vgt environmental compliance solutions and laboratories

March 2024

Annual Review and Compliance Report for Maroota Sand Quarry DA 267-11-99 Year Ending 31st December 2023

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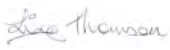
Maroota Sand Quarry Annual Review and Compliance Report 2023	
Name of operation	Roberts Rd, Maroota Sand Quarry
Name of operator	Hodgson Quarries and Plant Pty Ltd
Development consent / project approval #	DA 267-11-99
Name of holder of development consent / project approval	Dr L. S. Martin
Annual Review start date	01/01/2023
Annual Review end date	31/12/2023
I, Lisa Thomson, certify that, to the best of my knowledge, this audit report is a true and accurate record of the compliance status of Roberts Rd, Maroota Sand Quarry for the period 1/1/2023 to 31/12/2023 and that I am authorised to make this statement on behalf of Hodgson Quarries and Plant Pty Ltd. ***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 produced 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	Lisa Thomson
Title of authorised reporting officer	Environmental Consultant
Signature of authorised reporting officer	

Revision Table

Date	Version	Author	Reviewed	Approved
26/03/2024	D0	LT/SK	SR	
28/03/2024	F0	LT/SK	SR	SR

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1 Executive Summary

This Annual Review and Conditions Compliance Report has been prepared on behalf of Hodgson Quarries and Plant Pty Ltd (the Operator). The Roberts Rd Maroota Sand Quarry, located on Roberts Road near Old Northern Road, Maroota, NSW has been extracting sand and gravels in accordance with Development Approval conditions 267-11-99, Environment Protection Licence 6535 and Water Access Licence 24163 since the 1990s.

On the 13th August, 2021 the project received notification that an application for modification (Mod 4) had been approved. The modification allows for the importation of VENM and ENM to create a landform that better integrates with the surrounds. To assist with this implementation, there was an increase in traffic numbers (from 100 daily to 140), an extension to the period of approval (from 2025 to 2030), and removal of a condition limiting the exposed and active area. This report audits the compliance of the site to the Mod 4 conditions from 1st January 2023 to 31st December 2023.

A draft consolidated consent available from the DPIE Major Projects portal numbers the conditions in Schedule 2 differently to that in Mod 2 and the Notification of Modification for Mod 4. This report therefore adopts the numbering convention given in the Notification of Modification and past consent versions, rather than the draft Consolidated Mod 4 Consent in that it aligns more closely with previously existing conditions. It is hoped that the errors in the draft will shortly be rectified.

There were two DA conditions with non-compliances.

1. The Biodiversity Report was not undertaken this report period (Schedule 2 Conditions 56)
2. The condition regarding all conditions be complied with is also non-compliant. (Schedule 2 condition 2)

All operational and environmental management criteria within the consent conditions have been met during the report period, 1st January to 31st December 2023.

All management plans were updated in 2023 but no approvals received to date.

2 Statement of Compliance

This report audits the compliance of the site to the conditions approved August 2021 (Mod 4) from 1st January to 31st December 2023. This report adopts the numbering convention given in the Notification of Modification for modification 4 rather than the draft Consolidated Consent, in that it aligns more closely with existing conditions. It is hoped that several numbering and administrative errors can be corrected before issuing the final Consolidated Consent conditions.

Table 1. Summary of Non-Compliances

Mod 4 Conditions	Condition Text	Compliant Y/N	Details of compliance status
2	The Applicant shall:(a) carry out the development generally in accordance with the EIS, Modification 1, Modification 3 and Modification 2 Modification 2, Modification 3 and Modification 4; and (b) comply with the conditions of this consent	N	
56	The Applicant shall maintain the revegetated areas for the duration of the Consent. Maintenance may include: • replanting failed or unsatisfactory areas • repairing erosion problems • fire management – fire suppression or fire encouragement • pest and weed control • control of feral animal populations • maintain and repair fencing • fertiliser application • watering plants in drier areas, especially in the establishment phase • application of lime or gypsum to control pH and improve soil structure.	N	Biodiversity Report not undertaken this report period.

ACTIONS TO ADDRESS NON-COMPLIANCES

Particulate matter 2.5 24 hour Average Exceedance

Condition 64 states that any exceedances of the relevant criteria are a breach of the consent.

Schedule 2 condition 28 requires the site adhere to air quality criteria. On 26th September 2023 Hodgsons was notified in Report 15174 of an exceedance of the PM2.5 24 hour criteria on 24/08/2023. During the sampling it was noted that prescribed burning was being undertaken in the local area by the Bushfire Brigade. The DPE was informed of the high result via the Major Projects Portal and required that no further action be undertaken, and a non-compliance was not recorded. Additional details are provided in section *6.3.2*.

2.1.1 Conservation Bond

Schedule 2 condition 61 requires the site to lodge a Conservation and Rehabilitation Bond. The calculation was approved 18th December 2023.

2.1.2 Updating of Plans and Strategies

Schedule 2 condition 22 and 67 requires the site to review all Management Plans within 3 months of consent modification. Only the Surface Water Management Plan and Transport Management Plan had been reviewed and

updated following consent Mod 4. Condition 58 requires the Rehabilitation Plan to be updated for changes to the final landform described in Mod 4. All management plans were updated in 2023 and are awaiting department approval.

Independent Environmental Audit 2023

In accordance with Condition 70, an Independent Environmental Audit (IEA) was conducted in March 2023 by James Hart. James Hart concluded:

> *"Hodgson Quarries had developed and generally implemented management plans and associated documentation to address the requirements of the conditions of consent.*
> *While compliance with aspects of the conditions of the project approval and management plans was found, fourteen non-compliances were raised where compliance with requirements of the conditions of consent, EPL, WAL or management plans prepared for the site was not demonstrated.*
> *Hodgson Quarries should ensure that actions are identified and implemented to address the findings contained within this audit to enable compliance with all obligations and ensure environmental impacts of the developments are appropriately managed."*

The final report was submitted and received 8th May 2023 along with a response and action plan. The action plan was updated following initial submission, with the final Version 3 submitted 10th July 2023 following DPE responses. No further updates to the action plan were required by the DPE. As shown below, one non-compliance remains open in the form of the rehabilitation bond not being paid to date.

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
NC-01	Schedule 2 Condition 2	The Proponent, in acting on this approval, must carry out the project in accordance with: (a) the conditions of this approval; and (b) all written directions of the Secretary	Non-compliances have been identified with conditions of consent, triggering a non-compliance with this condition.	It is recommended that all non-compliances identified are addressed and closed out. Consider implementing a process to track compliance requirements and status.	This table will be reviewed monthly until all listed NC's are closed out. The report and review section of the OEMP will be strengthened when updated.	Every month until all closed out		This table
NC-02	Schedule 2	The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with DPIE Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval by 31 December 2016. The plan must be updated on an annual basis in consultation with DPIE Water for three years from the date of approval of Modification 2 and thereafter as agreed with by the Secretary.	Surface Water Management Plan requires the following monitoring to be conducted:	Documented records should be maintained to verify monitoring and inspections have been completed in accordance with the Surface Water Management Plan.	Environmental monitoring checklist to updated to include these items. Weather forecast is routinely monitored and maintenance works checked, this will be recorded more robustly. Alarms set on weather station to advise when more than 70mm rainfall has been received in 5 days or less. The report and review section of the OEMP will be strengthened when updated.	7/07/2023	1. Was the following monitoring undertaken in accordance with the Surface Water Management Plan (SWMP): a. Section 4.9.1 – Regular monitoring of soil erosion, sediment and water within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff (approximately 70 mm of rainfall over 5 days); b. Section 4.9.3 – Visual check of stability and operation of all banks, ponds, channels and spillways undertaken monthly; and c. Section 4.9.3 – Visual inspection for evidence of tailgate discharge and/or sediment build-up at the exit to site undertaken weekly. 2. If the answer to items 1a)-c) above is no, please advise why the monitoring was not undertaken as required. 3. If the answer to items 1a)-c) above is yes, please advise why this information was not captured. Please provide the following records: 13. Evidence the monitoring outlined in items 1a)-c) were undertaken.	CLOSED: Appendix A: a) Weather Event; b) Monthly WMP checks c) Tailgate and Road check eg to 230704. Weather station alarm set to 15mm per day (cumulative totals to be performed manually)
	Condition 42	The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	• monitoring of the soil erosion, sediment and water is undertaken regularly and within 24 hours of expected rainfall and within 18 hours of a rainfall event of sufficient intensity and duration to cause runoff (approximately 70mm of rainfall over 5 days).					
			• Visual check of stability and operation of all banks, ponds, channels and spillways undertaken monthly.					
			•Visual inspection for evidence of tailgate discharge and/or sediment build-up at exit to site – Weekly					
			However, no records were available to verify that inspections had been conducted.					

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
NC-03	Schedule 2	The results of the Groundwater Monitoring Program shall be reported to the Department and DPIE Water, using contour plans depicting the surface topography, updated contour maps of the wet weather high groundwater level of the regional aquifer and proposed depth of extraction for each extraction Phase.	Reporting on the Groundwater Monitoring Program not undertaken on a six monthly basis.	A process should be implemented to ensure that the results of the Groundwater Monitoring Program are reported to the Department and DPIE Water on a six monthly basis.	The DPI-Water will be approached to advise whether this requirement is still valid, and how the reporting should occur. The report and review section of the OEMP will be strengthened when updated.	DPI to be contacted by 30th June. Actions to follow if/as required	4. Has the proponent prepared and implemented, in consultation with DPE Water, a process for the reporting of Groundwater monitoring results to the Department and to DPE Water on a 6-monthly basis. 5. If the answer to item 4 above is no, outline the actions the project will implement to bring this condition into compliance.	CLOSED: Appendix B. Uploaded to portal (DA267-11-99-PA-35). DPE Water has no comment.
	Condition 44	Reporting is to occur on a six monthly basis for the duration of extractive operations, and throughout rehabilitation of the site, unless otherwise agreed with the Secretary.						
		The Applicant shall implement the Groundwater Monitoring Program as approved from time to time by the Secretary.						
NC-04	Schedule 2	The Applicant must prepare a Traffic Management Plan that must:	Traffic Management plan requires formal observation of compliance of both the Drivers Code of Conduct and Covering of Loads at three monthly intervals to be undertaken to document any departures and identify any remedial actions with employees, heavy vehicle drivers or haulage companies that may be necessary as a result of these observations.	Formal observation of compliance of both the Drivers Code of Conduct and Covering of Loads should be undertaken and documented at three monthly intervals.	Observation of compliance to be undertaken and recorded. Observations to re-occur in accordance with TMP	Every 3 months starting April 2023	6. Was the observation of compliance with both the Drivers Code of Conduct and/or Covering of Loads conducted at three monthly intervals as required by the Traffic Management Plan?7. If the answer to item 6 above is no, please advise why the observation of compliance was not undertaken at three monthly intervals.8. If the answer to item 6 above is yes, please advise why the observations were not formally recorded.Please provide the following records:14. Evidence of the observation of compliance with both the Drivers Code of Conduct and/or Covering of Loads was conducted at three monthly intervals.	CLOSED: Appendix C. Truck Driver Audit
	Condition 50A	(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;	No records of completion of formal observations were available.					
		(b) be prepared in consultation with TfNSW and Council;						
		(c) include a Drivers' Code of Conduct that contains procedures to ensure that drivers:						
		(i) adhere to posted speed limits or other required travelling speeds;						
		(ii) adhere to designated transport routes;						
		(iii) implement safe and quiet driving practices; and						
		(iv) minimise potential conflict with school buses.						
		(d) describe the measures to be put in place to ensure compliance with the Drivers' Code of						
		Conduct; and						

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
		(e) propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles exiting the site.						
		The Applicant must submit the Traffic Management Plan for the approval of the Secretary by the 31 October 2021, or as otherwise agreed by the Secretary. The Applicant must implement the Traffic Management Plan as approved.						
NC-05	Schedule 2	The Applicant shall prepare a Landscape and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:	The Landscape and Rehabilitation Plan has not been updated each 3 year period, or following approval of DA 267-11-99 Mod 4.	A process should be implemented to ensure that the Landscape and Rehabilitation Plan is 3 yearly as required by 60(d) and following changes to conditions of approval.	LRMP will be updated and reviewed every 3 years. The report and review section of the OEMP will be strengthened when updated.	31/07/2023	9. Has the Landscape and Rehabilitation Management Plan (LRMP) been revised every 3 years, in accordance with Schedule 2, Conditions 60(d)?10. If the answer to item 9 above is no, please advise why and when you expect the next revision to take place.Please provide the following records:15. A copy of the most recent draft of the LRMP.	CLOSED: Submitted 22/08/2023
	Condition 60	(a) be submitted to the Secretary for approval by 30 June 2017, unless otherwise agreed by the Secretary;						
		(b) provide details of the conceptual final landform and associated land uses for the site;						
		(c) describe the short, medium and long-term measures that would be implemented to ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;						
		(d) include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following the 3 years covered by the initial approval of the plan) including the procedures to be implemented for:						
		• maximising the salvage of environmental resources within the approved disturbance area for beneficial reuse;						
		• protecting vegetation and fauna habitat outside the approved disturbance area on-site;						
		• minimising the impacts on native fauna;						
		• landscaping the site to minimise visual and lighting impacts;						
		• reviewing improved pasture species and application rates;						
		• controlling weeds and feral pests;						
		• controlling erosion;						
		• controlling access; and						

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
		• bushfire management;						
		(e) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;						
		(f) include a mass balance calculation to ensure that appropriate volumes of material are available to implement the final landform as described in this plan;						
		(g) provide for the construction and maintenance of the process water dam in accordance with the approved design and construction criteria (see Condition 42(b));						
		(h) identify the potential risks to the successful rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks; and						
		(i) include details of who would be responsible for monitoring, reviewing, and implementing the plan.						
		The Applicant shall implement the management plan as approved from time to time by the Secretary						
NC-06	Schedule 2	By 31 December 2017, the Applicant shall lodge a Conservation and Rehabilitation Bond with the Department to ensure that the management of biodiversity and the rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the Flora and Fauna Management Plan and Landscape and Rehabilitation Plan. The sum of the bond shall be	A Conservation and Rehabilitation Bond has not been lodged with the Department.	The Conservation and Rehabilitation Bond should be finalised and lodged to DPE	The Bond will be finalised and submitted	Calculation included in LRMP to be submitted by 31/07/2023.	11. When do you expect to finalise and lodge the Conservation and Rehabilitation Bond to the Department?	OPEN: Negotiations underway with Dept
	Condition 61	determined by:						
		(a) calculating the cost of rehabilitating the site taking into account the likely surface disturbance over the following 3 years of quarrying operations; and						
		(b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary.						

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
		Note: If the rehabilitation of the site is completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the rehabilitation of the site is not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.						
NC-07	Schedule 2	The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this Consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this Consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.	Exceedance of PM2.5 criteria in October 2021 a result of local bushfire.	Neither exceedance was the result of dust generation by quarry activities. No further action required.	No action required	7/07/2023	12. Provide a detailed response outlining the date, time, cause and details of the incident resulting in an exceedance of site PM2.5 dust criteria in September 2021.	CLOSED: AppD Description of Dust Exceedance
	Condition 64	Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:	Exceedance of Dust deposition criteria in 2022. Exceedance was found to be the result of contamination of the ample with sand as a result of maintenance activities in the near vicinity of the dust gauge, and not the result of dust generated by the project.					
		(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;	Both exceedances were reported to DPE with no further action required.					
		(b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and						
		(c) implement remediation measures as directed by the Secretary,						
		to the satisfaction of the Secretary.						
NC-08	Schedule 2	Within 3 months of the submission of:		Hodgson Quarries should ensure that a process is implemented to review, and if required update, the strategies, plans, and programs required under this Consent in accordance with Condition 66. The outcomes of the review	The report and review section of the OEMP will be strengthened when updated.	31/07/2023	Please note, the proposed actions for Schedule 2, conditions 67, 68, 68A, and 70 do not directly correlate to the Auditor's recommendations. Please ensure that the project identifies relevant actions that are to be	CLOSED: Submitted 26/07/2023
	Condition 67	(a) an annual review under Condition 66 above;						
		(b) an incident report under Condition 68 below;						
		(c) an audit report under Condition 70 below; or						

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
		(d) any modification to the conditions of this Consent (unless the conditions require otherwise), the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this Consent to the satisfaction of the Secretary.		should be submitted to the Secretary for approval.			implemented to bring the project into compliance.	
		Where this review leads to revisions in any such document, then within 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval.						
		Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.						
NC-09	Schedule 2	The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.	An exceedance of site PM2.5 dust criteria occurred in September 2021 as a result of a local grassfire.	Hodgson Quarries should ensure that all incidents, including exceedances of site monitoring criteria, are reported to DPE in accordance with Condition 68.	The report and review section of the OEMP will be strengthened when updated.	31/07/2023	Please note, the proposed actions for Schedule 2, conditions 67, 68, 68A, and 70 do not directly correlate to the Auditor's recommendations. Please ensure that the project identifies relevant actions that are to be implemented to bring the project into compliance.	CLOSED: Submitted 26/07/2023
	Condition 68		The exceedance was not reported to DPE in accordance with Condition 68.					
NC-10	Schedule 2	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Non-compliances identified in the 2021 Annual Review had not been submitted.	All non-compliances should be notified to DPE be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	The report and review section of the OEMP will be strengthened when updated.	31/07/2023	Please note, the proposed actions for Schedule 2, conditions 67, 68, 68A, and 70 do not directly correlate to the Auditor's recommendations. Please ensure that the project identifies relevant actions that are to be implemented to bring the project into compliance.	CLOSED: Submitted 26/07/2023
	Condition 68A							

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
NC-11	Schedule 2	Every 3 years from the date of this consent and at the completion of works under this consent, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:	Previous Independent Environmental Audit conducted 4 June 2020.	Hodgson Quarries should ensure that audit are planned and undertaken within 3 years of the date of consent.	The report and review section of the OEMP will be strengthened when updated.	31/07/2023	Please note, the proposed actions for Schedule 2, conditions 67, 68, 68A, and 70 do not directly correlate to the Auditor's recommendations. Please ensure that the project identifies relevant actions that are to be implemented to bring the project into compliance.	CLOSED: Submitted 26/07/2023
	Condition 70	(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	Current audit commenced 29 March 2023.					
		(b) include consultation with the relevant agencies;						
		(c) assess the environmental performance of the development and assess whether it is complying						
		with the requirements in this Consent and any relevant EPL (including any assessment, plan or program required under these approvals);						
		(d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and						
		(e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.						
		Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.						
NC-12	EPL	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.	Non-compliances have been identified with the requirements of EPL 6535, which trigger a non-compliance with this condition.	It is recommended that all non-compliances identified are addressed and closed out. Consider implementing a process to track compliance requirements and status.	The report and review section of the OEMP will be strengthened when updated.	31/07/2023	Please also note, non-compliances identified in the IEA to the project's Environmental Protection License (EPL 6535) have been referred to the EPA for consideration.	CLOSED: Submitted 26/07/2023
	A3.1	In this condition the reference to "the licence application" includes a reference to:						
		a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and						
		b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.						

Issue No.	Condition	Requirement	Issue sighted	Recommendation	Proposed Action	Due Date	DPE Request for Information 22-23/6/2023	Documentation/ Status
NC-13	EPL O1.1	Licensed activities must be carried out in a competent manner.	During the current audit, it was found that oils and chemicals had been stored in unbunded locations.	All chemical and hydrocarbon containers should be stored in a bunded area.	Metals are to be sorted into those that are required for spare parts and repairs, and that which can be recycled or otherwise disposed of. An additional bund will be built in accordance with the relevant Australian Standard to house additional chemicals and hydrocarbons and replace the oil sock around the drums in the workshop. Stock of chemicals and oils will be run down. Empty drums and unused tyres will be picked up by a licenced contractor.	Remaining waste tyres: 30/08/2023. Spill pallets to be installed by 8/12/2023	Please also note, non-compliances identified in the IEA to the project's Environmental Protection License (EPL 6535) have been referred to the EPA for consideration.	CLOSED: EPA email 11/12/2023
		This includes:	In addition, waste material, including used tyres was present in various locations on site	Waste material stored on site should be gathered and removed by the licenced contractor.				
		a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and		Metal parts stored in various locations on site should be sorted and stored in a single location in a neat and tidy manner.				
		b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.		Consider reducing the quantity of containers on site to enable storage within the existing bunded facility.				

2.2 ACTIONS REQUIRED FROM PREVIOUS REPORTS

2.2.1 Annual Review and Compliance Report 2022

The 2022 Annual Review and Conditions Compliance Report was submitted to DPE on 31st March 2023 through the Major Projects Portal. Acknowledgement was received from DPIE on 31st March 2023, and acceptance of the report received 27th April 2023. No further actions were required.

All actions from the previous Annual Review and Condition Compliance Report were closed out.

2.2.2 Air Quality Monitoring Review

In accordance with Schedule 2 conditions 29A and 29B, an Air Quality Monitoring Review (AQMR) was undertaken by an approved independent expert, and by the DPIE on 28/2/2023.

The recommendations were implemented.

Table 2. Conclusions and Recommendations from AQMR

Description	Date Implemented
Ensure field parameters recorded each sampling event	Sampler made aware of requirements 2/2/2023
Ensure that the procedure for sampling is documented and that all sampling technicians are trained in it regularly	Procedure and documentation training 30/3/2023 Procedure in AQMP dated 21/7/23 not yet approved
Update the site Air Quality Management Plan (AQMP) to include the modification 4 requirements. The author recommends that, in consultation with the DPE, monitoring for TSP be discontinued as this is a less critical parameter, and instead replaced by a ratio calculation from PM10 based on monitoring data collected from the site over as long a period as possible, without including the extraordinary events of the 2019-2020 bushfires. **The explanation for how this is to be calculated would be included in the updated AQMP**	AQMP updated 21/7/2023 including calculation of TSP. Plan not yet approved, therefore monitoring adjustment recommendations not yet implemented.

3 Introduction

3.1 PROJECT SITE

This Annual Review and Conditions Compliance Report has been prepared by VGT Environmental Compliance Solutions Pty Ltd (VGT) on behalf of Hodgson Quarries and Plant Pty Ltd (the Operator). The Roberts Rd Maroota Sand Quarry is located on Roberts Road near Old Northern Road, Maroota, NSW. Maroota is approximately 50 kilometres north-west of Sydney (see *Figure One*). The Operator extracts sand and gravels from the site according to Development Approval conditions 267-11-99.

