and
- Asbestos absence/presence (identification only).

Table 3: Sampling Rationale

Approximate Stockpile Volume (m^3)	Approximate combined stockpile volume of 170 m^3.
Depth of Assessment	Between 0.3 m and 0.5 m into stockpiled material.
Number of Sampling Locations	Three sample locations were chosen as to obtain a minimum dataset based on NSW EPA *Sampling Design, Part 1: Application; and Part 2: Interpretation* (NSW EPA, 2022). These three samples were collected along the stockpile alignment at varying depths, see Drawing 1, attached.
Number of Samples	One sample from each test location was collected and analysed at the laboratory.

It is noted that dimensions and / or tonnage approximations have been estimated to inform the sampling rationale. DP recommends that if accurate volumes and / or tonnages are required then surveys and weighbridge measurements should be conducted.

5. Field Work Observations

The test pit logs are attached, which should be read in conjunction with the attached explanatory notes that define classification methods and terms used to describe the soils and rocks. In summary, the stockpiled material encountered in the test pits comprised the following:

SILTY CLAY	Orange brown mottled grey, with fine to coarse sand and siltstone gravel fractions.
SILSTONE	Grey brown, very low to low strength, highly weathered.

There were no obvious indications of gross contamination (e.g. staining or odours).

6. VENM Assessment

The following Table 4 presents the results of the assessment of natural soils and bedrock at the site with reference to the VENM definition in the POEO Act and the EPA[2] website.

Table 4: VENM Classification Procedure

Item	Comments	Rationale
1. Is the material natural?	Yes	Natural soil and rock material encountered in the test pits and described as residual .
2. Are manufactured chemicals or process residues present?	No	There were no obvious visual indicators of chemical contamination of the soil and rock in the test pits. Concentrations of contaminants were considered to be typical of background concentrations (Table A1).
3. Are sulfidic ores or soils present?	No	A review of the published mapping shows the site is in an area of no ASS occurrence.
4. Are there current or previous land uses that have (or may have) contaminated the materials?	No	Current agricultural land use appears to have not impacted underlying soils that are now stockpiled.

[2] https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/virgin-excavated-natural-material

The field and laboratory data quality assurance and quality control (QC) results for the samples have been reviewed and are considered to be acceptable. The laboratory certificate is attached.

As shown in the attached Table A1, all contaminant concentrations for the analysed natural soil samples were within typical background concentrations as defined by (Olszowy et al, 1995). Based on the outcomes presented in Table 4, the residual silt / clay mixture and weathered siltstone material within the area subject to assessment as shown on Drawing 1, are classified as VENM.

The soil and rock classified as VENM are pre-classified as general solid waste (non-putrescible) under NSW EPA (2014). Furthermore, VENM may be re-used at an off-site location without the requirement of a licence under the POEO Act.

7. Conditions

If during excavation the natural in situ soil is found to contain possible signs of contamination or is cross-contaminated with non-VENM material, the excavated natural soil cannot be classified as VENM. In this regard, it is also recommended that care should be taken during the bulk excavation of the VENM to prevent cross contamination between the VENM and non-VENM materials (if present).

Note that appropriate prior arrangement with the receiving site/relevant authorities should be obtained prior to the disposal of any VENM off site. The receiving site should check to ensure that the VENM received is suitable for the proposed use, matches the description provided in this report and contains no cross contamination. The receiving site should also check any acceptability restrictions specific to the receiving site such as salinity, ecological requirements.

8. References

HEPA. (2020). *PFAS National Environmental Management Plan (NEMP).* Version 2.0: Heads of EPAs Australia and New Zealand and Australian Government Department of the Environment.

NSW EPA. (2014). *Waste Classification Guidelines, Part 1: Classifying Waste.* NSW Environment Protection Authority.

NSW EPA. (2022). *Sampling Design, Part 1: Application; Part 2: Interpretation.* NSW Environment Protection Authority.

Olszowy et al. (1995). *Urban Soils (0-150mm) - Trace element concentrations in soil from rural and urbamn aeras of Autralia. Contaminated Sites Monograph Series 4.* Glenelg Press, Glenelg, Australia: South Australian Health Commision.