3.2 BACKGROUND

The Maroota area is known for the production of sand from a paleochannel system and represents a valuable resource to the building industry. The sand is obtained from two main sources, the Maroota Sand which overlies the weathered profiles of the Hawkesbury Sandstone. Clay beds deposited by the meandering of the paleochannels are common throughout the Maroota Sand formation.

The Roberts Rd site has been operational since the 1990's and construction of a water supply dam commenced in or around the 1970's. Consent was granted for extraction and processing of sand, clay and pebble material in 2000 and the continued construction of the dam which is located on the northern boundary of the site. The client took over operations on the site in 2004.

This Annual Review and Conditions Compliance Report covers the period 1st January 2023 to 31st December 2023 and has been conducted against the Modification 4 approved on 13th August 2021.

3.3 QUARRY CONTACTS

	Production Manager	Environmental Officer
	Martin Hodgson	Stuart Reed
	Hodgson Quarry and Plant Pty Ltd	Hodgson Quarry and Plant Pty Ltd
Address	PO Box 1778,	PO Box 1778,
	Gosford NSW 2250	Gosford NSW 2250
Mobile	0408 251 393	0418 277 871
Phone	(02) 4372 1649	(02) 4372 1649
Email	hodgsonquarries@gmail.com	hodgsonquarries@gmail.com

Plan of:	**Annual Review & Compliance Report 2024 for Roberts Road Maroota Sand Quarry - Site Location**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	Google OpenStreetMap & nearmap - Image Date 21/01/2024 Zone MGA 56	**Plan By:**	SK/JD
Figure:	**ONE**	**Council:**	Hills Shire Council	**Survey:**	Not Applicable	**Project Manager:**	LT
Version/Date:	V0 14/02/2024	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856	**Office:**	Thornton
Our Ref:	12591_HMA_AR2024_Q001_V0_F1	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	Not Applicable		

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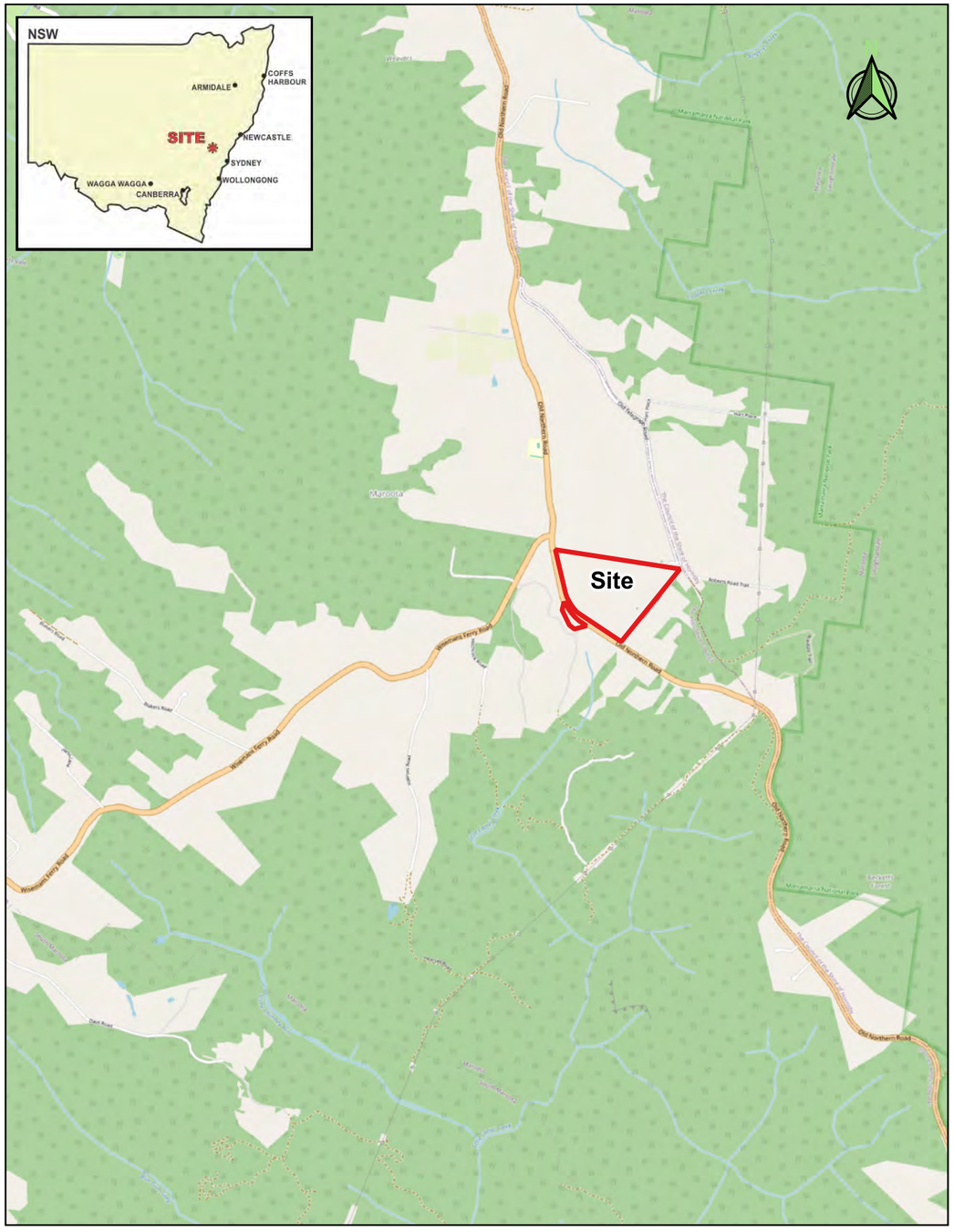

Legend

Property Boundary

4 Approvals

This section details the approvals and licenses held for the site, as well as relevant legislative requirements that the owner, operator and site workers should be aware of. This chapter will be reviewed annually to ensure information remains up to date with legislative and policy changes.

4.1 DEPARTMENT OF PLANNING AND ENVIRONMENT

Development approval (DA267-11-99), with conditions of consent was first issued by the then Department of Urban Affairs and Planning on the 31st of May 2000. The first modification to S98/00772 was issued on the 29th of November 2000 (Mod 1). In view of the imminent expiry of the consent in May 2015, a further Modification to Consent (Mod 3) was submitted to the DPE to extend the life of the quarry to permit continued operations whilst Mod 2 was under consideration by the DPE. This was approved on the 18th of August 2015 with an expiry of the 31st of May 2016.

A Modification to Consent (Mod 2) to both regularise the existing extraction operation and to extend the life of the approved extraction was submitted to the Department of Planning and Environment (DPE) in May 2015. The DPE made requests for further information and an amended Modification to Consent document addressing those issued was submitted in September 2015 and approved on 18th March 2016.

A Modification to Consent (Mod 4) was submitted in November 2019. Mod 4 was granted 13th August 2021, see *Appendix B*.

There were no changes to the consent requirements this report period.

4.1.1 Report Requirements

This Review is required under condition 6 (Conditions Compliance Report) and 66 (Annual Review) of the consolidated consent. Permission to consolidate the two reviews required was obtained from the Department of Planning and Environment on 30/6/16.

Table 3. Review Requirements

Consent Condition No	Condition Text	Where addressed in this report
6	The Applicant will submit a Conditions Compliance Report to the Secretary prior to the commencement of extraction in areas that are not currently subject to extraction. Subsequent reports will be submitted annually for the first three years of extraction in areas not currently subject to extraction. Further reports shall be submitted as required by the Secretary.	This report and *Appendix A*
6 (a)	To enable ready comparison with the EIS's predictions, diagrams and tables, the Conditions Compliance Reports shall include, but not be limited to, the following matters:(a) a compliance audit of the performance of the project against conditions of Consent and statutory approvals	*Appendix A*
6 (b)	(b) a review of the effectiveness of the environmental management of the development	Section *6*
6 (c)	(c) the results of environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;	Section *6*
6 (d)	(d) a listing of any variations obtained to approvals applicable to the DA since the last report;	Section *4.1*
6 (e)	(e) a record of all complaints and the actions taken to mitigate all such complaints;	Section *5.4*

Consent Condition No	Condition Text	Where addressed in this report
6 (f)	(f) a report detailing the rehabilitation measures undertaken since the last report; and	Section 6.10
6 (g)	(g) environmental management targets and strategies for stages of the development yet to be completed.	Section 7
66	By the end of March each year (or as otherwise agreed by the Secretary), the Applicant shall review the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary. This review must:	Submitted March 2024
66 (a)	(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;	Sections 5, Section 6.10
66 (b)	(b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the: • relevant statutory requirements, limits or performance measures/criteria; • monitoring results of previous years; and • relevant predictions in the EIS, Modification 1 and Modification 2;	Section 6
66 (c)	(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	Section 2, Appendix A
66 (d)	(d) identify any trends in the monitoring data over the life of the development;	Section 6
66 (e)	(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	Section 6
66 (f)	(f) describe what measures will be implemented over the next year to improve the environmental performance of the development.	Section 6

4.2 ENVIRONMENTAL PROTECTION AUTHORITY (EPA)

Environmental Protection License 6535 (see *Appendix C*) has been issued under the *Protection of the Environmental Operations Act* for Crushing, Grinding or Separating Works and Dredging Works. It is renewed annually on the 12th of March and requires monitoring for noise impacts (see Section 6.8 for results). The EPL was amended on 16th June 2023 to include waste disposal (application to land) as a scheduled activity (importation of ENM and VENM described in Section **5.3**) and new noise monitoring locations.

4.3 WATER NSW, NSW DEPARTMENT OF PLANNING & ENVIRONMENT - WATER (DPE-W) AND NATIONAL RESOURCES ACCESS REGULATOR (NRAR)

The site holds a number of licenses issued under the *Water Management Act 2000*, for the operation of groundwater bores and dams. Location of these bores and dams can be found on *Figure Three*. A summary table of those relevant to the development consent and their current status can be found in *Table 4*. Water licenses and their conditions have been included in *Appendix D*. Compliance with these conditions is included in *Appendix A*.

Table 4. Relevant Water Licences Summary

Identification	Licence when Registered	Water Access Licence Number (WAL)	Water Approval No'/ Reference Number	Purpose	Allocation	Expiry	Bore Status	Comments
PT84PB1	10BL159748 (converted to WAL)	WAL 24163	10WA114817 10AL114816	Extraction	45.0 ML per year	14/06/2025	Converted to WAL	Can extract at a rate of 3L/sec.
	10SL045324 (converted to WAL)	WAL 26163	10CA104888 10AL104887	Irrigation	264.0 ML per year	16/02/2026	Converted to WAL	2 pumps and 2 Bywash Dams. Allocation to be transferred
PT84MW1	10BL158808	NR	NR	Monitoring	-	perpetuity	In use for water sampling	Installed 20/10/1998. Located near nursery.
PT84MW5	10BL158808	NR	NR	Monitoring	-	perpetuity	Not in use	Collapsed. Replaced by MW8
PT84MW6	10BL605696	NR	NR	Monitoring		perpetuity	In use for water sampling	Installed January 2015. To replace PT84MW4
MW7	10BL605799	NR	NR	Monitoring		perpetuity	In use for water sampling	Installed December 2016
MW8	10BL605799	NR	NR	Monitoring		perpetuity	In use for water sampling	Installed December 2016
MW9	10BL605799	NR	NR	Monitoring		perpetuity	Mined out	Installed December 2016
MW10	10BL605798	NR	NR	Monitoring		perpetuity	In use for water sampling	Installed December 2016
MW11	10BL605797	NR	NR	Monitoring		perpetuity	In use for water sampling	Installed December 2016
MW12	10BL605799	NR	NR	Monitoring		perpetuity	In use for water sampling	Installed December 2016
MW13	10BL605799	NR	NR	Monitoring		perpetuity	Mined out	Installed December 2016

NR = Not required: used for monitoring only

5 Operations Description

The site has approval under Mod 4 to extract sand and gravel at the rate of up to 70 incoming and 70 outgoing trucks per day and a maximum of 10 incoming and 10 outgoing truck movements per hour.

Extraction of the sand is contingent upon a water supply dam in order to wash the clay from the material won. The material is loaded onto a belt feeder which introduces the sand into a mixing tank. An electric pump at the water storage dam pumps water to the mixing tank via a pipeline. The sand slurry is drawn out of the mixing tank by a slurry pump and pumped to the processing plant. The processing plant washes and screens material, using water primarily from the existing water supply dam adjacent to the northern boundary (Process Dam 1). After washing and screening, material is stockpiled adjacent to the plant area prior to transportation off-site by truck. Trucks are loaded using a front-end-loader. Washing and screening forms a residual clay/silt slurry which is piped to designated drying areas in a previously extracted cell where it will be spread in thin layers to dry. Liberated water is drained to the water dam for re-use in the processing plant.

Site operations are illustrated on the following figures.

Plan of:	**Annual Review & Compliance Report 2024 for Roberts Road Maroota Sand Quarry - Sequence of Extraction**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	nearmap - Image Date 21/01/2024 Zone MGA 56	**Plan By:**	SK/JD
Figure:	**TWO**	**Council:**	Hills Shire Council	**Survey:**	Not Applicable	**Project Manager:**	LT
Version/ Date:	V0 12/02/2024	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856		
Our Ref:	12591_HMA_AR2024_Q002_V0_F2	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	Not Applicable		

N

0 50 100 m

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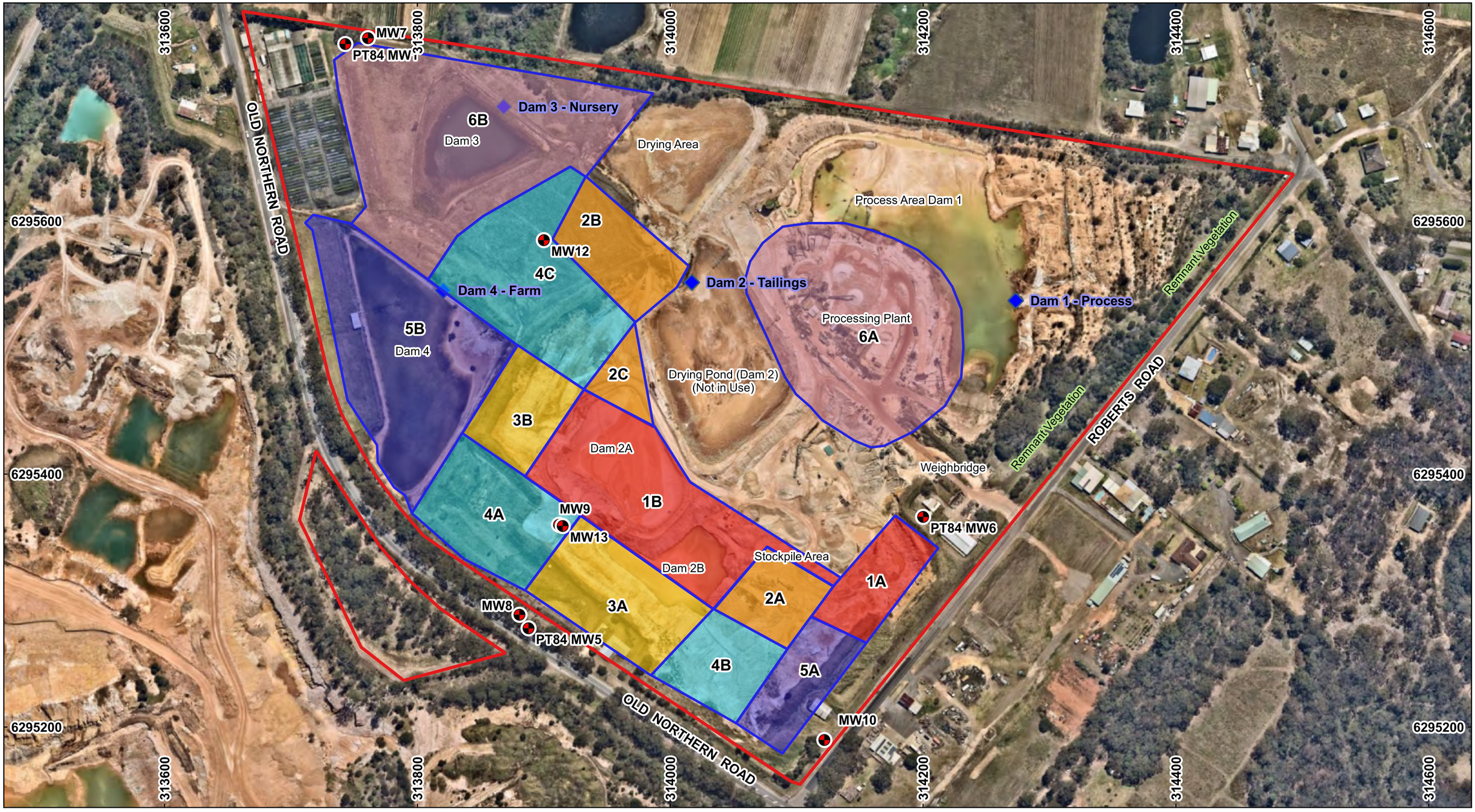

Legend

- Property Boundary
- Water Sampling
- Monitoring Wells

Years 1-2 (2015-2017)
- Phase 1
- Phase 2

Years 2-5 (2016-2021)
- Phase 3
- Phase 4

Years 5+ (2020+)
- Phase 5
- Phase 6

Note: Phases and Years are indicative only, and are dependent on market demand and product mixing requirements.

Plan of:	**Annual Review & Compliance Report 2024 for Roberts Road Maroota Sand Quarry - Environmental Monitoring Locations**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	nearmap - Image Date 21/01/2024 Zone MGA 56	**Plan By:**	SK/JD
Figure:	**THREE**	**Council:**	Hills Shire Council	**Survey:**	Not Applicable	**Project Manager:**	LT
Version/ Date:	V0 25/03/2024	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856		
Our Ref:	12591_HMA_AR2024_Q003_V0_F3	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	Not Applicable		

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313500 313750 314000 314250 314500

6295750 6295500 6295250

WISEMANS FERRY ROAD

OLD NORTHERN ROAD

ROBERTS ROAD

3/B

MW11

MW7

PT84 MW1

3A Bundwall

D2A N/E Corner

5/D

Dam 3 - Nursery

Dam 3

Drying Area

1/A

D2 N/E Corner

Process Area Dam 1

MW12

6/F

Dam 4 - Farm

Dam 2 - Tailings

Sprinkler

Dam 1 - Process

Processing Plant

Remnant Vegetation

Dam 4

Drying Pond (Dam 2) (Not in Use)

7/G

Dam 2A

Weighbridge

Remnant Vegetation

2/B

MW9

MW13

D1 Gate

Weather Station

1A

PT84 MW6

Dam 2B

Stockpile Area

MW8

PT84 MW5

R

MW10

4/D

Note:

Dam No.	Dam Catchment	Dam Area (m^2)	Estimated Average Depth (m)	Estimated Volume (m^3)
1	Processing Dam	-	Ranging from 0.1-3m*	1,240*
2	Holding Dam	12,200	1	12,200
3	Northern Nursery Dam	7,500	2	15,000
4	Southern Nursery Dam	14,500	2	29,000
			Total Volume Held	57,440

* Volume calculated from 12D software to RL 187.2 from modelled contours.

All dams will be incorporated into the final landform.

Legend

- Property Boundary
- Dam Areas
- Water Sampling
- Monitoring Well
- Dust Gauge
- Dust & HVAS
- Weather Station
- Attended Noise (EPL/SSD)
- Road Noise Monitoring
- Sprinkler

Plan of:	**Annual Review & Compliance Report 2024 for Roberts Road Maroota Sand Quarry - Site Layout**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	nearmap - Image Date 21/01/2024 Zone MGA 56	**Plan By:**	SK/JD
Figure:	**FOUR**	**Council:**	Hills Shire Council	**Survey:**	Fyfe Quarry Contours 24/02/2022. NSW Spatial Services ELVISDEM Surrounding Contours Dated May 2017. Spot Heights via Singleton Survey Services Pty Ltd 2023.	**Project Manager:**	LT
Version/ Date:	V0 25/03/2024	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856		
Our Ref:	12591_HMA_AR2024_Q004_V0_F4	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	1m		

N

0 50 100 m

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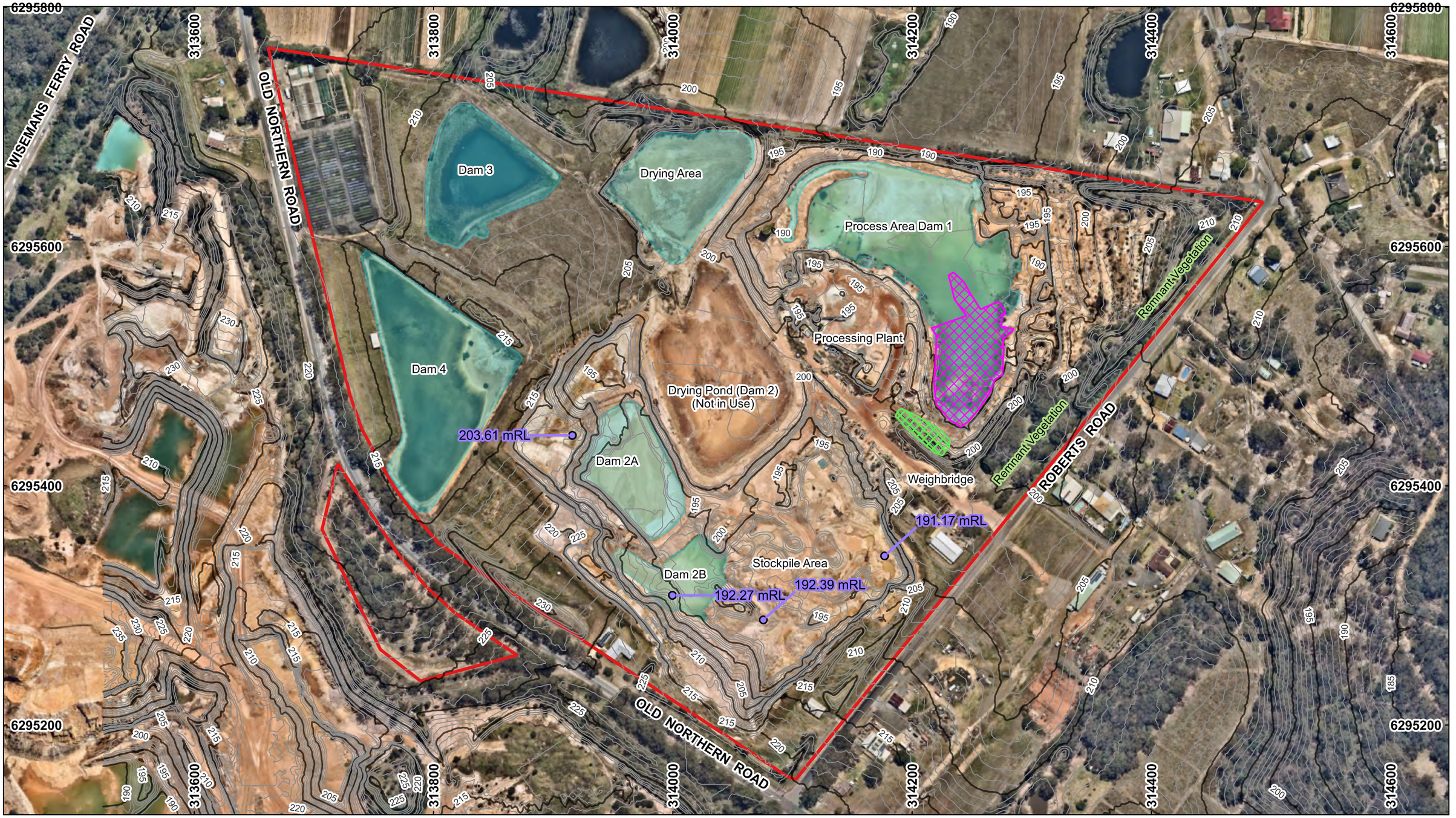


Legend

- Property Boundary
- Dam Areas
- VENM/ENM Emplacement (2023)
- VENM/ ENM Emplacement (2024)
- Spot Heights 2023

Topography 2017/2022

- 1m Contour
- 5m Contour

5.1 OPERATIONS 2023 CALENDAR YEAR

The site layout is illustrated in *Figure Four*. The operation restricts activities to between the hours in *Table 5*.

Table 5. Operational Hours

Days of the week	Activity	Hours
Monday to Friday	Construction	7.00am to 6.00pm
Monday to Friday	Extraction and processing of material	7.00am to 6.00pm (11 hrs)
Saturdays	Extraction and processing of material	7.00am to 1.00pm (6 hrs)
Monday to Friday	Vehicle loading	6.00am to 6.00pm (12 hrs)
Saturdays.	Vehicle loading	6.00am to 1.00pm (7 hrs)
Sundays & Public Holidays	No works permitted	

These hours were not exceeded during the report period, although it is site practice to open the gates at 5:30am to prevent trucks from parking on Roberts Rd. There were no extraordinary maintenance works or atypical operations outside of these hours during the report period.

Approximately 71,400 tonnes of material was sold during the report period, which was lower than 2022, and compliant with Schedule 2 Condition 9A (a) that the site will process or dispatch no more than 480,000 tonnes per calendar year.

Schedule 2 condition 17A states that:

> *17A.The Applicant must provide MEG with annual quarry production data, covering a full calendar year, by no later than 30 January for the following calendar year.*

MEG requires that that extraction data be supplied on a financial year basis rather than calendar year and is now able to be submitted online via the Regulator Portal. It is hoped that this condition can be revised in consultation with MEG and DPE prior to the final consolidated consent conditions being issued for Mod 4.

5.2 TRANSPORT AND TRUCK MOVEMENTS

As per Condition 50A(e), an Operational Traffic Management Plan (TMP) was submitted March 2022 to DPIE with the request for TfNSW for consultation as well as submitted to Council. Consultation was received as well as DPE comments, and Revision 4 of the TMP was approved on 13/12/2022.

The TMP includes a Drivers Code of Conduct, which is to be individually signed by all transport and truck drivers, and is reviewed annually.

5.2.1 Compliance Requirements

The TMP requires the following monitoring and records keeping.

Table 6. Traffic and Transport Monitoring Measures

Aspect	Frequency	Comments
Accurate records of quarry products transported to and from site	Calendar month and annually	Section *5.2.2*
Accurate records of laden vehicles movements	Per hour, day, week, calendar month and year	Section *5.2.2*

Aspect	Frequency	Comments
Monitor complaints with respect to Roberts Rd and other haul routes	Continuously	Section 5.4
A formal observation of compliance with Drivers Code of Conduct and Covering of Loads	Three monthly	Starting March 2023, example provide in *Appendix M*.

5.2.2 Monitoring Results and Compliance Trends

At no time during the report period did the number of laden trucks exceed the limit of 70 incoming or outgoing trucks per day. The weighbridge is not capable of logging movements per hour. The maximum laden trucks per day was 41 in November 2023, which equates to an average of 3.4 movements per hour. Each truck takes 6-8 minutes to load, therefore no more than 10 laden movements per hour is possible.

Section 94A contributions are paid monthly.

Table 7. Annual Production Last 5 Years

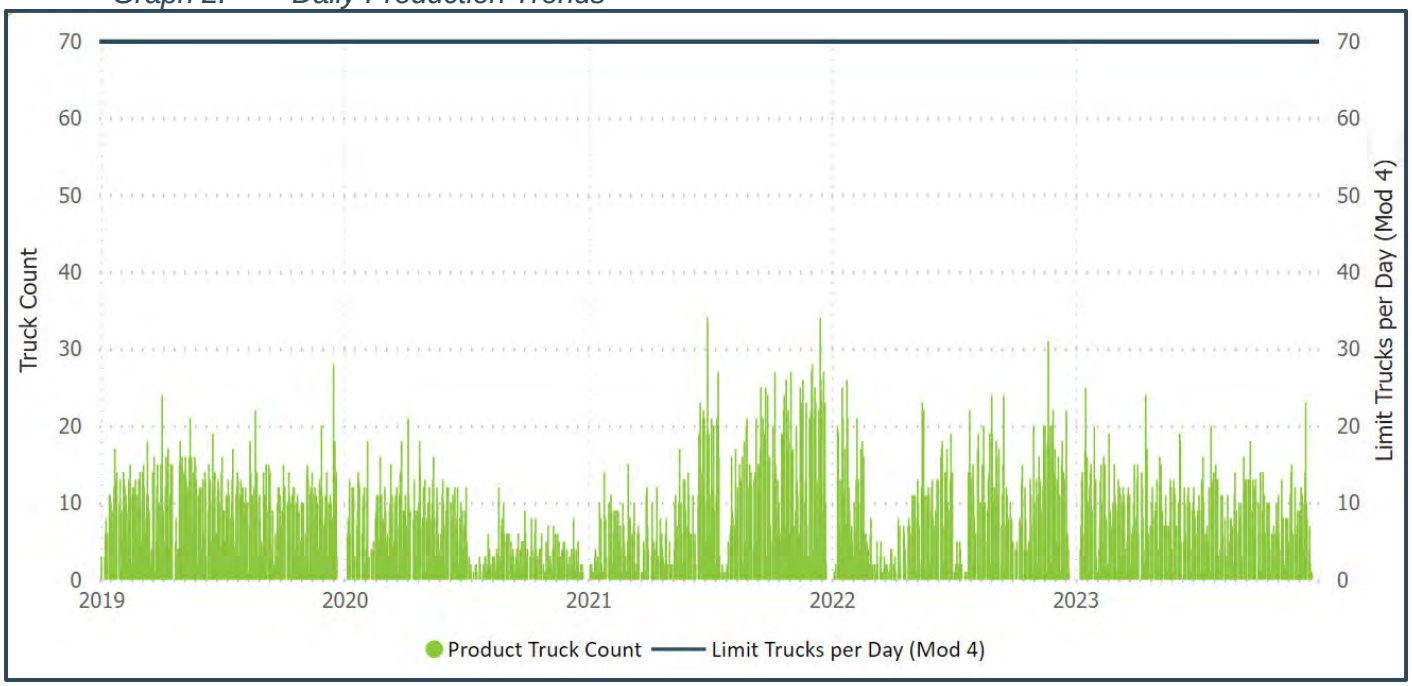
Cal Year	Production Tonnes	Limit Production per Calendar Year
2019	106,907.00	480000
2020	56,894.00	480000
2021	95,987.00	480000
2022	75,054.34	480000
2023	71,413.45	480000

Graph 1. Annual Production Trends Last 5 Years

Table 8. Max Daily Production Trucks This Report Period

Date	Max Daily Product Trucks This Year	Limit Trucks per Day (Mod 4)
17/1/23	25	70
17/4/23	24	70
13/12/23	23	70
30/1/23	20	70
24/7/23	20	70

Graph 2. Daily Production Trends



5.3 MATERIAL IMPORTATION

5.3.1 Compliance Requirements

The Mod 4 consent condition number 9A states:

9A. The Applicant must not:

…

(b) receive more than 320,000 tonnes of VENM and ENM (in total) at the site in any calendar year;

(c) import more than 3 million tonnes of VENM and ENM to the site; and

(d) import VENM and ENM beyond 31 May 2030.

5.3.2 Monitoring Results and Compliance Trends

Table 9. Annual VENM / ENM Importation Trends Last 5 Years

Cal Year	Importation Tonnes	Limit Import Tonnes per Calendar Year	Limit Import Tonnes Total
2022	6,632.45	320000	3000000
2023	22,233.62	320000	3000000
Total	**28,866.07**	**320000**	**3000000**

Graph 3. Annual Importation Trends Last 5 Years

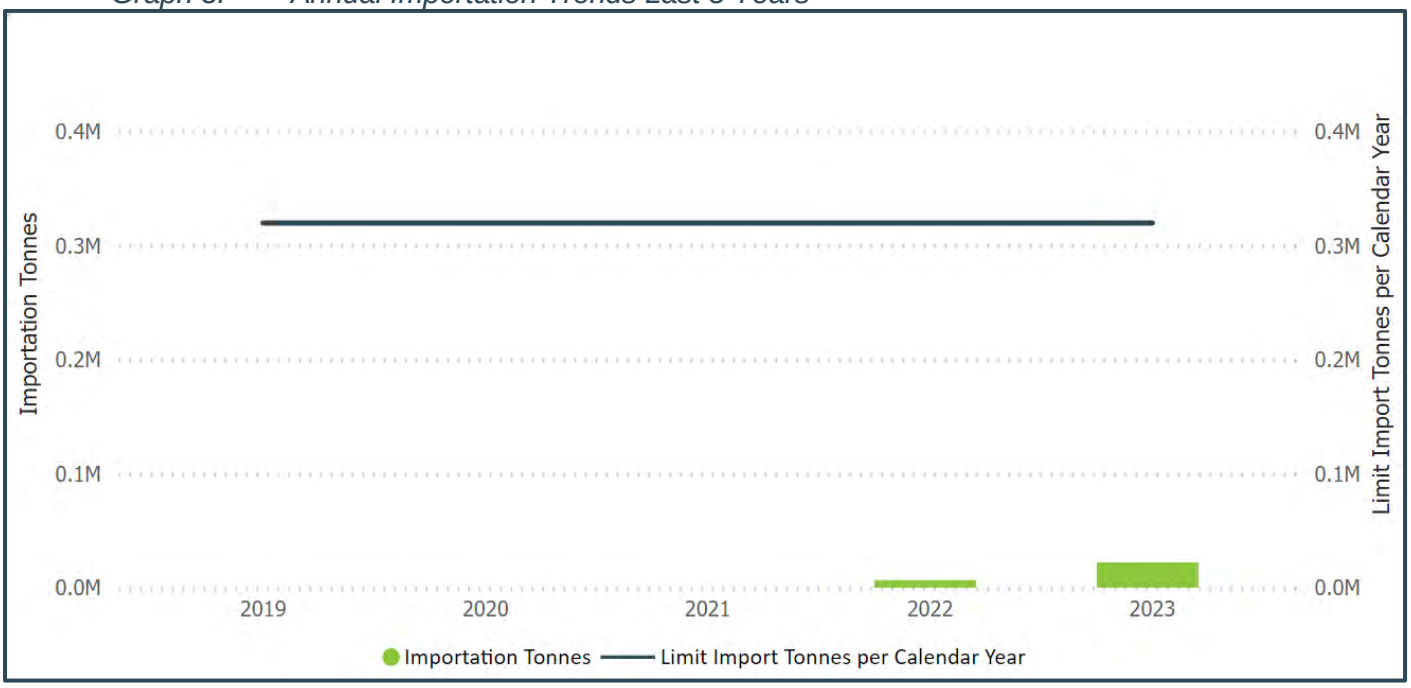
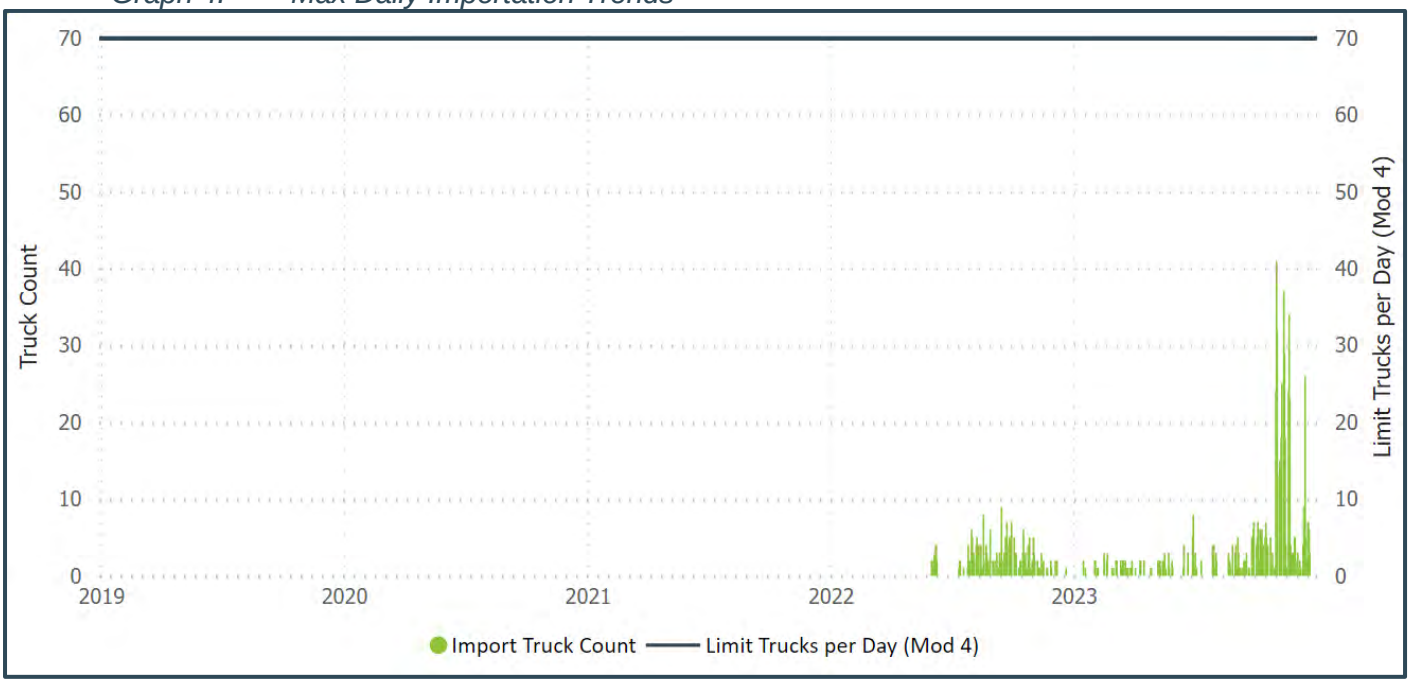


Table 10. Max Daily Importation Trucks This Report Period

Date	Max Daily Import Trucks This Year	Limit Trucks per Day (Mod 4)
2/11/23	41	70
13/11/23	37	70
21/11/23	34	70
3/11/23	32	70
14/11/23	29	70

Graph 4. Max Daily Importation Trends



Data on the VENM and ENM received at the site is collected and retained for every load, including details of the origin, date and quantity received. Examples of VENM or ENM certificates covering the imported material are given in *Appendix E*.

5.4 COMPLAINTS AND COMMUNITY CONSULTATION

The client advertises a community complaints and enquiries phone number in the white pages, on their website (www.vgt.com.au/hodgsons), and in prominent signage on the front gate. All monitoring results, approved management plans and compliance reports, as well as relevant consent and approval documents are also available on the website. The complaints procedure is outlined in the Operational Environmental Management Plan. All complaints are recorded and actioned within 24 hours where possible. There have been no complaints received by the client during the reporting period. The complaints register and form is included in *Appendix F*.

Regular, informal consultation is undertaken verbally with neighbours.

5.5 PROPOSED OPERATIONS 2024 CALENDAR YEAR

Operations are proposed to remain similar in 2024. The active cells are proposed to be phases 3 and 4 as illustrated on *Figure Two*

Emplacement of imported material is proposed to continue in the southern end of Process Area Dam 1.

6 Environmental Management

6.1 WASTE MANAGEMENT

Rubbish is sorted on site into various streams including general rubbish, recyclable containers, used oils, etc and removed by licensed contractors.

During the IEA it was noted that oils and chemicals had been stored in un-bunded locations as well as waste materials such as used tyres present on the site. Negotiations with EPA resulted in the removal of recyclable waste and used tyres, and the purchase of pallet bunds. These works were completed by mid-December 2023. The client has advised that 6 tyres remain on site as safety barriers and there were no further tyres on the site that require disposal.

6.2 CLIMATE SUMMARY

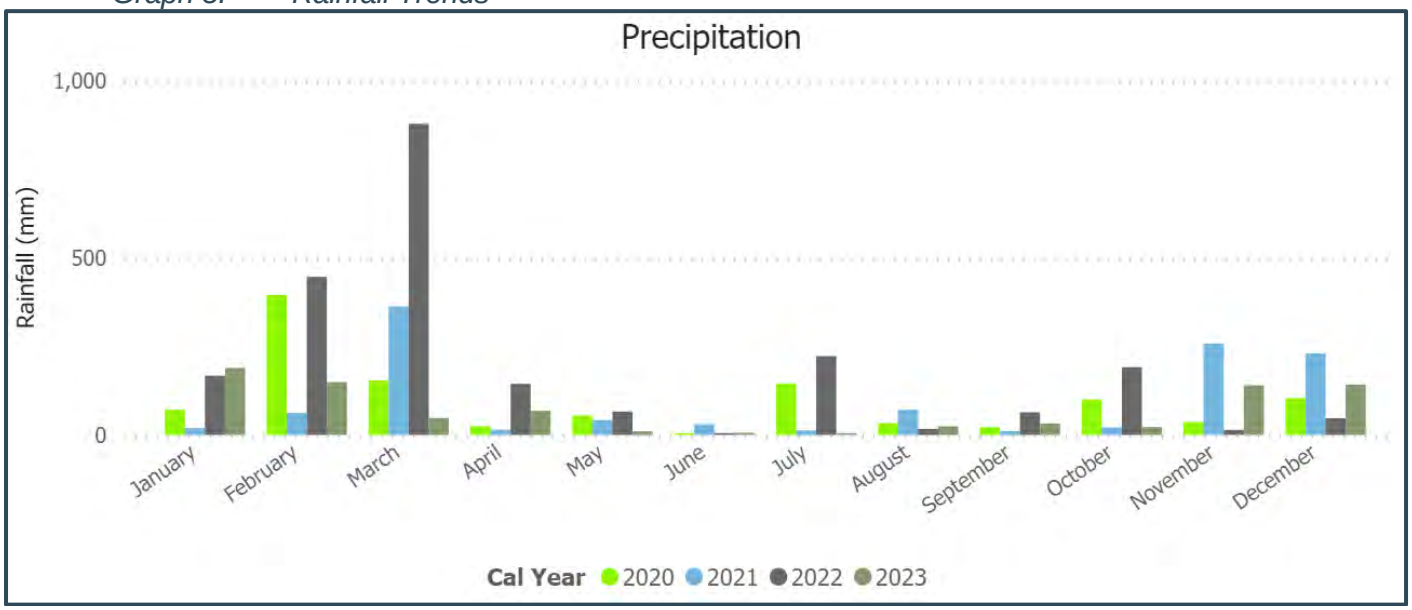
Weather data is collected on site and downloaded monthly. This data is used to inform the water balance and assist in interpreting dust and groundwater impacts. 2019 rainfall is not included due to weather station malfunction.

Table 11. Rainfall Summary

Precipitation mm

Cal Year	January	February	March	April	May	June	July	August	September	October	November	December	**Total**
2020	71	395	154	25	55	3	145	33	22	100	36	104	**1,143**
2021	19	62	362	15	42	30	13	71	11	21	258	230	**1,134**
2022	167	446	878	144	66	3	222	17	64	191	14	47	**2,259**
2023	189	149	48	68	10	6	4	24	32	22	140	142	**834**

Graph 5. Rainfall Trends



Graph 6. Climate in Report Period

Graph 7. Wind Roses for Report Period

6.3 AIR QUALITY

6.3.1 Requirements and Predictions

The consent and Air Quality Management Plan specifies the following Air Quality Criteria:

Table 12. Air Quality Criteria

Parameter	Averaging Period	Consent Limit Mod 4	Prediction [a] Max at Residences	Prediction [b] Max at Residences after 18/08/2021 Mod 4
Total Suspended Particulates (TSP) µg/m^3	Annual	90	57	43
PM_{10} µg/m^3	24 hours	50	49	Not predicted
PM_{10} µg/m^3	Annual	25	15	22
$PM_{2.5}$ µg/m^3	24 hours	25	Not predicted	Not predicted
$PM_{2.5}$ µg/m^3	Annual	8	Not predicted	14.0
Insoluble Solids g/m^2/month	Annual	4	1.7	2.8

Note [a]: The Air Quality Impact Assessment prepared for the Environmental Assessment for Mod 2 (Nexus Environmental Planning Pty Ltd, September 2015) predicted these impacts at the boundary.

Note [b]: The Air Quality Impact Assessment prepared for Mod 4 SoEE (Jacobs Group Australia Pty Ltd, 2019) predicted these impacts at the residents.

The EPL specifies no limits on air quality.