9. Limitations

Douglas Partners (DP) has prepared this report for this project at Reservoir Lane, Cambewarra in accordance with DP's proposal email dated 2 August 2023 and acceptance received from Darryl Smith dated 3 August 2023. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of City Coast Services Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in conditions across the site between and beyond the sampling locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

DP personnel are not licensed or accredited surveyors. Any quantities quoted in this report are provided for general guidance only and should not be relied upon. The services of a licenced/accredited surveyor should be engaged if reliable quantities are required.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

The results provided in the report are indicative of the surface and subsurface conditions only at the specific sampling locations, and then only to the depths investigated and at the time the work was carried out. Surface and subsurface conditions can change as a result of human influences, and such changes may occur after DP's field testing has been completed.

Part 5.6, Section 143 of The Protection of the Environment Operations Act 1997 states that it is an offence for waste to be transported to a place that cannot lawfully be used as a facility to accept that waste. It is the duty of the owner and transporter of the waste to ensure that the waste is disposed of appropriately. DP does not accept liability for the unlawful disposal of waste materials from any site.

DP accepts no responsibility for the material tracking, loading, management, transport or disposal of waste from the site.

Please contact either of the undersigned for clarification of the above as necessary.

Yours faithfully
Douglas Partners Pty Ltd

Reviewed by

Zachariah Kraich
Environmental Engineer

pp**Glyn Eade**
Senior Associate

Attachments:

Drawing 1
Notes About This Report
Test Pit Logs
Photographs
Summary of Soil Laboratory Results
Laboratory Certificates, Chain of Custody Documentation and Sample Receipt Advice

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Utilstra Pty Ltd						Jul-24		
Monthly Material Purchases						Delivered		
Docket No	**Date**	**Time**	**Client Name**	**Goods**	**Rego**	**Gross**	**Tare**	**Net**
263613	22/07/2024	7:51:25	Utilstra Pty Ltd	InVENM	SXN15AB	21.84	11.9	9.94
263630	22/07/2024	8:24:30	Utilstra Pty Ltd	InVENM	SXN28XM	22.04	10.7	11.34
263631	22/07/2024	8:26:40	Utilstra Pty Ltd	InVENM	SXN02EZ	20.64	10.5	10.14
263634	22/07/2024	8:43:18	Utilstra Pty Ltd	InVENM	SXN83FJ*	24.16	11.3	12.86
263640	22/07/2024	9:01:52	Utilstra Pty Ltd	InVENM	SXN15AB*	23.82	11.16	12.66
263650	22/07/2024	9:32:38	Utilstra Pty Ltd	InVENM	SXN02EZ	20.88	10.5	10.38
263652	22/07/2024	9:36:06	Utilstra Pty Ltd	InVENM	SXN28XM*	23.72	10.7	13.02
263671	22/07/2024	10:18:51	Utilstra Pty Ltd	InVENM	SXN15AB	21.38	11.16	10.22
263672	22/07/2024	10:20:35	Utilstra Pty Ltd	InVENM	SXN83FJ	22.38	11.3	11.08
263676	22/07/2024	10:39:23	Utilstra Pty Ltd	InVENM	SXN28XM	20.14	10.7	9.44
263693	22/07/2024	11:26:59	Utilstra Pty Ltd	InVENM	SXN15AB	21.06	11.16	9.9
263696	22/07/2024	11:30:54	Utilstra Pty Ltd	InVENM	SXN83FJ	21.38	11.3	10.08
263702	22/07/2024	11:40:07	Utilstra Pty Ltd	InVENM	SXN28XM	21.94	10.7	11.24
263721	22/07/2024	12:38:23	Utilstra Pty Ltd	InVENM	SXN83FJ	22	11.3	10.7
263723	22/07/2024	12:41:30	Utilstra Pty Ltd	InVENM	SXN28XM	20.54	10.7	9.84
263724	22/07/2024	12:49:21	Utilstra Pty Ltd	InVENM	SXN15AB	22.04	11.16	10.88
263742	22/07/2024	13:41:13	Utilstra Pty Ltd	InVENM	SXN83FJ	22.16	11.3	10.86
263751	22/07/2024	13:54:29	Utilstra Pty Ltd	InVENM	SXN28XM	22	10.7	11.3
263759	22/07/2024	14:23:57	Utilstra Pty Ltd	InVENM	SXN15AB	21.36	11.16	10.2
263766	22/07/2024	14:41:50	Utilstra Pty Ltd	InVENM	SXN83FJ	22.76	11.3	11.46
263772	22/07/2024	15:09:27	Utilstra Pty Ltd	InVENM	SXN28XM	21.8	10.7	11.1
263779	22/07/2024	15:43:48	Utilstra Pty Ltd	InVENM	SXN15AB	22.12	11.16	10.96
263782	22/07/2024	15:47:16	Utilstra Pty Ltd	InVENM	SXN83FJ	22.94	11.3	11.64
264400	26/07/2024	12:22:35	Utilstra Pty Ltd	InVENM	XN82RQ	20.48	11.06	9.42
264403	26/07/2024	12:30:19	Utilstra Pty Ltd	InVENM	XN26NI	18.14	10.22	7.92
264410	26/07/2024	12:50:12	Utilstra Pty Ltd	InVENM	XN67UN	21.08	10.08	11
264423	26/07/2024	13:13:56	Utilstra Pty Ltd	InVENM	XN82RQ	21.86	11.06	10.8
264425	26/07/2024	13:18:47	Utilstra Pty Ltd	InVENM	XN09JJ	20.7	11.44	9.26
264432	26/07/2024	13:36:59	Utilstra Pty Ltd	InVENM	XN27GI	20.78	10.8	9.98