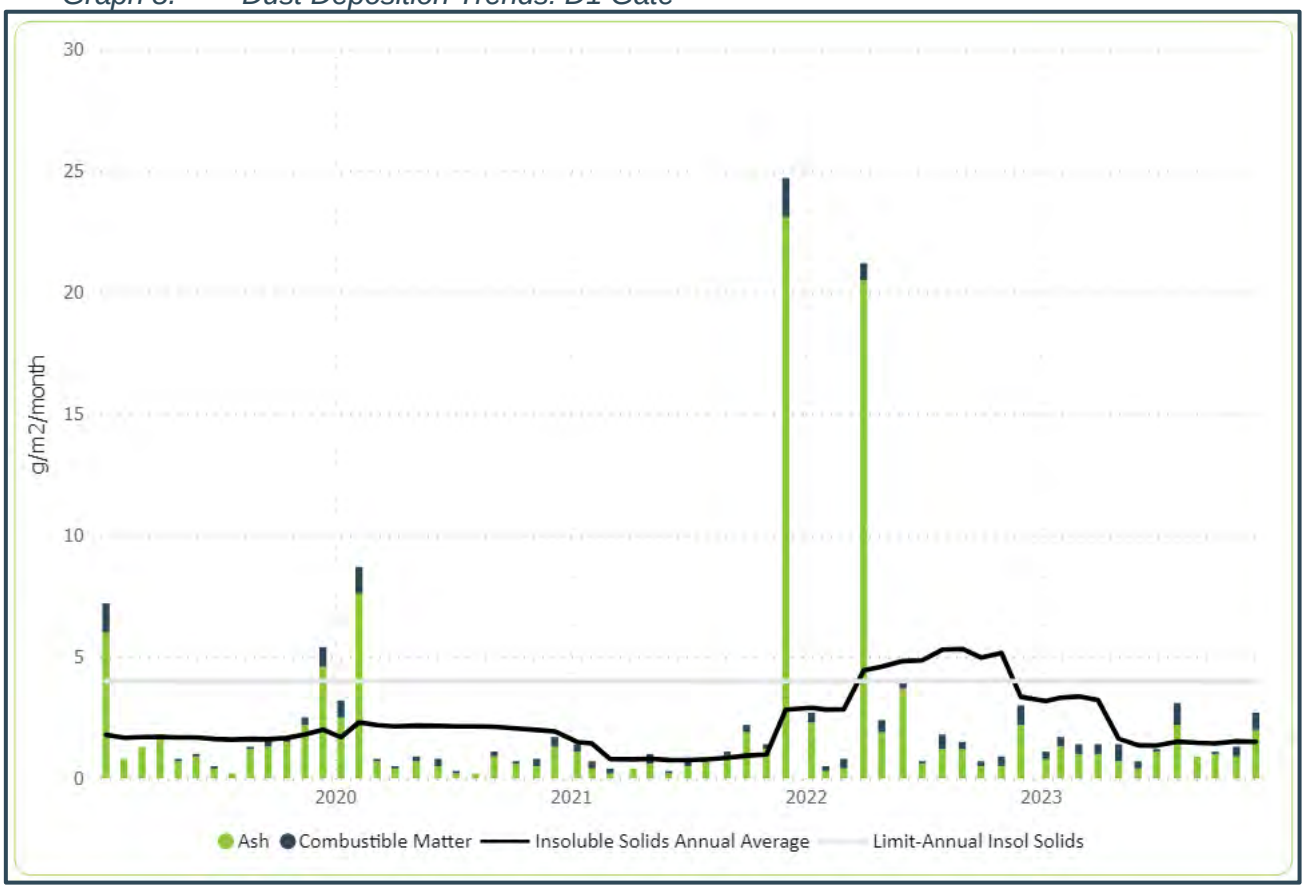
6.3.2 Monitoring Results Compliance and Trends

All air quality monitoring results are given in *Appendix H* and are summarised below.

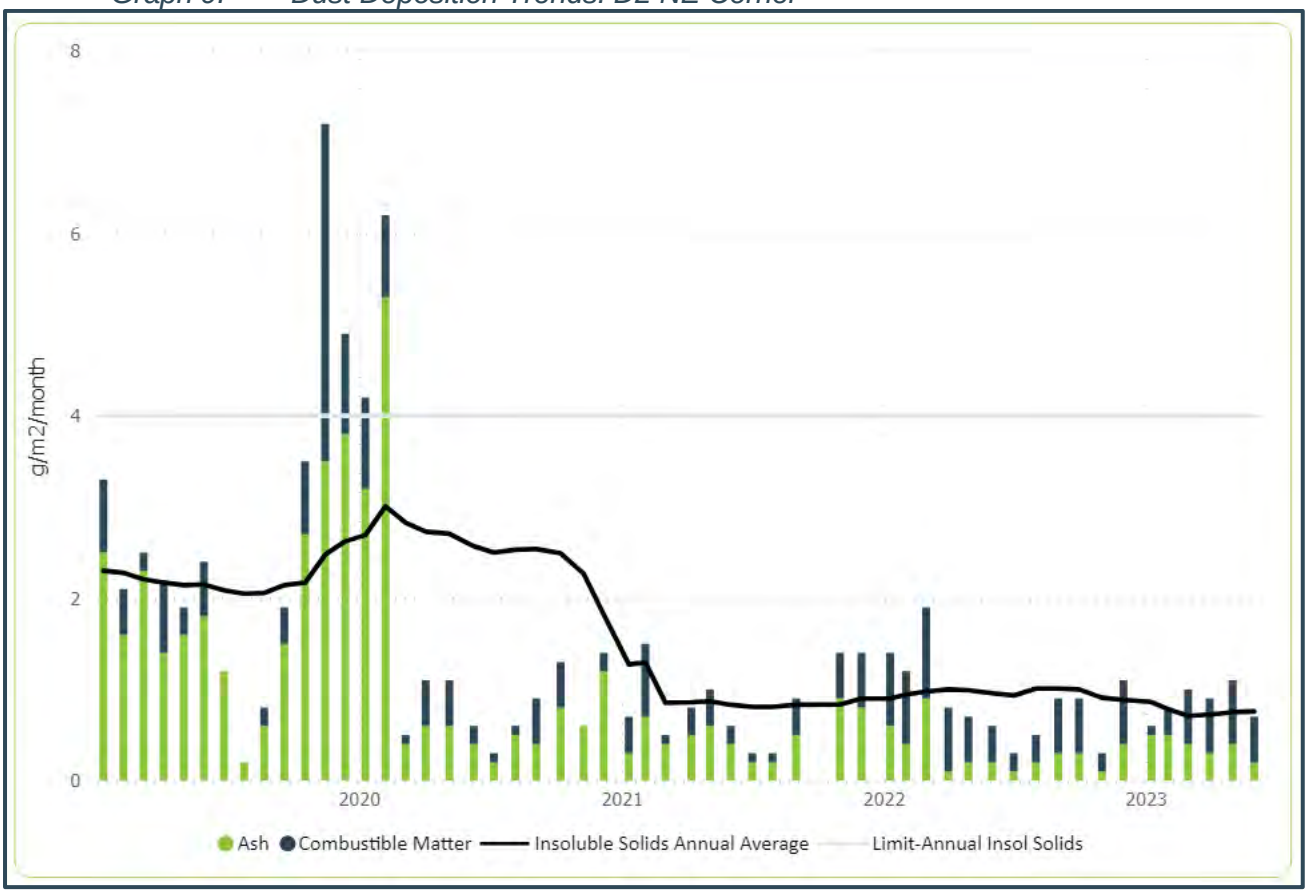
Table 13. Dust Deposition Gauge Results

Date Sampled	D1 Gate	D2 North East Corner	D2a North East Corner	D3A Bundwall
9/1/23	1.1	0.6		1.4
1/2/23	1.7	0.8		1.5
1/3/23	1.4	1.0		1.7
31/3/23	1.4	0.9		0.6
2/5/23	1.4	1.1		0.4
1/6/23	0.7	0.7		0.4
30/6/23	1.2		0.6	2.0
1/8/23	3.1		0.6	0.2
1/9/23	0.9		0.5	2.6
29/9/23	1.1		0.3	1.3
1/11/23	1.3		0.8	2.3
1/12/23	2.7		1.9	2.1
Annual Average	**1.5**	**0.9**	**0.8**	**1.4**

Graph 8. Dust Deposition Trends: D1 Gate

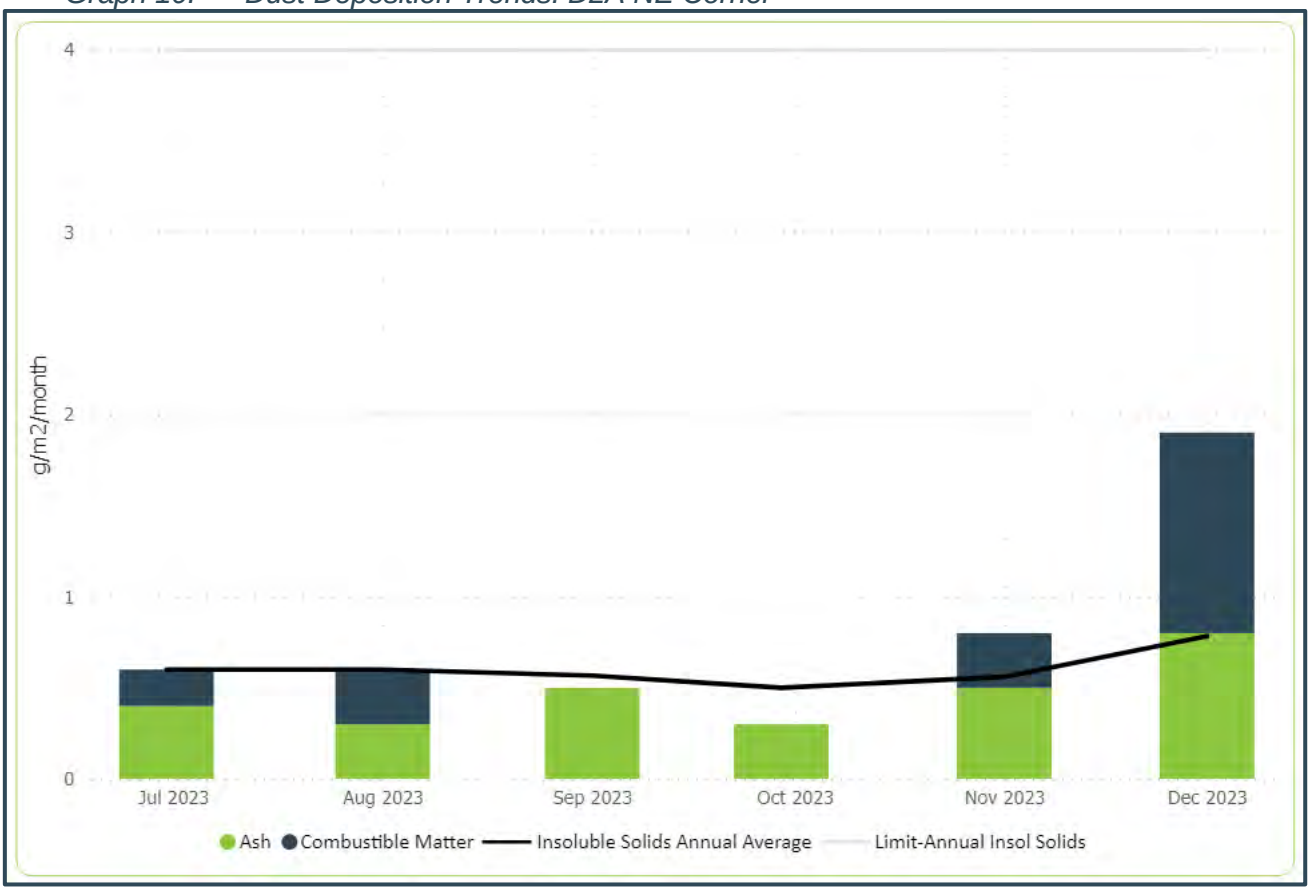


Graph 9. Dust Deposition Trends: D2 NE Corner



[#] Trees encroach on the collection zone of the gauge. These trees are within the protection zone required by the flora management plan and cannot be removed. Trimming of branches is undertaken where possible. The site of this gauge did not meet AS3580.10.1, and was therefore moved to a new location in June 2023 as shown on *Figure Three* as D2A.

Graph 10. Dust Deposition Trends: D2A NE Corner



Graph 11. Dust Deposition Trends: D3A Bundwall

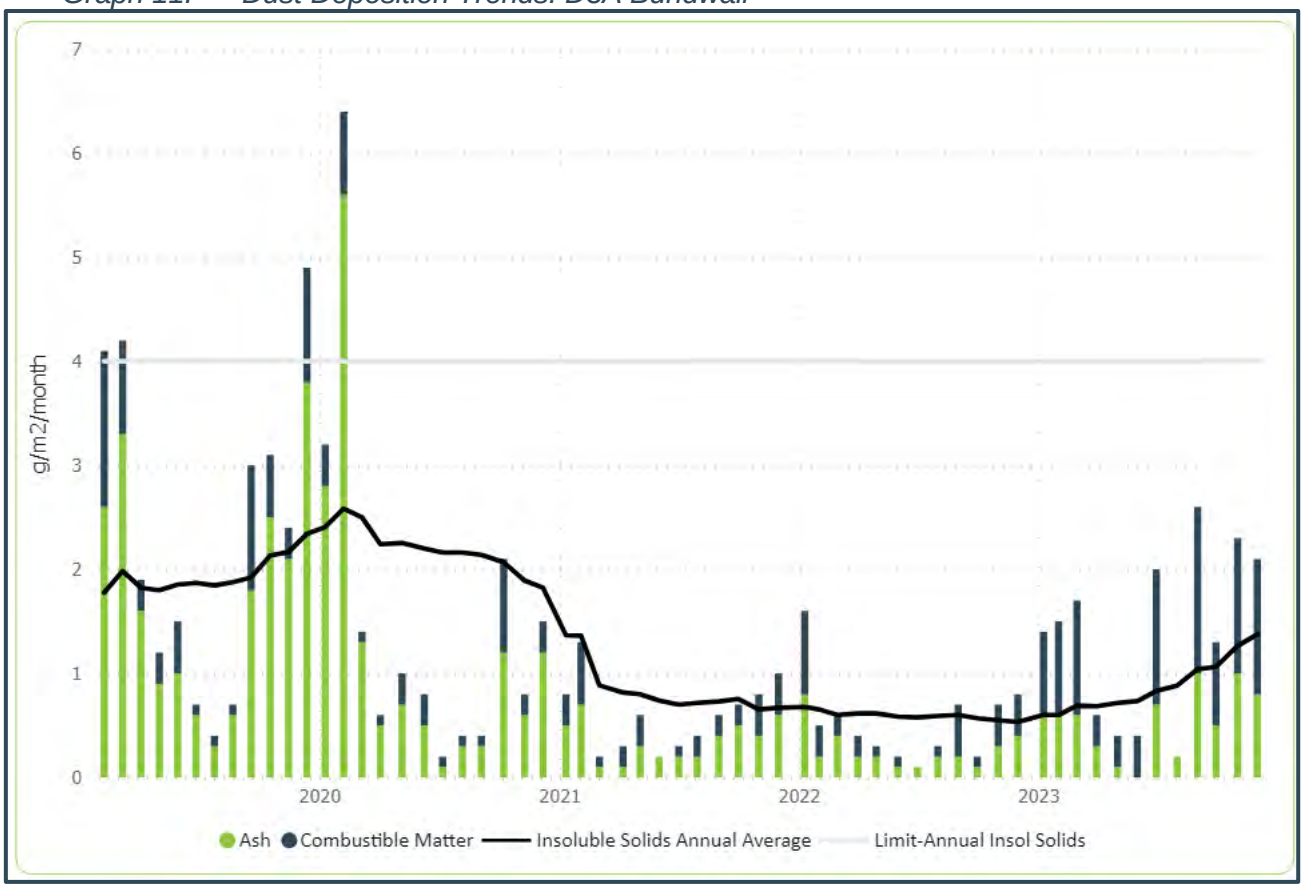


Table 14. Particulate Matter Annual Averages

Annual Averages	TSP µg/m^3	PM10 µg/m^3	PM2.5 µg/m^3
2023	17.2	8.3	5.3
Compliant with DA	Yes	Yes	Yes
Criteria	*90*	*25*	*8*
Prediction	*57 (Mod 2) | 43 (Mod 4)*	*15 (Mod 2) | 22 (Mod 4)*	*N/A (Mod 2) | 14 (Mod 4)*
2022	11.0	5.0	2.1
2021	15.4	8.8	6.1
2020	21	11	7.8
2019	48	32	26

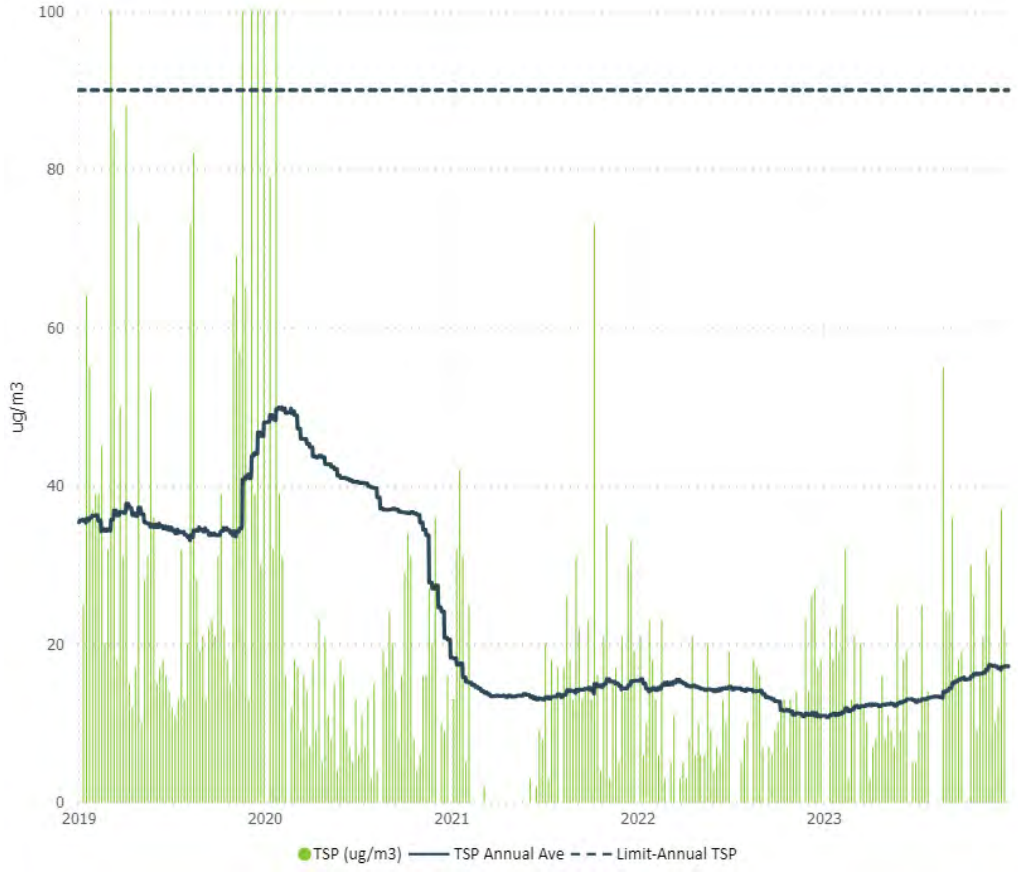
Table 15. Max 24 Hour Particulate Matter Averages

Max 24hr Averages	TSP µg/m^3	PM10 µg/m^3	PM2.5 µg/m^3
2023	55	43	16 [36**]
Compliant with DA	Yes	Yes	Yes**
Criteria (Mod 4)	*N/A*	*50*	*25*
2022	27	16	9

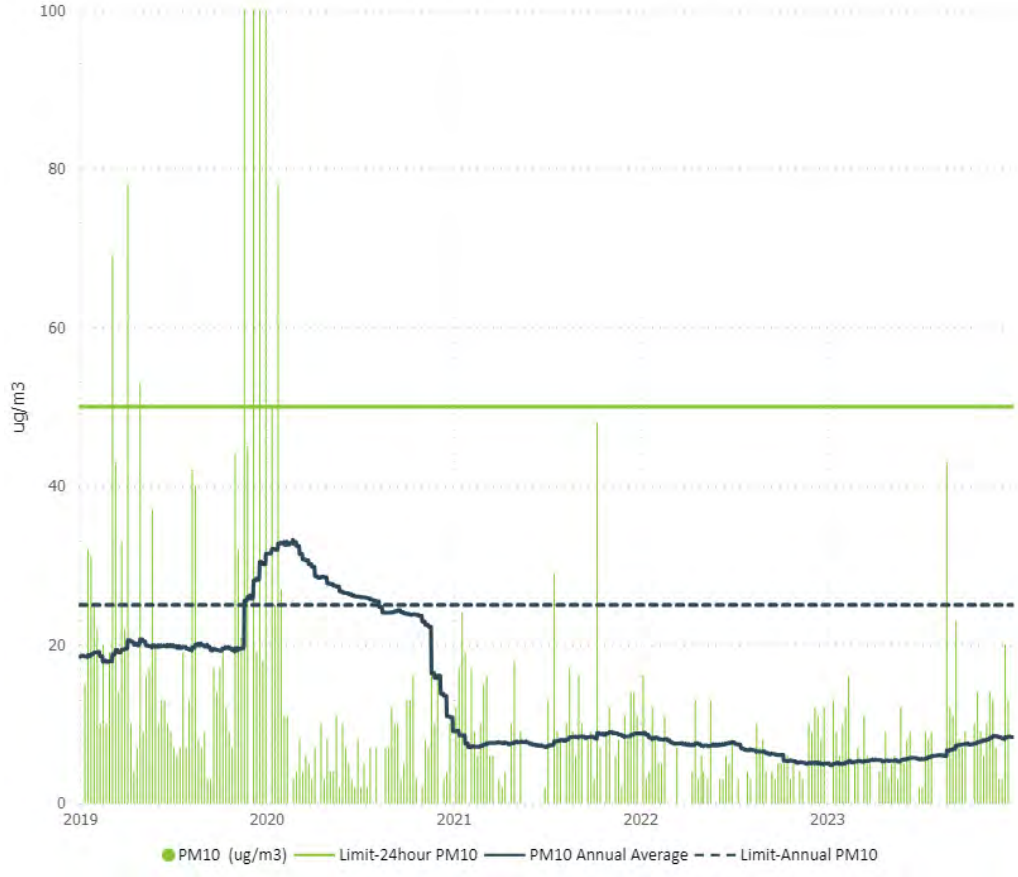
Table 16. 24Hr Exceedances

Date	PM10 µg/m^3	PM2.5 µg/m^3	Comments
24/8/2023	None	36**	**RFS Backburning, not recorded as a non-compliance

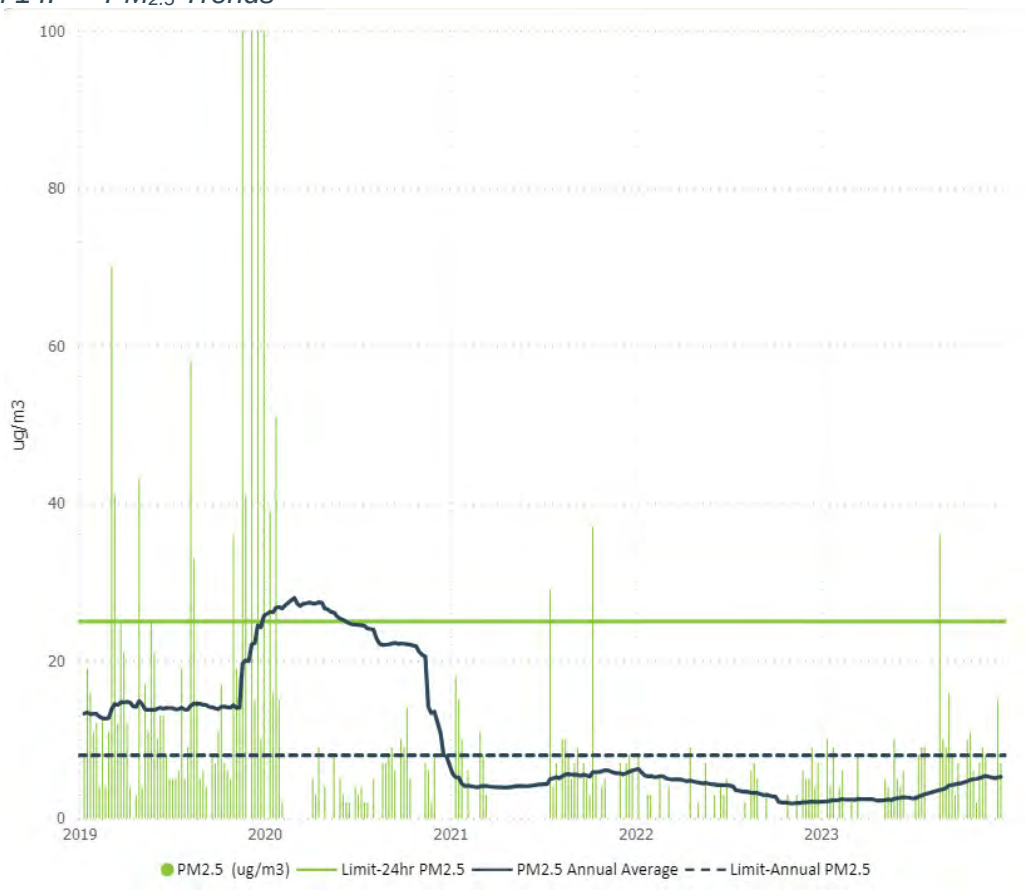
Graph 12. Total Suspended Particulate Trends



Graph 13. PM_{10} Trends



Graph 14. $PM_{2.5}$ Trends



6.3.3 Interpretation and Effectiveness of Controls

6.3.3.1 Interpretation of Monitoring Results

Total Suspended Particulates (TSP) and PM2.5 and PM10 24-hour and Annual Averages for 2023 were compliant with DA criteria. Dust deposition (Insoluble Solids) were also compliant with DA criteria.