264437	26/07/2024	13:51:36	Utilstra Pty Ltd	InVENM	XN26NI	18.84	10.22	8.62
264444	26/07/2024	14:10:45	Utilstra Pty Ltd	InVENM	XN67UN	21.06	10.08	10.98
264447	26/07/2024	14:17:30	Utilstra Pty Ltd	InVENM	XN82RQ	21.4	11.06	10.34
264448	26/07/2024	14:20:11	Utilstra Pty Ltd	InVENM	XN09JJ	20.94	11.44	9.5
264450	26/07/2024	14:28:31	Utilstra Pty Ltd	InVENM	XN27GI	20.46	10.8	9.66
264455	26/07/2024	14:46:46	Utilstra Pty Ltd	InVENM	XN26NI	17.34	10.22	7.12
264129	25/07/2024	8:10:32	Utilstra Pty Ltd	InVENM	XN26NI	19.68	10.22	9.46
264131	25/07/2024	8:13:27	Utilstra Pty Ltd	InVENM	XN09JJ	23	11.44	11.56
264132	25/07/2024	8:18:49	Utilstra Pty Ltd	InVENM	XN82RQ	20.38	11.06	9.32
264135	25/07/2024	8:21:35	Utilstra Pty Ltd	InVENM	XO91SZ	21.3	11.12	10.18
264137	25/07/2024	8:27:11	Utilstra Pty Ltd	InVENM	XN67UN	22.3	10.08	12.22
264144	25/07/2024	8:43:30	Utilstra Pty Ltd	InVENM	XN27GI	23.76	10.8	12.96
264152	25/07/2024	9:21:51	Utilstra Pty Ltd	InVENM	XN82RQ	21.44	11.06	10.38
264156	25/07/2024	9:28:00	Utilstra Pty Ltd	InVENM	XO91SZ	22.12	11.12	11
264158	25/07/2024	9:30:00	Utilstra Pty Ltd	InVENM	XN26NI	21.24	10.22	11.02
264160	25/07/2024	9:34:48	Utilstra Pty Ltd	InVENM	XN09JJ	24.1	11.44	12.66
264161	25/07/2024	9:39:00	Utilstra Pty Ltd	InVENM	XN67UN	22.2	10.08	12.12
264169	25/07/2024	10:00:20	Utilstra Pty Ltd	InVENM	XN27GI	22.42	10.8	11.62
264180	25/07/2024	10:37:55	Utilstra Pty Ltd	InVENM	XN26NI	21.14	10.22	10.92
264182	25/07/2024	10:43:43	Utilstra Pty Ltd	InVENM	XN82RQ	22.14	11.06	11.08
264183	25/07/2024	10:49:01	Utilstra Pty Ltd	InVENM	XN09JJ	23.2	11.44	11.76
264187	25/07/2024	10:55:51	Utilstra Pty Ltd	InVENM	XN67UN	22.82	10.08	12.74
264189	25/07/2024	10:57:27	Utilstra Pty Ltd	InVENM	XO91SZ	21.54	11.12	10.42
264193	25/07/2024	11:03:59	Utilstra Pty Ltd	InVENM	XN27GI	22.68	10.8	11.88
264207	25/07/2024	11:57:06	Utilstra Pty Ltd	InVENM	XN82RQ	21.2	11.06	10.14
264210	25/07/2024	12:00:54	Utilstra Pty Ltd	InVENM	XN26NI	19.2	10.22	8.98
264211	25/07/2024	12:08:10	Utilstra Pty Ltd	InVENM	XN09JJ	23.34	11.44	11.9
264213	25/07/2024	12:11:09	Utilstra Pty Ltd	InVENM	XN27GI	22.06	10.8	11.26
264215	25/07/2024	12:35:03	Utilstra Pty Ltd	InVENM	XN67UN	22.12	10.08	12.04
264216	25/07/2024	12:38:02	Utilstra Pty Ltd	InVENM	XO91SZ	21.98	11.12	10.86
264228	25/07/2024	13:32:41	Utilstra Pty Ltd	InVENM	XN82RQ	22.3	11.06	11.24
264231	25/07/2024	13:37:27	Utilstra Pty Ltd	InVENM	XN67UN	19.96	10.08	9.88