All air quality monitoring results show an increasing trend across the past calendar year, except for D1 dust gauges which appear stable.

6.3.3.2 Particulate Matter 24-Hour Average Exceedance

The high volume air samplers had a Particulate Matter less than 2.5µm level of 36 µg/m^3 for the 24-hour average of 24th August 2023, an exceedance of the performance criteria condition of 25 µg/m^3. It was noted in the field notes that "RFS Back Burning" was occurring during the sampling period. This exceedance was reported to DPE on 27th November 2023 although it falls under the criteria of an "extraordinary event" and is therefore not an incident nor non-compliance. DPE determined there was no breach of consent (Appendix N). The second highest 24-hour exceedance result during the reporting period was 16µg/m^3 on 11th September 2023, below the criteria.

6.3.3.3 Potential Sources of Dust

Sources of dust from the site activities are:

- Dozers ripping sandstone,
- Loading and unloading of raw material using dump trucks,
- Loading the hopper,
- Screening,
- Loading processed material into trucks,
- Traffic on unsealed haul road, and
- Wind erosion from extraction and processing areas.

Background sources of dust include:

- Wind erosion from surrounding farmland and quarries,
- Mowing and ploughing activities on adjacent farmland,
- Earth-moving activities on nearby quarries,
- Traffic, particularly diesel-powered trucks on Old Northern Rd, and
- Bushfire, burning off, and domestic wood-fired heating.

6.3.3.4 Effectiveness of Air Quality Management Controls

Table 17. Effectiveness of Air Quality Management Controls

Control	Interpretation	Effective?
Increase use of water-cart in dry weather	Dust results do not increase with truck movements, nor on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Delaying non-essential earth-moving activities during periods of high wind	Dust results do not increase with truck movements, nor on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Reducing truck speeds	Dust results do not increase with truck movements	Yes
Damping down	Dust results do not increase with truck movements, nor on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Installation of a mobile sprinkler in 2019	Sprinklers are installed. Dust results do not increase on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Trucks covered when entering and leaving the site	Dust results do not increase with truck movements	Yes

6.3.4 Measures Proposed for Improvement

Air quality management controls have been effective for the 2023 calendar year and will be maintained during 2024. A sprinkler distributes water to disturbed areas that the water cart has difficulty accessing. Dust will continue to be monitored using high volume air samplers and dust deposition gauges.

Relocation of the monitors adjacent to the office was investigated previously and a lack of power and security makes the relocation not feasible.

A review of the Air Quality Management Plan was recommended by the Air Quality Monitoring Review and was undertaken in 2023, pending DPE approval. Recommendations are that TSP be no longer undertaken, however monitoring continues until approval of the Management Plan.

6.3.4.1 Air Quality Monitoring Review

In accordance with Schedule 2 Condition 29A, an expert was commissioned to undertake a review of the air quality monitoring system at the site. The report was accepted by the DPE following revisions on 28/2/2023, with the recommendations and conclusions below:

“Based on the relevant criteria set out in AS3580.19 Methods for sampling and analysis of ambient air, Method 19: Ambient air quality data validation and reporting, and upon review of the results from 1/09/2021 to 1/9/2022, the air

quality monitoring at the Roberts Rd Maroota Sand Quarry is fit for purpose, as accurate as can be reasonably expected, and exceeds those of the site's nearest neighbours.

The following recommendations are proposed to assist in improving the site's air quality monitoring system:

- Ensure site conditions and observations for the monitoring period are included on the sample sheet for all air quality samples, along with name of the technician, date and time sampled, and compliance with the siting and instrument requirements of the relevant method.
    - To be checked by Environmental Manager after each sampling event, or monthly at a minimum.
- Ensure that the procedure for sampling is documented and that all sampling technicians are trained in it regularly.
    - Procedure for sampling to be included in updated AQMP (see next point for timing). Training records to be maintained by the site, and updated as required by staff changes.
- Update the site Air Quality Management Plan (AQMP) to include the modification 4 requirements. The author recommends that, in consultation with the DPE, monitoring for TSP be discontinued as this is a less critical parameter, and instead replaced by a ratio calculation from PM10 based on monitoring data collected from the site over as long a period as possible, without including the extraordinary events of the 2019-2020 bushfires. The explanation for how this is to be calculated would be included in the updated AQMP.
    - It is recommended that the AQMP be updated within 3 months + 4 weeks (in accordance with Schedule 2 condition 67) following submission of the Annual Report and Independent Environmental Audit whichever is later, to ensure all outcomes from those reviews are included."

In accordance with these recommendations, procedures for all air quality samples have been documented (see *Appendix I*), and has been undertaken as detailed in Section 2.2.2.

6.4 SURFACE WATER, SEDIMENT AND EROSION

The Water Management Plan (version July 2018) was submitted to the (then) DoI Water and DPE to comply with the conditions of consent (Mod 2) and was approved by DPE on 22nd August 2018. An update was undertaken in December 2020 and was submitted via the Major Projects Portal for consultation in February, April and August 2021 (DA267-11-99-PA-11) as documented in submitted response number DA267-11-99-PA-13. An email request to NRAR for comment was sent again on 12th October 2021 with a response received 26th October 2021 that the matter was being reviewed. NRAR and DPIE-Water responded on 2nd Nov 2021 via the Major Projects portal that they had no comment. The WMP was then submitted to DPE via the Major Projects Portal, where comments requesting changes were advised in April 2022. Revision F2 dated June 2022 was approved on the 28th June 2022.

The water depth monitoring shows that all surface water bodies are above the level of the groundwater in both Maroota Sands and Hawkesbury Sandstone aquifers.

There was no water discharged from the site during the report period.

The surface level is monitored in the Process Dam using an automated logger that is downloaded monthly. This logger has not been available during this reporting year due to unsafe access. Rainfall is monitored using the onsite weather station, and evaporation is collected from the local BOM data.

6.4.1 Requirements and Predictions

6.4.1.1 Water Testing

There are no quality parameters for water testing within the consent conditions or the EPL. Requirements regarding surface water monitoring in the consent condition 42 (b) are given below:

[The Surface Water Management Plan includes] a program to monitor:

- *the effectiveness of the water management system;*

- *site discharge water quality; and*
- *surface water level and quality in the Process Water Dam, including the quantification of rainfall inflow, groundwater inflow and evaporation;*

6.4.1.2 WMP Monitoring and Maintenance

Table 18. Monitoring and Maintenance from the WMP 2022

Parameter	Source	Compliance	Comments
Topsoil stripping to be visually monitored to check moisture content of soil and depth of stripping.	WMP section 4.9.3	Yes	
Stockpiles to be visually assessed at time of forming to check they do not exceed three metres high.	WMP section 4.9.3	Yes	
Visual check of stability and operation of all banks, ponds, channels and spillways to be undertaken monthly. Effecting any necessary repairs.	WMP section 4.9.3	Yes	
Removal of spilled sand or other materials from hazard areas, including lands closer than five metres from areas of likely concentrated or high velocity flows, especially waterways and access roads.	WMP section 4.9.3	Yes	
Removal of trapped sediment whenever less than design capacity remains for the sediment basins.	WMP section 4.9.3	Yes	Sediment dams meet required storm event capacity
Ensuring rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate	WMP section 4.9.3	Yes	Not yet applicable
Visual inspection for evidence of tailgate discharge and/or sediment build-up at exit to site.	WMP section 4.9.3		
Constructing additional erosion and/or sediment control works as might become necessary to ensure the desired water control is achieved.	WMP section 4.9.3	Yes	Not yet applicable
Automatic data loggers to monitor the dam levels to assist in the water balance modelling.	WMP section 4.9.3	Yes	Loggers installed in all surface dams. Dam 1 logger not accessible for a period of time during the report period.
Weather data is obtained from the on-site weather station and reported in the Annual Review. Data is also used to calculate the water balance.	WMP section 4.9.3	Yes	Section *6.2*
The water balance will be reviewed annually using rainfall, evaporation data, water usage on the site and any other relevant inputs.	WMP section 4.9.3	Yes	Section *6.6*

Parameter	Source	Compliance	Comments
All on-site dams to be sampled and water quality tested on an annually basis to determine if there is a relationship to the groundwater and to ascertain the water quality. Parameters include but no limited to: pH, Conductivity, Total Dissolved Solids, Chloride, Sulphate, Calcium, Magnesium, Sodium, Potassium, Nitrate, Oil and Grease.	WMP section 4.9.3	Yes	Section *6.4.2*
Water quality in Sediment Basin 1, as shown in the Final Landform, will be within EPL criteria prior to discharge (once a variation to permit discharge has been approved).	WMP section 4.9.3	Yes	Not yet applicable

6.4.2 Monitoring Results Compliance and Trends

6.4.2.1 Water Quality Results

Surface water quality was tested 4 times during 2022 with the aim of assessing the relationship between surface water and groundwater. The pH is naturally low in the groundwater, and since the surface water has such low buffering capacity, the water from the bore water used in the processing plant (PB1) has a high influence on the pH of the Process Dam and Dam 2A and 2B. Dams 3 and 4 show little similarity to the groundwater, with pH closer to neutral. Dams 3 and 4 are influenced by surface inflows. The Oil & Grease was reported as Not Visible on all occasions.

Dams 2A and 2B have replaced Dam 2 as it is not an active dam due to silt buildup. Sampling for water quality for Dams 2A and 2B has not been undertaken due to the lack of safe access. As the water is returned to Dam 1 (which is monitored) at the end of each day, sampling of dams 2A and 2B is considered superfluous.

Table 19. Surface Water Quality Results Dam 1 – Process

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
Dam 1 - Process	23/1/23	4.2	228	140	54	5	2.0	3.0	20	4.0
Dam 1 - Process	21/4/23	4.4	174	110	45	4	0.5	2.0	19	3.0
Dam 1 - Process	14/7/23	4.3	213	130	54	2	0.6	3.0	28	4.0
Dam 1 - Process	5/10/23	4.3	229	140	55	3	1.0	3.0	26	5.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
Dam 1 - Process	23/1/23	4.2	228	140	54	5	2.0	3.0	20	4.0
Dam 1 - Process	21/4/23	4.4	174	110	45	4	0.5	2.0	19	3.0
Dam 1 - Process	14/7/23	4.3	213	130	54	2	0.6	3.0	28	4.0
Dam 1 - Process	5/10/23	4.3	229	140	55	3	1.0	3.0	26	5.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
Dam 1 - Process	23/1/23	4.2	228	140	54	5	2.0	3.0	20	4.0
Dam 1 - Process	21/4/23	4.4	174	110	45	4	0.5	2.0	19	3.0
Dam 1 - Process	14/7/23	4.3	213	130	54	2	0.6	3.0	28	4.0
Dam 1 - Process	5/10/23	4.3	229	140	55	3	1.0	3.0	26	5.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
Dam 1 - Process	23/1/23	4.2	228	140	54	5	2.0	3.0	20	4.0
Dam 1 - Process	21/4/23	4.4	174	110	45	4	0.5	2.0	19	3.0
Dam 1 - Process	14/7/23	4.3	213	130	54	2	0.6	3.0	28	4.0
Dam 1 - Process	5/10/23	4.3	229	140	55	3	1.0	3.0	26	5.0

Table 20. Surface Water Quality Results Dam 2 – Tailings

No Dam 2 results.

Table 21. Surface Water Quality Results Dam 3 – Nursery

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
Dam 3 - Nursery	21/4/23	7.1	143	89	20	6	3.0	2.0	11	4.0
Dam 3 - Nursery	14/7/23	6.8	149	93	26	11	5.6	4.0	14	4.0
Dam 3 - Nursery	5/10/23	9.3	183	110	26	9	5.0	3.0	14	4.0
Dam 3 - Nursery	22/1/24	7.2	181	110	29	6	6.5	4.0	14	7.2

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
Dam 3 - Nursery	21/4/23	7.1	143	89	20	6	3.0	2.0	11	4.0
Dam 3 - Nursery	14/7/23	6.8	149	93	26	11	5.6	4.0	14	4.0
Dam 3 - Nursery	5/10/23	9.3	183	110	26	9	5.0	3.0	14	4.0
Dam 3 - Nursery	22/1/24	7.2	181	110	29	6	6.5	4.0	14	7.2

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
Dam 3 - Nursery	21/4/23	7.1	143	89	20	6	3.0	2.0	11	4.0
Dam 3 - Nursery	14/7/23	6.8	149	93	26	11	5.6	4.0	14	4.0
Dam 3 - Nursery	5/10/23	9.3	183	110	26	9	5.0	3.0	14	4.0
Dam 3 - Nursery	22/1/24	7.2	181	110	29	6	6.5	4.0	14	7.2

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
Dam 3 - Nursery	21/4/23	7.1	143	89	20	6	3.0	2.0	11	4.0
Dam 3 - Nursery	14/7/23	6.8	149	93	26	11	5.6	4.0	14	4.0
Dam 3 - Nursery	5/10/23	9.3	183	110	26	9	5.0	3.0	14	4.0
Dam 3 - Nursery	22/1/24	7.2	181	110	29	6	6.5	4.0	14	7.2

Table 22. Surface Water Quality Results Dam 4 - Farm

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
Dam 4 - Farm	21/4/23	7.2	68	0	37	7	0.0	0.6	6	2.0
Dam 4 - Farm	14/7/23	6.6	66	0	13	5	2.0	2.0	7	3.0
Dam 4 - Farm	5/10/23	8.8	89	56	12	4	2.0	2.0	8	3.0
Dam 4 - Farm	22/1/24	8.7	74	0	14	2	1.0	1.0	8	3.0

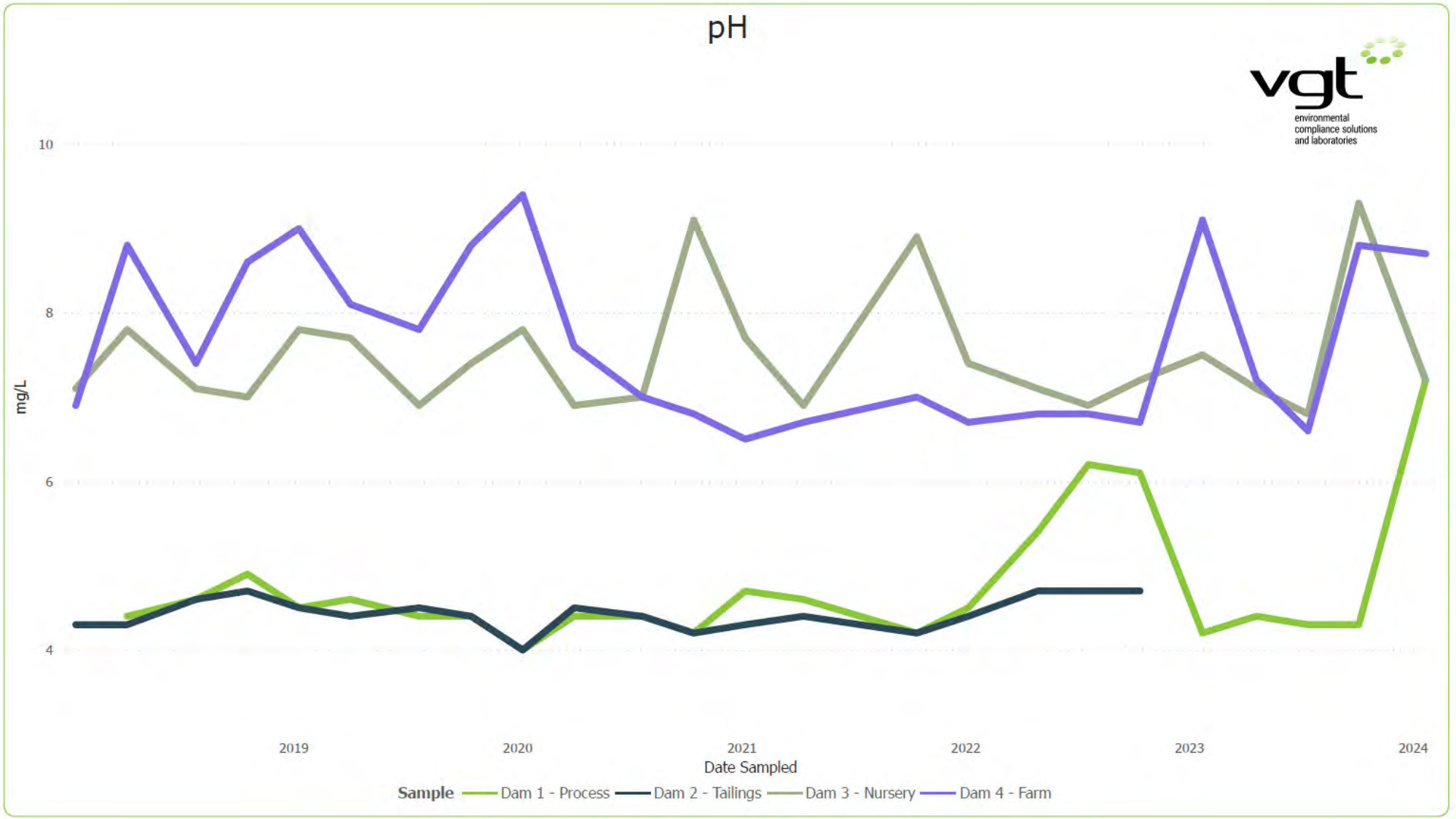
Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
Dam 4 - Farm	21/4/23	7.2	68	0	37	7	0.0	0.6	6	2.0
Dam 4 - Farm	14/7/23	6.6	66	0	13	5	2.0	2.0	7	3.0
Dam 4 - Farm	5/10/23	8.8	89	56	12	4	2.0	2.0	8	3.0
Dam 4 - Farm	22/1/24	8.7	74	0	14	2	1.0	1.0	8	3.0

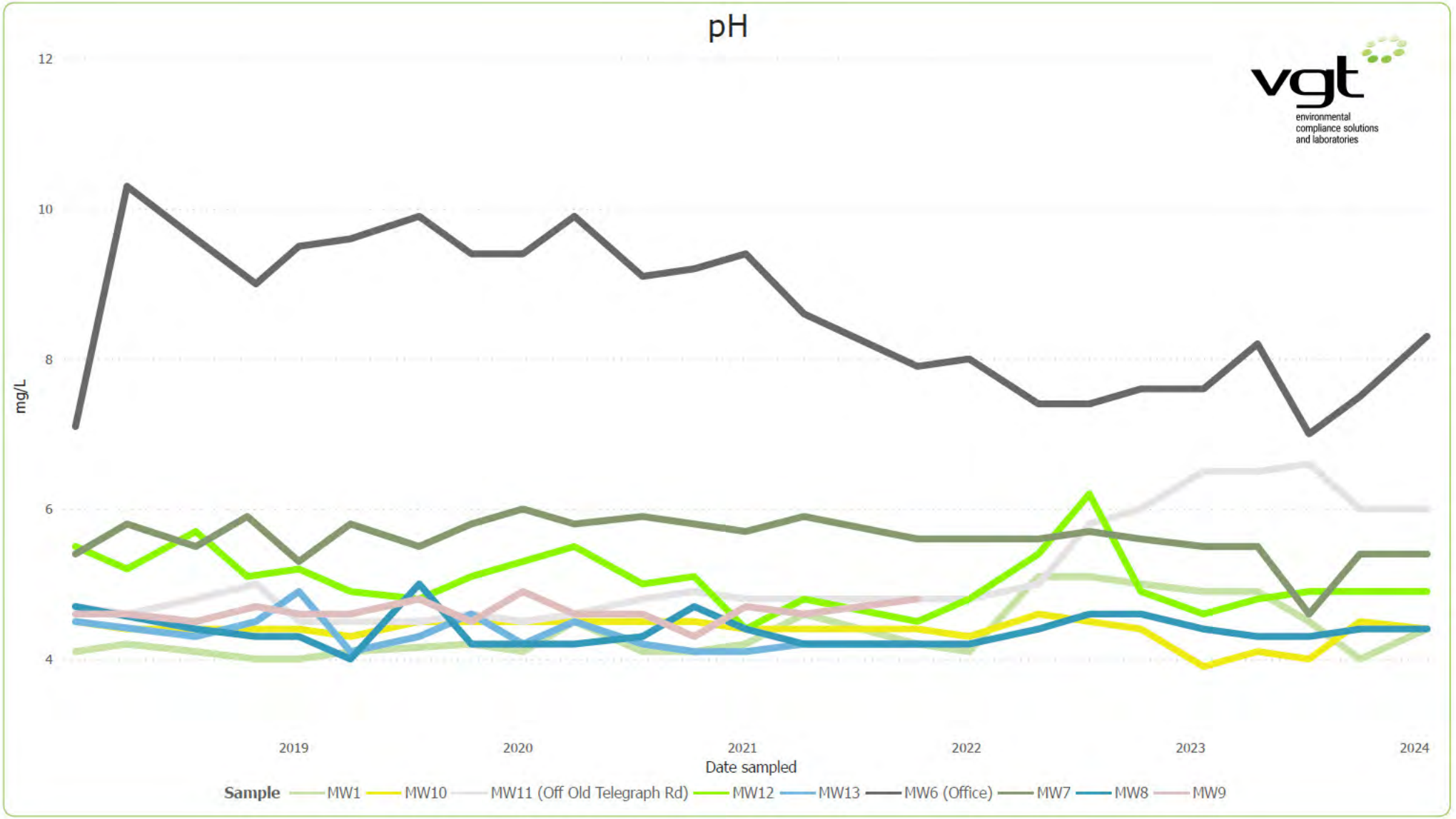
Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
Dam 4 - Farm	21/4/23	7.2	68	0	37	7	0.0	0.6	6	2.0
Dam 4 - Farm	14/7/23	6.6	66	0	13	5	2.0	2.0	7	3.0
Dam 4 - Farm	5/10/23	8.8	89	56	12	4	2.0	2.0	8	3.0
Dam 4 - Farm	22/1/24	8.7	74	0	14	2	1.0	1.0	8	3.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
Dam 4 - Farm	21/4/23	7.2	68	0	37	7	0.0	0.6	6	2.0
Dam 4 - Farm	14/7/23	6.6	66	0	13	5	2.0	2.0	7	3.0
Dam 4 - Farm	5/10/23	8.8	89	56	12	4	2.0	2.0	8	3.0
Dam 4 - Farm	22/1/24	8.7	74	0	14	2	1.0	1.0	8	3.0

6.4.2.2 Water Quality Trends

Graph 15. pH Trends




pH
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and laboratories
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mg/L
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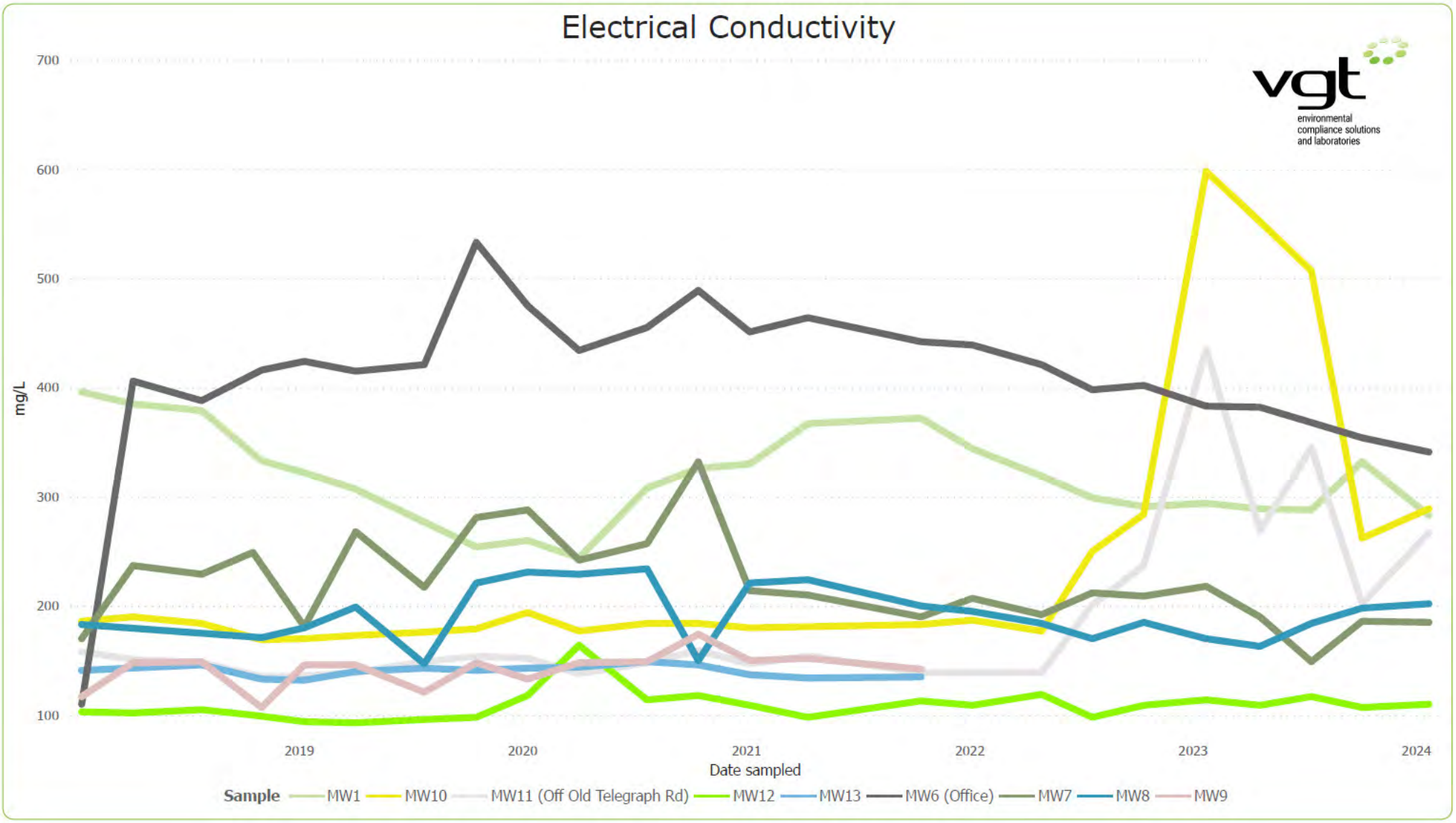
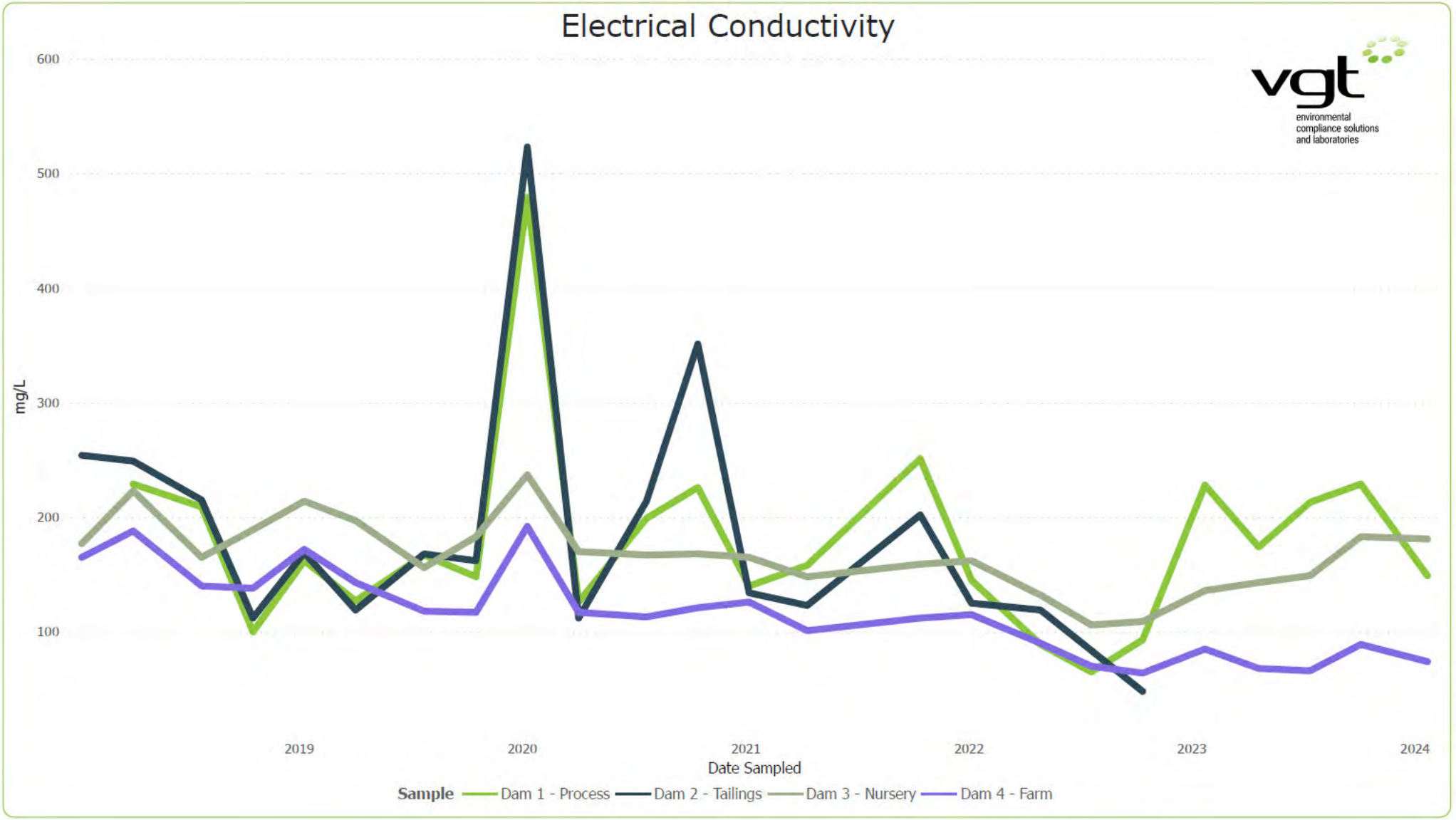
2020
2021
2022
2023
2024
Date sampled
Sample
MW1
MW10
MW11 (Off Old Telegraph Rd)
MW12
MW13
MW6 (Office)
MW7
MW8
MW9

Graph 16. Electrical Conductivity (µS/cm) Trends




Electrical Conductivity
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mg/L
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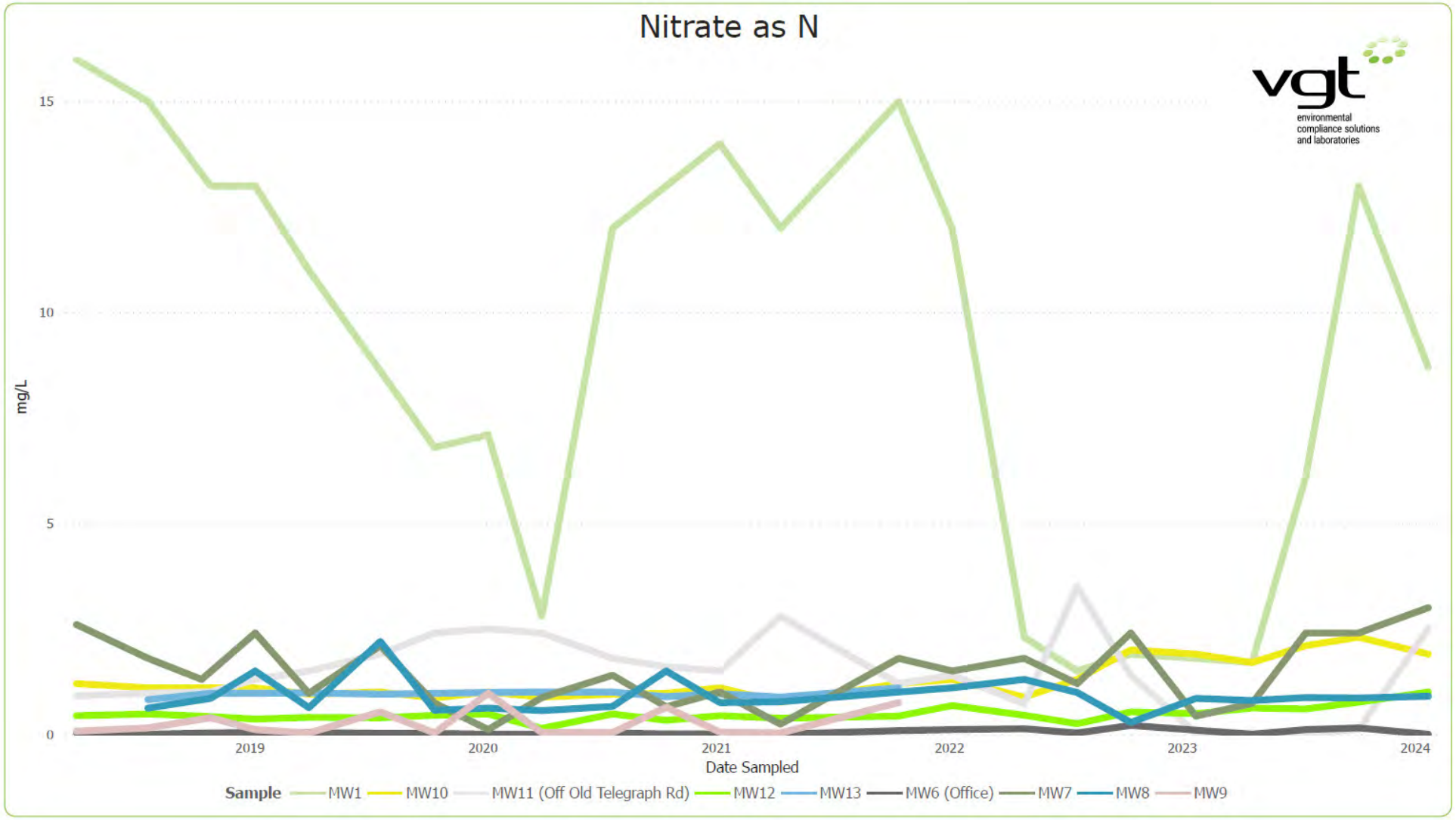
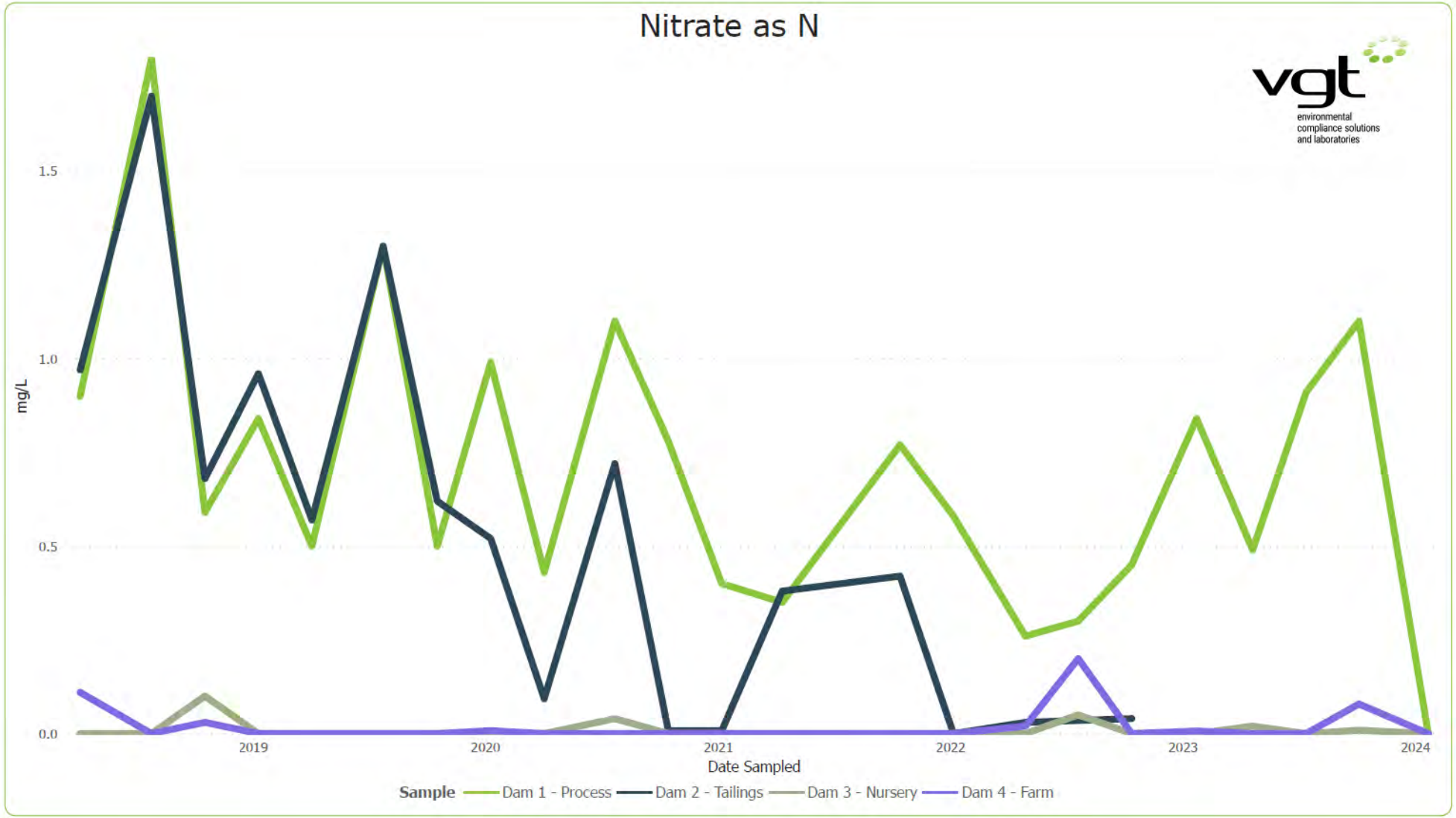
2022
2023
2024
Date Sampled
Sample
Dam 1 - Process
Dam 2 - Tailings
Dam 3 - Nursery
Dam 4 - Farm

Graph 17. Nitrate (N mg/L) Trends

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and laboratories
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0.0
mg/L
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2020
2021
2022
2023
2024
Date Sampled
Sample
Dam 1 - Process
Dam 2 - Tailings
Dam 3 - Nursery
Dam 4 - Farm

6.4.2.3 Water Depth

The extraction of sand on the site relies on an adequate supply of water for washing and screening of material. After processing, residual clay/silt is delivered to the designated drying areas and liberated water is drained into a holding dam (currently Drying Dam 2A and 2B) to settle sediment entrained in the process. Water from the holding dam is then released back into the process dam (Dam 1) for re-use. Release from Dam 2A and 2B to Dam 1 is facilitated via pumping. During processing Dam 2A and 2B fill with sediment as well as water resulting in the upward displacement of water in the dam. The overall effect is that whilst a nominal small volume is held at all times in Dam 2, virtually all processing water makes its way back to Dam 1 overnight.

6.4.3 Interpretation and Effectiveness of Controls

The primary consideration in assessing the effectiveness of the surface water controls is that the downstream environment is not adversely affected by discharged waters. In this regard the controls are effective as the site has more than sufficient capacity to contain surface water for the design storm event and no uncontrolled discharges have occurred.

The sediment and erosion controls are considered effective in terms of preventing sediment from leaving the site. Within the excavation there is evidence of erosion however all eroded soils and sediment are contained with the pit. Untouched areas are covered with pasture or tree stands and are not prone to erosion.

The water depth monitoring shows that all surface water bodies are above the level of the groundwater in both Maroota Sands and Hawkesbury Sandstone aquifers.

6.4.4 Measures Proposed for Improvement

Specific monitoring improvements to be investigated are as follows.

- Continue surface water level monitoring and report in accordance with the approved Surface Water Management Plan.
- Undertake water quality monitoring and reporting in accordance with the approved Surface Water Management Plan.
- Apply to the Secretary to reduce the need for annual water management plan updates.

6.5 GROUNDWATER

A Groundwater Study, Groundwater Management Plan (GWMP) and Groundwater Monitoring Program was submitted to the then DPE and DoI-W to comply with the conditions of consent, and approved by the DPE in August 2018. The groundwater monitoring bores on the site are summarised in *Table 23*.

Table 23. Groundwater Monitoring Bores

Identification	Aquifer	Bore Status	Comments
(PT84)MW1	Maroota Sands (perched)	In use for water sampling	Installed 20/10/1998. Located near nursery.
(PT84)MW6	Maroota Sands, (upgradient)	In use for water sampling	Installed January 2015. To replace PT84MW4
MW7	Hawkesbury Sandstone	In use for water sampling	Installed December 2016
MW8	Maroota Sands (perched)	In use for water sampling	Installed December 2016. To replace MW5
MW9	Hawkesbury Sandstone	Intermediate - Mined out	Installed December 2016.
MW10	Maroota Sands	In use for water sampling	Installed December 2016

Identification	Aquifer	Bore Status	Comments
MW11	Maroota Sands downgradient	In use for water sampling	Installed December 2016
MW12	Hawkesbury Sandstone	In use for water sampling	Installed December 2016
MW13	Maroota Sands (perched)	Intermediate - Mined out	Installed December 2016.

6.5.1 Requirements and Predictions

Groundwater level monitoring is required under the consent conditions 42-44. It is not possible to measure depth within PT84PB1 due to the attached infrastructure; the pumping records are supplied in *Appendix J*. PT84PB2 is owned and operated by the landowner; the quarry operators have no use or access.