264235	25/07/2024	13:44:30	Utilstra Pty Ltd	InVENM	XN67UN	22.66	10.08	12.58
264236	25/07/2024	13:46:57	Utilstra Pty Ltd	InVENM	XN27GI	21.66	10.8	10.86
264237	25/07/2024	13:48:31	Utilstra Pty Ltd	InVENM	XO91SZ	22.42	11.12	11.3
264238	25/07/2024	13:51:16	Utilstra Pty Ltd	InVENM	XN09JJ	22.54	11.44	11.1
264249	25/07/2024	14:42:04	Utilstra Pty Ltd	InVENM	XN82RQ	22.28	11.06	11.22
264254	25/07/2024	15:04:16	Utilstra Pty Ltd	InVENM	XN67UN	23.36	10.08	13.28
264255	25/07/2024	15:06:25	Utilstra Pty Ltd	InVENM	XN27GI	22.06	10.8	11.26
264256	25/07/2024	15:09:09	Utilstra Pty Ltd	InVENM	XN26NI	20.14	10.22	9.92
264258	25/07/2024	15:14:34	Utilstra Pty Ltd	InVENM	XO91SZ	22.7	11.12	11.58
264259	25/07/2024	15:19:08	Utilstra Pty Ltd	InVENM	XN09JJ	25.06	11.44	13.62
264266	25/07/2024	15:54:47	Utilstra Pty Ltd	InVENM	XN82RQ	21.6	11.06	10.54
264278	26/07/2024	7:28:47	Utilstra Pty Ltd	InVENM	XN09JJ	24.02	11.44	12.58
264284	26/07/2024	7:48:56	Utilstra Pty Ltd	InVENM	XN82RQ	21.46	11.06	10.4
264288	26/07/2024	7:54:54	Utilstra Pty Ltd	InVENM	XN26NI	19.26	10.22	9.04
264291	26/07/2024	7:59:36	Utilstra Pty Ltd	InVENM	XN67UN	23	10.08	12.92
264303	26/07/2024	8:34:04	Utilstra Pty Ltd	InVENM	XN09JJ	24.06	11.44	12.62
264309	26/07/2024	8:56:49	Utilstra Pty Ltd	InVENM	XN82RQ	21	11.06	9.94
264314	26/07/2024	9:01:52	Utilstra Pty Ltd	InVENM	XN26NI	20.56	10.22	10.34
264318	26/07/2024	9:11:32	Utilstra Pty Ltd	InVENM	XN67UN	23.64	10.08	13.56
264325	26/07/2024	9:29:49	Utilstra Pty Ltd	InVENM	XN27GI	22.12	10.8	11.32
264330	26/07/2024	9:38:37	Utilstra Pty Ltd	InVENM	XN09JJ	24.02	11.44	12.58
264338	26/07/2024	10:01:54	Utilstra Pty Ltd	InVENM	XN82RQ	20.58	11.06	9.52
264342	26/07/2024	10:12:33	Utilstra Pty Ltd	InVENM	XN26NI	20.66	10.22	10.44
264346	26/07/2024	10:20:39	Utilstra Pty Ltd	InVENM	XN67UN	23.06	10.08	12.98
264352	26/07/2024	10:31:24	Utilstra Pty Ltd	InVENM	XN27GI	23	10.8	12.2
264358	26/07/2024	10:43:33	Utilstra Pty Ltd	InVENM	XN09JJ	24.6	11.44	13.16
264368	26/07/2024	11:15:39	Utilstra Pty Ltd	InVENM	XN82RQ	20.22	11.06	9.16
264380	26/07/2024	11:31:50	Utilstra Pty Ltd	InVENM	XN26NI	20.54	10.22	10.32
264384	26/07/2024	11:42:21	Utilstra Pty Ltd	InVENM	XN67UN	21.74	10.08	11.66
264386	26/07/2024	11:50:18	Utilstra Pty Ltd	InVENM	XN09JJ	22.22	11.44	10.78
264391	26/07/2024	12:01:43	Utilstra Pty Ltd	InVENM	XN27GI	21.12	10.8	10.32

Appendix M – Plans

SCCCR Rehab Plan - Mining Activities Plan
Monitoring Locations Plan
VENM emplacement Plan
Flat Rock Yalwal AEMR updated plan
MOP Staging Plan

SCCCR Rehabilitation Plan July 2024 - June 2025

VOLUME OF MATERIAL EXTRACTED 125,618m³
JULY 23 - JUNE 24

STOCKPILES

95m³
1846m³
552m³
44m³
15m³
198m³
523m³
161m³
261m³
0 50m³
604m³
342m³
310m³
839m³
142m³
119m³
557m³
685m³
215m³
256m³
1262m³

LEGEND

- Active Mining Area
- Infrastructure
- Shaped Waste Emplacement
- Tailing Emplacement
- E2 - Native Forest
- E4 - Other (Water Storage Dam)

CONTROL	EASTING	NORTHING	RL
COORDINATE SYSTEM MGA 94			
HEIGHT DATUM A.H.D.			
SSM-27775	281129.905	6132761.466	47.18
SSM-103837	281113.781	6132952.428	46.16

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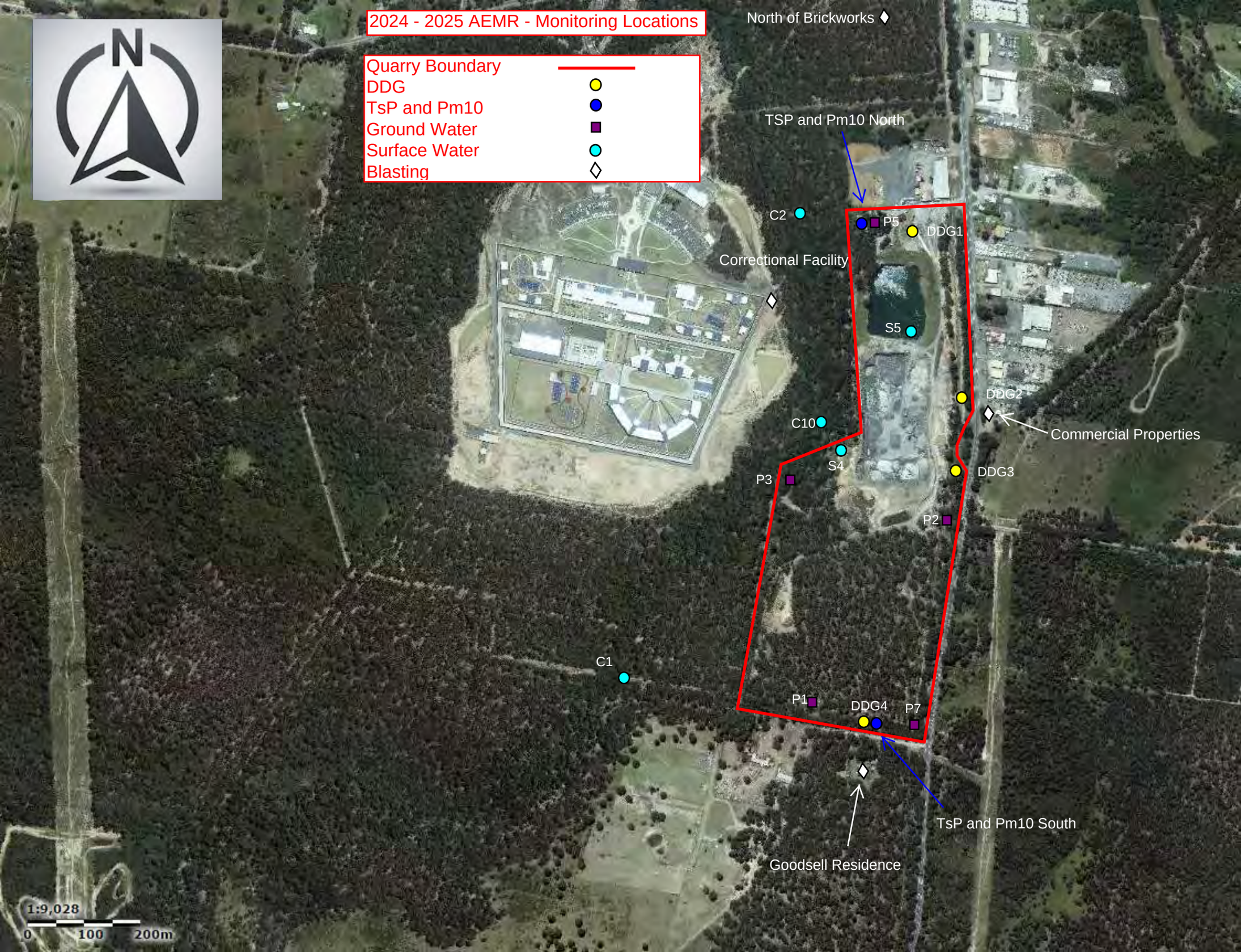
PLAN OF ML 5087 & ML 6322