Table 24. Groundwater Level Monitoring

Parameter	Criteria	Units	Source
Groundwater Level	Monitored continuously	Metres AHD	Consent sched 2 cond 43
Depth of Extraction	Extraction does not take place below a level 2 metres above the wet weather high groundwater level of the regional aquifer, as measured and mapped on the site	Contours in metres AHD	Consent sched 2 cond 17

6.5.2 Monitoring Results Compliance and Trends

Groundwater level monitoring results from the continuous automatic data loggers are corrected for barometric pressure and calibrated to manual measurements undertaken each month. Groundwater levels are currently monitored in seven boreholes located on the site. MW1 logger was installed prior to 2015; the remaining loggers were installed in 2017. Following anomalous readings from the MW5 logger during 2017, the bore was investigated and discovered to have collapsed. The logger was relocated to a functioning bore and MW5 abandoned and replaced by nearby MW8.

Loggers in MW1 and MW12 were reinstated in November 2018 following repairs undertaken between May/June 2018 and October 2018. During this time manual readings continued. MW13 and MW9 has been decommissioned due to expansion of the quarry in November 2021.

There are no performance criteria for groundwater quality parameters within the consent conditions or the EPL. Quality is monitored quarterly to assist with predicting any interactions between surface and ground waters.

The groundwater quality results and trends are shown below.

Graph 18. Groundwater Depth 5 Year Trends

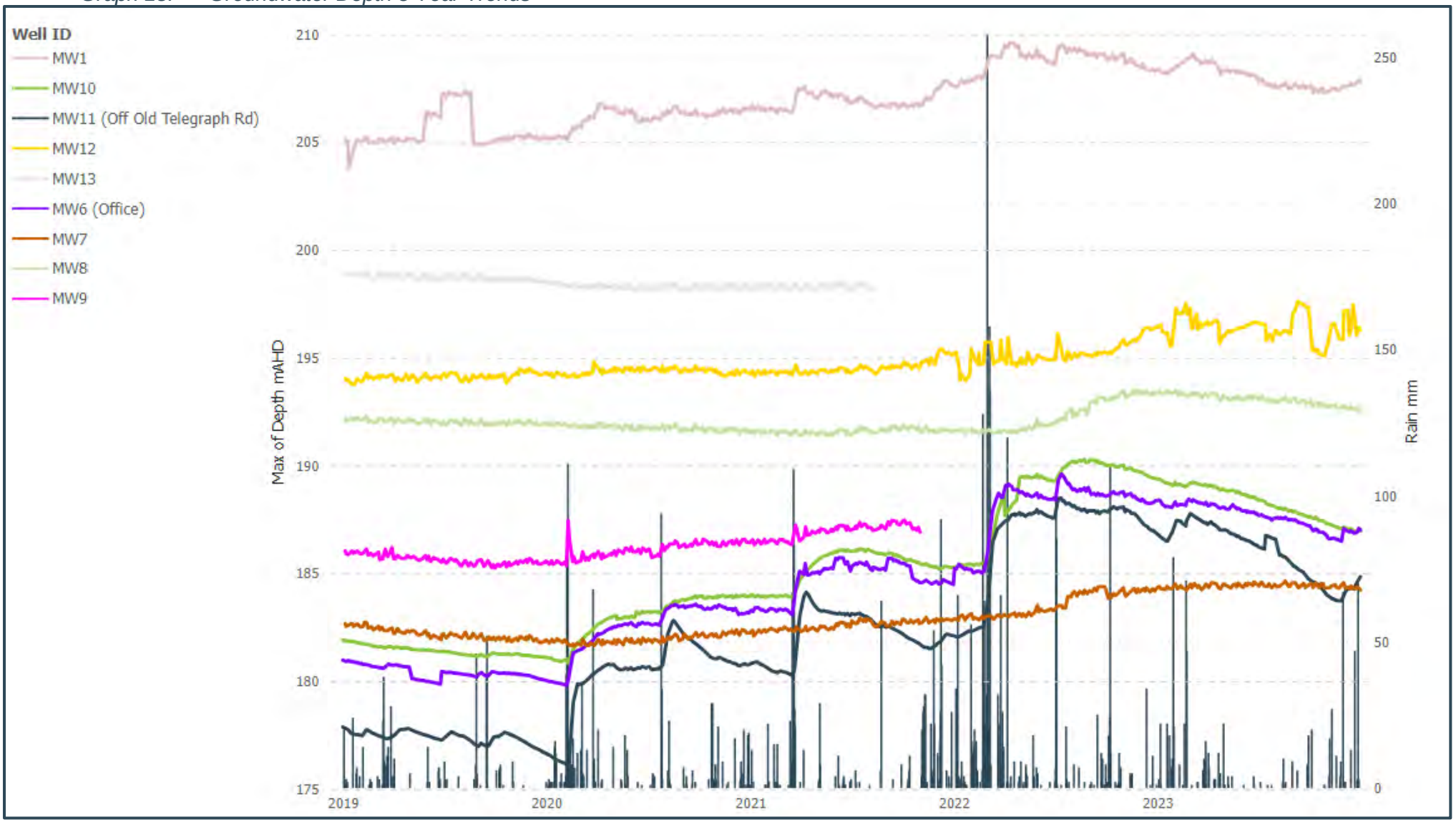


Table 25. Groundwater Quality Results – MW1

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW1	23/1/23	4.9	294	180	62	18	4.0	7.7	26	3.0
MW1	21/4/23	4.9	289	180	66	19	3.0	6.6	27	2.0
MW1	14/7/23	4.5	288	180	45	28	5.2	11.0	20	4.0
MW1	5/10/23	4.0	332	210	42	22	5.1	14.0	17	4.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW1	23/1/23	4.9	294	180	62	18	4.0	7.7	26	3.0
MW1	21/4/23	4.9	289	180	66	19	3.0	6.6	27	2.0
MW1	14/7/23	4.5	288	180	45	28	5.2	11.0	20	4.0
MW1	5/10/23	4.0	332	210	42	22	5.1	14.0	17	4.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW1	23/1/23	4.9	294	180	62	18	4.0	7.7	26	3.0
MW1	21/4/23	4.9	289	180	66	19	3.0	6.6	27	2.0
MW1	14/7/23	4.5	288	180	45	28	5.2	11.0	20	4.0
MW1	5/10/23	4.0	332	210	42	22	5.1	14.0	17	4.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW1	23/1/23	4.9	294	180	62	18	4.0	7.7	26	3.0
MW1	21/4/23	4.9	289	180	66	19	3.0	6.6	27	2.0
MW1	14/7/23	4.5	288	180	45	28	5.2	11.0	20	4.0
MW1	5/10/23	4.0	332	210	42	22	5.1	14.0	17	4.0

Table 26. Groundwater Quality Results – MW6

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW6 (Office)	23/1/23	7.6	383	240	86	1	6.3	5.0	57	2.0
MW6 (Office)	21/4/23	8.2	382	240	87	6	2.0	3.0	49	2.0
MW6 (Office)	14/7/23	7.0	368	230	86	2	6.3	5.0	61	3.0
MW6 (Office)	5/10/23	7.5	354	220	83	0	4.0	3.0	49	2.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW6 (Office)	23/1/23	7.6	383	240	86	1	6.3	5.0	57	2.0
MW6 (Office)	21/4/23	8.2	382	240	87	6	2.0	3.0	49	2.0
MW6 (Office)	14/7/23	7.0	368	230	86	2	6.3	5.0	61	3.0
MW6 (Office)	5/10/23	7.5	354	220	83	0	4.0	3.0	49	2.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW6 (Office)	23/1/23	7.6	383	240	86	1	6.3	5.0	57	2.0
MW6 (Office)	21/4/23	8.2	382	240	87	6	2.0	3.0	49	2.0
MW6 (Office)	14/7/23	7.0	368	230	86	2	6.3	5.0	61	3.0
MW6 (Office)	5/10/23	7.5	354	220	83	0	4.0	3.0	49	2.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW6 (Office)	23/1/23	7.6	383	240	86	1	6.3	5.0	57	2.0
MW6 (Office)	21/4/23	8.2	382	240	87	6	2.0	3.0	49	2.0
MW6 (Office)	14/7/23	7.0	368	230	86	2	6.3	5.0	61	3.0
MW6 (Office)	5/10/23	7.5	354	220	83	0	4.0	3.0	49	2.0

Table 27. Groundwater Quality Results – MW7

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW7	23/1/23	5.5	218	140	30	18	0.0	0.0	35	0.0
MW7	21/4/23	5.5	190	120	31	13	0.0	0.0	29	0.0
MW7	14/7/23	4.6	149	93	27	9	2.0	4.0	17	0.6
MW7	5/10/23	5.4	186	120	28	6	1.0	0.8	30	0.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW7	23/1/23	5.5	218	140	30	18	0.0	0.0	35	0.0
MW7	21/4/23	5.5	190	120	31	13	0.0	0.0	29	0.0
MW7	14/7/23	4.6	149	93	27	9	2.0	4.0	17	0.6
MW7	5/10/23	5.4	186	120	28	6	1.0	0.8	30	0.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW7	23/1/23	5.5	218	140	30	18	0.0	0.0	35	0.0
MW7	21/4/23	5.5	190	120	31	13	0.0	0.0	29	0.0
MW7	14/7/23	4.6	149	93	27	9	2.0	4.0	17	0.6
MW7	5/10/23	5.4	186	120	28	6	1.0	0.8	30	0.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW7	23/1/23	5.5	218	140	30	18	0.0	0.0	35	0.0
MW7	21/4/23	5.5	190	120	31	13	0.0	0.0	29	0.0
MW7	14/7/23	4.6	149	93	27	9	2.0	4.0	17	0.6
MW7	5/10/23	5.4	186	120	28	6	1.0	0.8	30	0.0

Table 28. Groundwater Quality Results – MW8

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW8	23/1/23	4.4	170	110	40	2	0.9	2.0	17	0.0
MW8	21/4/23	4.3	163	100	40	2	0.5	2.0	18	0.0
MW8	14/7/23	4.3	184	110	45	4	0.9	3.0	20	0.0
MW8	5/10/23	4.4	198	120	47	2	2.0	3.0	22	0.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW8	23/1/23	4.4	170	110	40	2	0.9	2.0	17	0.0
MW8	21/4/23	4.3	163	100	40	2	0.5	2.0	18	0.0
MW8	14/7/23	4.3	184	110	45	4	0.9	3.0	20	0.0
MW8	5/10/23	4.4	198	120	47	2	2.0	3.0	22	0.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW8	23/1/23	4.4	170	110	40	2	0.9	2.0	17	0.0
MW8	21/4/23	4.3	163	100	40	2	0.5	2.0	18	0.0
MW8	14/7/23	4.3	184	110	45	4	0.9	3.0	20	0.0
MW8	5/10/23	4.4	198	120	47	2	2.0	3.0	22	0.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW8	23/1/23	4.4	170	110	40	2	0.9	2.0	17	0.0
MW8	21/4/23	4.3	163	100	40	2	0.5	2.0	18	0.0
MW8	14/7/23	4.3	184	110	45	4	0.9	3.0	20	0.0
MW8	5/10/23	4.4	198	120	47	2	2.0	3.0	22	0.0

Table 29. Groundwater Quality Results – MW10

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW10	23/1/23	3.9	598	370	160	26	0.8	9.8	56	0.8
MW10	21/4/23	4.1	552	340	160	5	1.0	9.3	67	0.7
MW10	14/7/23	4.0	507	320	140	42	1.0	9.7	72	1.0
MW10	5/10/23	4.5	262	160	63	3	2.0	5.0	29	1.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW10	23/1/23	3.9	598	370	160	26	0.8	9.8	56	0.8
MW10	21/4/23	4.1	552	340	160	5	1.0	9.3	67	0.7
MW10	14/7/23	4.0	507	320	140	42	1.0	9.7	72	1.0
MW10	5/10/23	4.5	262	160	63	3	2.0	5.0	29	1.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW10	23/1/23	3.9	598	370	160	26	0.8	9.8	56	0.8
MW10	21/4/23	4.1	552	340	160	5	1.0	9.3	67	0.7
MW10	14/7/23	4.0	507	320	140	42	1.0	9.7	72	1.0
MW10	5/10/23	4.5	262	160	63	3	2.0	5.0	29	1.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW10	23/1/23	3.9	598	370	160	26	0.8	9.8	56	0.8
MW10	21/4/23	4.1	552	340	160	5	1.0	9.3	67	0.7
MW10	14/7/23	4.0	507	320	140	42	1.0	9.7	72	1.0
MW10	5/10/23	4.5	262	160	63	3	2.0	5.0	29	1.0

Table 30. Groundwater Quality Results – MW11

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW11 (Off Old Telegraph Rd)	23/1/23	6.5	435	270	46	20	36.0	8.3	19	7.5
MW11 (Off Old Telegraph Rd)	21/4/23	6.5	269	170	30	9	12.0	3.0	15	5.6
MW11 (Off Old Telegraph Rd)	14/7/23	6.6	345	220	32	19	36.0	7.0	17	6.2
MW11 (Off Old Telegraph Rd)	5/10/23	6.0	202	130	31	11	11.0	3.0	13	8.2

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW11 (Off Old Telegraph Rd)	23/1/23	6.5	435	270	46	20	36.0	8.3	19	7.5
MW11 (Off Old Telegraph Rd)	21/4/23	6.5	269	170	30	9	12.0	3.0	15	5.6
MW11 (Off Old Telegraph Rd)	14/7/23	6.6	345	220	32	19	36.0	7.0	17	6.2
MW11 (Off Old Telegraph Rd)	5/10/23	6.0	202	130	31	11	11.0	3.0	13	8.2

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW11 (Off Old Telegraph Rd)	23/1/23	6.5	435	270	46	20	36.0	8.3	19	7.5
MW11 (Off Old Telegraph Rd)	21/4/23	6.5	269	170	30	9	12.0	3.0	15	5.6
MW11 (Off Old Telegraph Rd)	14/7/23	6.6	345	220	32	19	36.0	7.0	17	6.2
MW11 (Off Old Telegraph Rd)	5/10/23	6.0	202	130	31	11	11.0	3.0	13	8.2

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW11 (Off Old Telegraph Rd)	23/1/23	6.5	435	270	46	20	36.0	8.3	19	7.5
MW11 (Off Old Telegraph Rd)	21/4/23	6.5	269	170	30	9	12.0	3.0	15	5.6
MW11 (Off Old Telegraph Rd)	14/7/23	6.6	345	220	32	19	36.0	7.0	17	6.2
MW11 (Off Old Telegraph Rd)	5/10/23	6.0	202	130	31	11	11.0	3.0	13	8.2

Table 31. Groundwater Quality Results – MW12

Sample	Date	pH	Electrical Conductivity	Total Dissolved Solids	Chloride	Sulphate	Calcium	Magnesium	Sodium	Potassium
MW12	23/1/23	4.6	114	71	21	8	1.0	1.0	13	0.6
MW12	21/4/23	4.8	109	68	21	9	0.7	0.6	13	0.0
MW12	14/7/23	4.9	117	73	19	10	2.0	1.0	14	0.5
MW12	5/10/23	4.9	107	67	17	7	2.0	0.9	14	0.0

Sample	Date	Average of pH	Average of Electrical Conductivity	Average of Total Dissolved Solids	Average of Chloride	Average of Sulphate	Average of Calcium	Average of Magnesium	Average of Sodium	Average of Potassium
MW12	23/1/23	4.6	114	71	21	8	1.0	1.0	13	0.6
MW12	21/4/23	4.8	109	68	21	9	0.7	0.6	13	0.0
MW12	14/7/23	4.9	117	73	19	10	2.0	1.0	14	0.5
MW12	5/10/23	4.9	107	67	17	7	2.0	0.9	14	0.0

Sample	Date	Min of pH	Min of Electrical Conductivity	Min of Total Dissolved Solids	Min of Chloride	Min of Sulphate	Min of Calcium	Min of Magnesium	Min of Sodium	Min of Potassium
MW12	23/1/23	4.6	114	71	21	8	1.0	1.0	13	0.6
MW12	21/4/23	4.8	109	68	21	9	0.7	0.6	13	0.0
MW12	14/7/23	4.9	117	73	19	10	2.0	1.0	14	0.5
MW12	5/10/23	4.9	107	67	17	7	2.0	0.9	14	0.0

Sample	Date	Max of pH	Max of Electrical Conductivity	Max of Total Dissolved Solids	Max of Chloride	Max of Sulphate	Max of Calcium	Max of Magnesium	Max of Sodium	Max of Potassium
MW12	23/1/23	4.6	114	71	21	8	1.0	1.0	13	0.6
MW12	21/4/23	4.8	109	68	21	9	0.7	0.6	13	0.0
MW12	14/7/23	4.9	117	73	19	10	2.0	1.0	14	0.5
MW12	5/10/23	4.9	107	67	17	7	2.0	0.9	14	0.0

6.5.3 Wet Weather High Groundwater Level

As the limit on the depth of extraction is defined to be 2m above the Wet Weather High Groundwater level, groundwater monitoring is essential to determine this limit. The consent defines the Wet Weather high groundwater level as '*the rolling average of all recorded groundwater level measurements at any monitoring location on the site, as the first recorded following any rainfall event of at least 50mm over any 24hour period, and as contour mapped using this data*'. Rainfall data is also required to assist in the determining of the limit of extraction. The site received greater than 50mm on several 24-hour periods during 2023.

Table 32. Groundwater Depth Changes with Rainfall Event

Well ID	Regional Aquifers	Ave of All Depth Readings after latest >50mm/day rainfall event (2023)	Wet Weather High Groundwater RL (2022)	Lowest Level in Quarry at nearest location (March 2023)
Rainfall Event 29/01/2023 79 mm				
MW12	Hawkesbury Sandstone	194.6	196.6	
MW7	Hawkesbury Sandstone	182.8	184.8	
MW10	Maroota Sands	184.4	186.4	**189.0**
MW6	Maroota Sands	183.7	185.7	**188.0**
MW11	Maroota Sands (downstream)	181.3	183.3	
Rainfall Event 21/2/2023 71mm				
MW12	Hawkesbury Sandstone	194.6	196.6	
MW7	Hawkesbury Sandstone	182.8	184.8	
MW10	Maroota Sands	184.5	186.5	**189.0**
MW6	Maroota Sands	183.8	185.8	**188.0**
MW11	Maroota Sands (downstream)	181.4	183.4	
Rainfall Event 3 - 29/11/2023 67 mm				
MW12	Hawkesbury Sandstone	194.8	196.8	
MW7	Hawkesbury Sandstone	183.0	185.0	
MW10	Maroota Sands	185.0	187.0	**189.0**
MW6	Maroota Sands	184.3	185.3	**188.0**
MW11	Maroota Sands (downstream)	182.0	184.0	

Well ID	Regional Aquifers	Ave of All Depth Readings after latest >50mm/day rainfall event (2023)	Wet Weather High Groundwater RL (2022)	Lowest Level in Quarry at nearest location (March 2023)
Rainfall Event 26/12/2023 70 mm				
MW12	Hawkesbury Sandstone	194.9	196.9	
MW7	Hawkesbury Sandstone	183.1	185.1	
MW10	Maroota Sands	185.0	187.0	**189.0**
MW6	Maroota Sands	184.3	186.3	**188.0**
MW11	Maroota Sands (downstream)	182.0	184.0	

The quarry floor levels are 2 metres above the Wet Weather High Groundwater Level, as illustrated in the above table, therefore the quarry floor is compliant.

6.5.4 Interpretation and Effectiveness of Controls

Groundwater Levels have fallen across the majority of the site during 2023 in response to lower rainfall. Levels in MW1 and MW12 have remained steady. The Maroota Sands channel has risen to levels approximately higher than those used in 2018 for the original groundwater modelling, however the rolling average of all depth readings remains below the previously modelled Wet Weather High Groundwater Level. The Hawkesbury Sandstone regional aquifer has also remained at approximately similar levels. These are illustrated on *Figure Five*.

Water quality results show no impact from groundwater on surface water and vice versa. Downstream groundwater levels have risen due to increases in regional water table from rainfall, where the quarry is not impacting on downstream waters.

The quarry floor levels are greater than 2 metres above the Wet Weather High Groundwater Level, therefore the quarry floor is compliant. When necessary, the lowest levels of the pit are back-filled with clay inter-burden in accordance with measures described in the Groundwater Improvement Program to ensure that the floor was sealed during the higher rainfall periods encountered this report period.

6.5.5 Measures Proposed for Improvement

Specific monitoring improvements to be investigated are as follows.

- Continue groundwater and surface water level monitoring and report in accordance with the approved Groundwater Monitoring Program and Groundwater Management Plan.
- Undertake training with site technicians to ensure that loggers are read correctly, as required.
- Undertake water quality monitoring and reporting in accordance with the approved Groundwater Monitoring Program and Water Management Plan.
- Apply to the Secretary to reduce the need for annual water management plan updates and 6-monthly reporting.

Plan of:	**Annual Review & Compliance Report 2024 for Roberts Road Maroota Sand Quarry - Wet Weather High Groundwater Level Maroota Sands (2022)**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	nearmap - Image Date 21/01/2024 Zone MGA 56	**Plan By:**	SK/JD		
Figure:	**FIVE-A**	**Council:**	Hills Shire Council	**Survey:**	Fyfe Quarry Contours 24/02/2022 NSW Spatial Services ELVISDEM Surrounding Contours Dated May 2017	**Project Manager:**	LT		
Version/ Date:	V0 26/03/2024	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856				
Our Ref:	12591_HMA_AR2024_Q005_V0_F5A	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	0.5m				

N

0 50 100 m

vgt environmental compliance solutions and laboratories

This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.