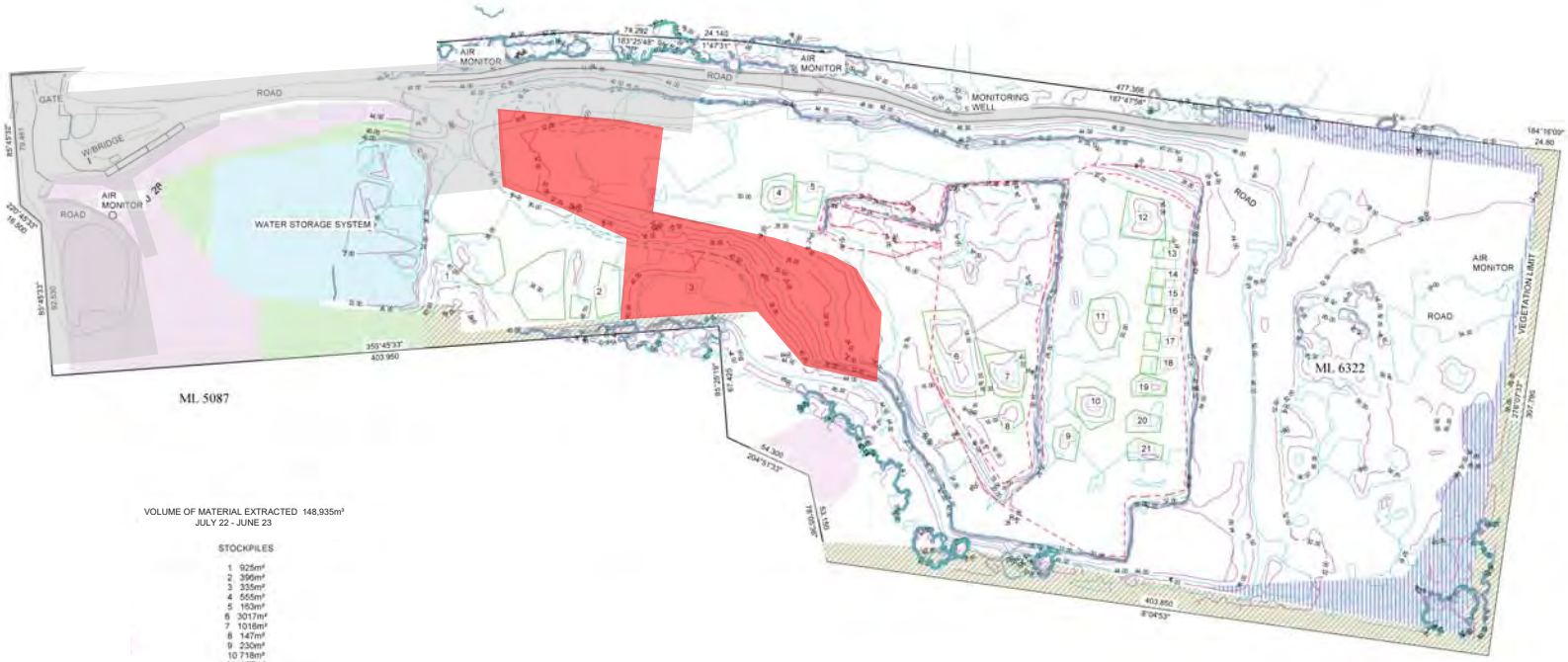
NOWRA BRICKWORKS QUARRY

FOR SCCCR

DATE	23/07/2024	AMENDMENTS	SURVEY FILE	DRAWING No.
SURVEYOR	LC		DWG FILE	A1-D49-23072024
DRAWN	MS			SCALE 1:1500
CHECKED	MS			Sheet 1 of 1 Sheets


2024 - 2025 AEMR - Monitoring Locations
Quarry Boundary
DDG
TsP and Pm10
Ground Water
Surface Water
Blasting
North of Brickworks
TSP and Pm10 North
C2
P5
DDG1
Correctional Facility
S5
DDG2
C10
Commercial Properties
S4
DDG3
P3
P2
C1
P1
DDG4
P7
TsP and Pm10 South
Goodsell Residence
1:9,028
0
100
200m

SCCCR VENM Emplacement Plan July 2024 - June 2025



VOLUME OF MATERIAL EXTRACTED 148,935m³
JULY 22 - JUNE 23

STOCKPILES

1	925m³
2	396m³
3	335m³
4	555m³
5	163m³
6	3017m³
7	1016m³
8	147m³
9	230m³
10	718m³
11	377m³
12	1318m³
13	30m³
14	30m³
15	30m³
16	30m³
17	30m³
18	60m³
19	231m³
20	150m³

CONTROL	EASTING	NORTHING	RL
COORDINATE SYSTEM MGA 94			
HEIGHT DATUM A.H.D.			
SSM-27775	281129.905	6132761.466	47.18
SSM-103837	281113.781	6132952.428	46.16

LEGEND

- Active Mining Area
- Infrastructure
- Shaped Waste Emplacement
- Tailing Emplacement
- E2 - Native Forest
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PLAN OF ML 5087 & ML 6322
NOWRA BRICKWORKS QUARRY
FOR SCCCR

DATE	20/07/2023	AMENDMENTS	SURVEY FILE
SURVEYOR	LC		DWG FILE
DRAWN	MS		
CHECKED	MS		

DRAWING No. A1-D49-200721AA
SCALE 1:1500
Sheet 1 of 1 Sheets

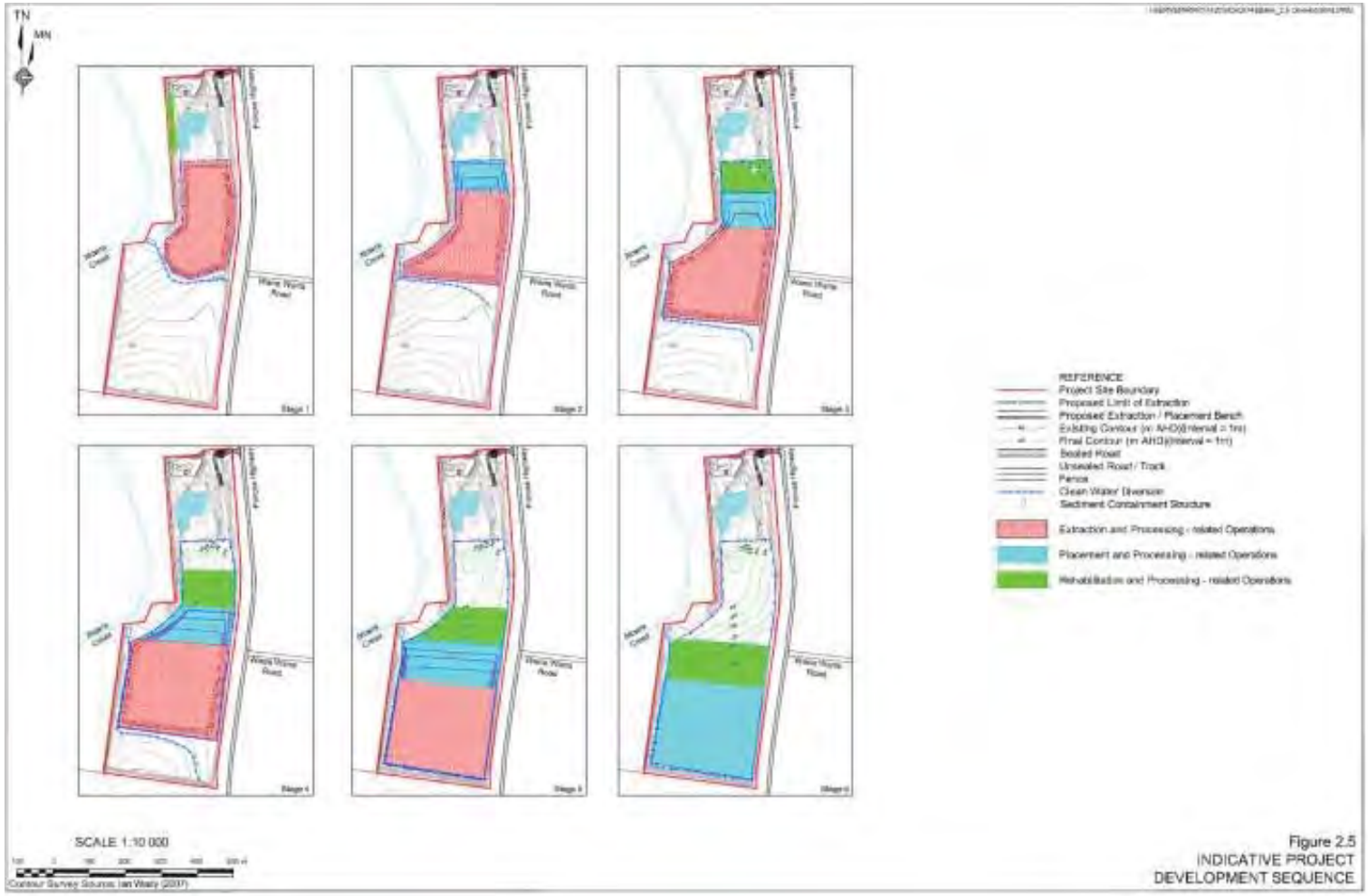

Figure 3 Project Development Sequence