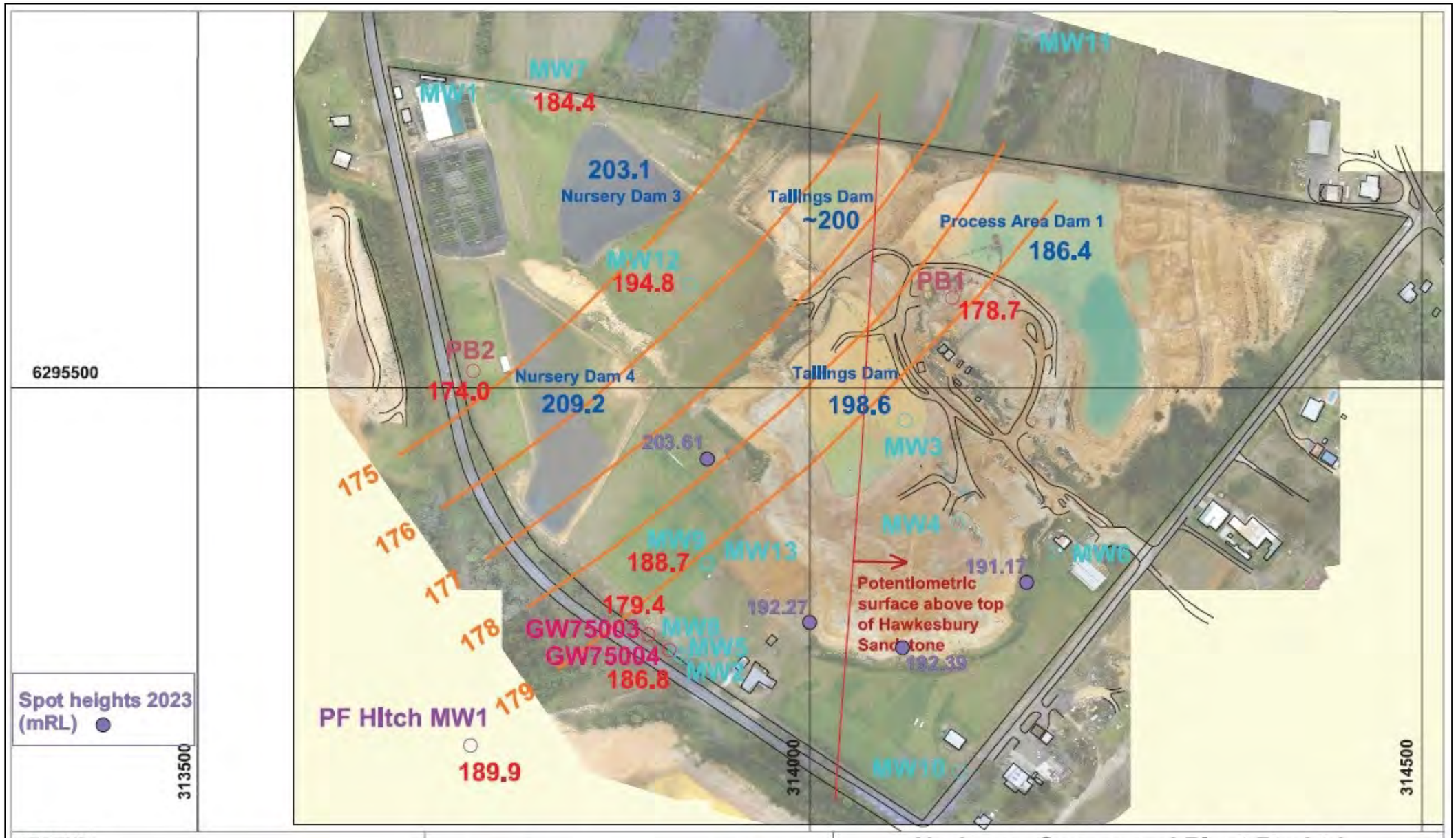
Legend

- Property Boundary
- Dam Areas
- Contours of Wet Weather High GW Level (mRL)
- Edge of Saturated Maroota Sands
- Groundwater Monitoring Well Location
- Spot Heights 2023

Plan of:	**Annual Review & Compliance Report 2024 for Roberts Road Maroota Sand Quarry - Wet Weather High Groundwater Level Hawkesbury Sandstone (Feb 2018)**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	Dundon Consulting Pty Ltd Figure 16 Dwg No. 06-0318-021d 08/03/2018	**Plan By:**	TO/SK/JD
Figure:	**FIVE- B**	**Council:**	Hills Shire Council	**Survey:**	Dundon Consulting Pty Ltd 08/03/2018	**Project Manager:**	LT
Version/ Date:	V0 20/03/2024	**Tenure:**	Not Applicable	**Projection:**	MGA		
Our Ref:	12591_HMA_AR2024_Q005B_V0_F5B	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	1m		

vgt environmental compliance solutions and laboratories

This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.



LEGEND:

- Hodgson monitoring bore
- Hodgson production bore
- 174.0 Hawkesbury Sandstone water level
- Contours of wet weather high GW level
- Potentiometric surface above top of HS

DATE: 8 March 2018	SCALE:	Hodgson Quarry and Plant Pty Ltd
PROJECT NO: 06-0318	AUTHOR: PD	ROBERTS ROAD MAROOTA SAND QUARRY Wet Weather High Groundwater Level Hawkesbury Sandstone (February 2018)
DRAWING NO: 06-0318-021d	REVISION: D	Figure 16
Dundon Consulting Pty Ltd		

6.6 SITE WATER BALANCE

The Water Management Plan contains the Water Balance in accordance with the consent condition. It is updated annually in the Annual Report.

6.6.1 Requirements and Predictions

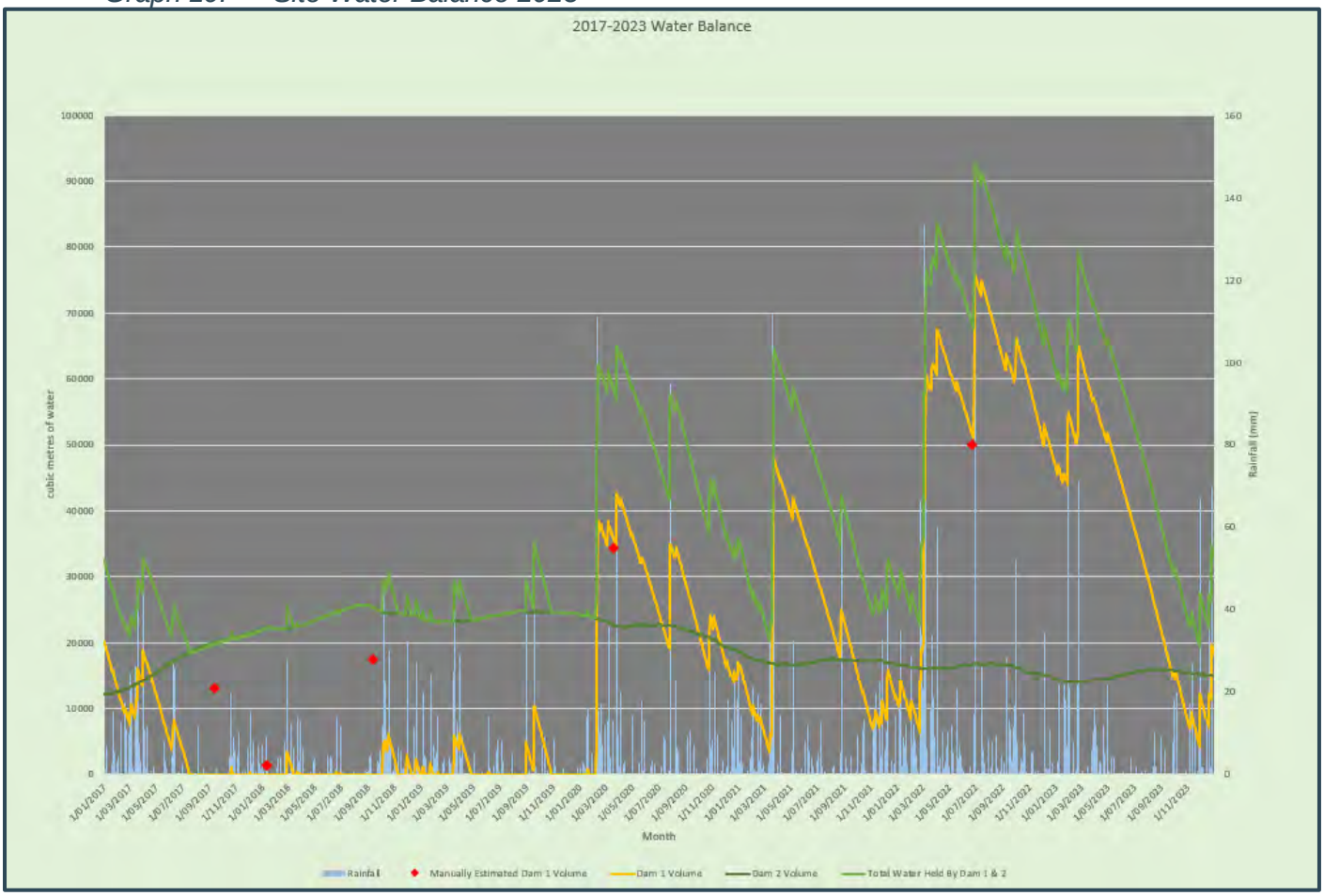
Condition 42 (a) of the consent states:

> *[The Surface Water Management Plan includes]:*
>
> *Site Water Balance that:*
>
> - *includes details of:*
> - *sources and security of water supply, including contingency planning;*
> - *water use on site;*
> - *water management on site, including groundwater inflows to the quarry voids and site discharges; and*
> - *audit and reporting procedures, including comparisons of the site water balance each calendar year; and*
> - *describes the measures that would be implemented to minimise clean water use on site and maximise recycling opportunities.*

6.6.2 Monitoring Results Compliance and Trends

Monitoring of water depths is discussed in *Sections 6.4 and 6.5.* The Site Water Balance for 2023 is shown below.

Graph 19. Site Water Balance 2023



6.6.3 Interpretation and Effectiveness of Controls

The water balance has focused on the currently disturbed catchments and Dams 1 and 2. Dams 3 and 4 are not controlled by the operator and usage/pumping rates are unknown. At present they play no part in the site operations and therefore are not included in the water balance. Rainfall from data obtained onsite and from the BOM observations over 2022 was used to correlate site observations and measured dam water levels.

A level logger was installed in Dam 1 in late September 2017 and data obtained up to 2022 has been applied to the model. At the time the logger was installed, the RL of the water in Dam 1 was recorded. Measurements were taken over the area of the dam to determine the depth of water to the base of the silt. The dam was found to be only up to 0.5m deep over the vast majority of its extent with the exception of a deeper void (up to 3m deep) around the pump intake. This data was used to project an approximate contour model of the base of the dam. From the model, the volume of the water within the dam has been estimated at various depths (RLs). These volumes were then correlated with the monthly average depth recorded by the logger and plotted against the volume of water held predicted by the water balance to assess its reliability.

There was some difficulty in correlating the predicted water volume against that recorded by the logger, particularly during periods of low water. It is surmised that the silt residing below the base of the dam holds a large quantity of water which is unable to be measured and this accounts for the discrepancy between the water balance calculation and the volume estimated using the logger data and 12D modelling. It is also noted that the distribution of silt within the Process Dam is not constant and the reliance on previous 12D modelling of the base of the dam is not reliable.

With regard to the above issues, the volumes of water held in the dams has been estimated using the area of the dams (calculated using QGIS and Nearmaps imagery) and an estimated depth from manual depth check measurements of the logger installed. The depth of water is taken as the difference from the base of the logger at 185.901m RL to the manual depth recorded at the time of interest. Safe access to the logger was not available during 2023 and a manual dam volume estimate could not be made. Previous calculated volumes, using the dam area and logger data, have been generally consistent with the predictions (see *Graph 19*).

Dissipation from the dams has been included in the water balance assumptions. It is apparent there are additional losses during production each day than was not evident in earlier calculations, when the dam levels were extremely low. Dissipation from the Process Dam has been estimated at 65 cubic metres per day and 5 cubic metres per day for Dam 2.

From the plot of the predicted water balance, based on actual rainfall data, pumping rates and truck tonnages, it can be seen that the high rainfall replenished supplies of water in the dam. There were no plant stoppages due to lack of water this report period.

6.6.4 Measures Proposed for Improvement

The following measures will be instigated during the next reporting period.

- The Site Water Balance will be updated again for the 2024 Annual Review.

6.7 PROCESS WATER DAM

The Water Management Plan (version July 2018) was submitted to the (then) DoI Water and DPE to comply with the conditions of consent (Mod 2) and was approved by DPE on 22nd August 2018. An update was undertaken in December 2020 and was submitted via the Major Projects Portal for consultation in February, April and August 2021 (DA267-11-99-PA-11) as documented in submitted response number DA267-11-99-PA-13. An email request to NRAR for comment was sent again on 12/10/21 with a response received 26/10/21 that the matter was being reviewed. NRAR and DPIE-Water responded on 2nd Nov 2021 via the Major Projects portal that they had no comment. The WMP was then submitted to DPE via the Major Projects Portal, where comments requesting changes were advised in April 2022. Revision F2 dated June 2022 was approved on the 28th June 2022.

6.7.1 Requirements and Predictions

The following conditions are from the consent schedule 2:

38. The Applicant shall not extract:

(a) below a depth of 182 m AHD in the footprint of the Process Water Dam, if not already extracted as at the date of Modification 2

42 (b) [The Surface Water Management Plan includes]

- *a detailed description of design and construction criteria for the Process Water Dam based on a feasibility study of:*
  - *capacity to construct multiple cells within the overall dam footprint (ie a two stage or three stage dam);*
  - *whether the dam floor and walls are able to be effectively lined with compacted clay (especially for multiple cells);*
  - *whether effective hydraulic separation can be achieved between such cells;*
  - *rehabilitating such cells to create a single dam within the final landform; and*
  - *the appropriateness of diverting runoff received from off-site around the dam;*

45. The Applicant must ensure that the Process Water Dam is designed and constructed in a manner that satisfies the design and construction criteria for the Process Water Dam as developed under the Surface Water Management Plan (see condition 42(b) above).

6.7.2 Monitoring Results Compliance and Trends

The deepest point of the dam remains approximately 185 m AHD in the vicinity of the pump. The remainder of the top of the sediment remains at approximately 187 m AHD. This is compliant with all relevant criteria.

6.7.3 Interpretation and Effectiveness of Controls

The current Process Water Dam has proved effective in preventing uncontrolled discharge off-site. It is also providing sufficient supply of suitable water to the processing plant, with supplementation from the processing bore required.

As discussed in the Surface Water Management Plan and Rehabilitation and Landscape Plan, the three-stage construction of the dam to a depth of 178m AHD or firm base is no longer relevant, and the current monitoring shows that the base of the Process Dam is 2 m above the Wet Weather High Groundwater Level, therefore no changes will be made to the Process Dam.

6.7.4 Measures Proposed for Improvement

The Process Dam will continue to be monitored in accordance with the Surface Water Management Plan.

6.8 NOISE AND ROAD NOISE

6.8.1 Requirements and Predictions

The NSW EPA varied the licence to include additional noise monitoring points in June 2023. These additional requirements have been included in the Noise Management Plan 2023 which has not yet been approved by the DPIE. To ensure compliance with the EPL, the additional points have been monitored this report period.

The annual noise monitoring was undertaken in December 2023 against the Mod 4 conditions which specifies the following Noise Impact Criteria:

Condition 47: *The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.*

Table 33. Operational Noise Criteria (dB(a))

Receiver	Day (7am to 6pm) LAeq(15min)	6am-7am LA1(1min)	6am-7am LAeq(15min)
B	*44*	*50*	*40*
All other receivers	*43*	*50*	*40*

Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy (as may be updated or replaced from time-to-time).

Condition 47:

(a) *The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dB(A) when measured at 7 metres.*

(b) *The on-site generator is to be fitted with an acoustic enclosure to ensure that noise levels less than 44dB(A) at 30m are achieved*.

(c) *A noise compliance investigation is to undertaken within one month of the installation of the equipment to demonstrate compliance with the noise level limits stated in Conditions 47(a) and 47(b). The results of the compliance investigation are to be provided for the approval of the Secretary within 14 days of the completion of the investigations.*

Condition 48: *The Applicant shall ensure that traffic noise from the development does not exceed (L Aeq(1 hr)) 55 dB(A) between 7 am and 10 pm and 50 dB(A) between 10 pm and 7 am at any affected residence under adverse weather conditions. Where ambient Leq levels already exceed these criteria, the Applicant shall ensure that traffic noise from the development does not result in an increase of more than 2 dB(A).*

Note: Adverse weather conditions means in the presence of winds up to 3 metres per second and/or temperature inversions of up to 4 degrees Centigrade per 100 metres.

The EPL specifies the following noise related limits:

Table 34. Noise-related Conditions

<table>
<tr><th>Condition</th><th>Description</th></tr>
<tr><td>L3.1</td><td>Noise generated at the premises that is measured at each noise monitoring point established under this licence must not exceed the noise levels specified in Column 4 of the table below for that point during the corresponding time periods specified in Column 1 when measured using the corresponding measurement parameters listed in Column 2.
POINT 1,3,4,5,6,7
<table><tr><th>Time period</th><th>Measurement parameter</th><th>Measurement frequency</th><th>Noise level dB(A)</th></tr><tr><td>Day</td><td>LAeq (15 minute)</td><td>-</td><td>43</td></tr></table>
POINT 2
<table><tr><th>Time period</th><th>Measurement parameter</th><th>Measurement frequency</th><th>Noise level dB(A)</th></tr><tr><td>Day</td><td>LAeq (15 minute)</td><td>-</td><td>44</td></tr></table></td></tr>
<tr><td>L3.2</td><td>For the purpose of condition L3.1:
a) Day means the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.</td></tr>
</table>

Condition	Description
L3.3	a) The noise limits set out in Condition L3.1 apply under the meteorological conditions shown in the table below. b) For those meteorological conditions not referred to in Condition L3.3(a), the noise limits that apply are the noise limits in Condition L3.1 plus 5dB. **Assessment Period** — **Meteorological Conditions** Day — Stability Categories A, B, C, D and E with wind speeds up to and including 3m/s at 10m above ground level.
L3.4	For the purpose of condition L3.3: a) The meteorological conditions are to be determined from meteorological data obtained from a meteorological weather station. b) Stability category shall be determined using the following method from fact Sheet D of the Noise Policy for Industry (NSW EPA, 2017): i. Pasquill-Gifford stability classification scheme (section D1.3.1).
L3.5	To assess compliance: a) with LAeq (15 minutes) noise limits in condition L3.1, the noise measurement equipment must be located: (i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises: or where applicable, (ii) in an area within 30 metres of a residence facade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable, (iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve, (iv) at any other location identified in condition L3.1 b) with the LAeq (15 minutes) noise limits in condition L3.1, the noise measurement equipment must be located: (i) at the reasonably most affected point at a location where there is no residence at the location; or, (ii) at the reasonably most affected point within an area at a location prescribed by condition L3.5(a).
L3.6	A non-compliance of Condition L3.1 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L3. 5 (a) or L3.5 (b). **Notes to L3.5 and L3.6:** The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.
L3.7	For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.
L3.8	Noise measurement must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

The Noise Impact Assessment prepared for the Environmental Assessment for Mod 2 (Nexus Environmental Planning Pty Ltd, September 2015) made the following commitments.

Table 35. Predicted Noise Impacts, 2015 LAeq,15min (dBA)

Scenario	All Locations
Typical Operations	43

The Mod 4 Predicted Noise Levels at Receivers LAeq, 15 min dB(A) predicted an exceedance by 1dB(A) at Receiver RR10 when VENM emplacement and extraction are undertaken in Stage 1A and 5A combined. It was stated that "*As*

the noise predictions of Table 7.22 are based on worst-case site noise emissions, it is expected that compliance with noise limits will be achievable by adherence to the ongoing noise control strategies in the Quarry Operational and Road Noise Management Plan (ORNMP) (MAC, 2016)."

Table 36. Predicted Noise Impacts, Mod 4 LAeq,15min (dBA)

Scenario	All Locations
Typical Operations	43*

*Except for minor 1dB(A) exceedances at Receiver B (Receiver RR10). (Umwelt (Australia) Pty Limited, 2019)

6.8.2 Monitoring Results Compliance and Interpretation

Results of operational and road noise monitoring undertaken in December 2023 are given in *Appendix K*. The report states:

> *"Attended monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that Roberts Rd Sand Quarry noise emissions were audible on several occasions, although satisfying the relevant EPL noise limits. A review of monitoring data and operator attended observations determined that Roberts Rd Sand Quarry contributions are below the EPL and Consent limits for all assessment periods."*

Further details and interpretation of results are given in the attached report.

Table 37. Operator-Attended Noise Survey Results

EPL Receiver/ Consent Receiver	LAmax	LAeq	LA90	Quarry LAeq 15 min / 1min	*Criteria LAeq 15 min / 1min*	Comment
Day Time Attended Monitoring Results – **13/12/2023**						
1/A	74	52	39	38 / NA	*43 / NA*	Compliance achieved
2/B	88	62	38	<28	*44 / NA*	Compliance achieved
3/C	66	52	42	<32	*43 / NA*	Compliance achieved
4/D	75	54	38	<30	*43 / NA*	Compliance achieved
5/E	92	69	41	<31	*43 / NA*	Compliance achieved
6/F	80	53	39	<35	*43 / NA*	Compliance achieved
7/G	78	54	38	<30	*43 / NA*	Compliance achieved
Morning Shoulder Attended Monitoring Results – **13 & 14/12/2023**						
1/A	78	50	34	33 / 35	*40 / 50*	Compliance achieved
2/B	78	53	46	<36 / <36	*40 / 50*	Compliance achieved
3/C	66	52	45	<35 / <35	*40 / 50*	Compliance achieved
4/D	84	62	36	<30 / <40	*40 / 50*	Compliance achieved
5/E	88	69	45	<35 / <35	*40 / 50*	Compliance achieved
6/F	80	53	33	<30 / <40	*40 / 50*	Compliance achieved
7/G	64	46	41	<31 / 46	*40 / 50*	Compliance achieved
2022	All sites compliant					
2021	All sites compliant					
2020	All sites compliant					
2019	All sites compliant					
2018	All sites compliant					

Table 38. Road Noise Survey Results

Period	No of Quarry Trucks	Overall Measured dB LAeq (1hr)	Overall Calculated dB LAeq Project Truck Contribution	Criteria	Comment
6am to 7am	6	70	49	*50*	Compliance achieved
7am to 8am	17	70	54	*55*	Compliance achieved
2022		Compliant			
2021		Compliant			
2020		Compliant			
2019		Compliant			
2018		Compliant			

Sound Power Levels were not tested on the site plant and equipment this year. Sound Power levels of existing machinery are given in *Table 42*. There was no new equipment purchased and no atypical works undertaken.

Table 39. Sound Power of Equipment

Plant	Overall Sound Power (dBA)	Criteria in Sound Power dBA	Comment
PC350 Komatsu Excavator	101	*101 **	Compliance achieved.
L180G Volvo Loader	103	*N/A*	
Sand Plant, conveyors, log wash and stacker	100	*N/A*	
PC400 Komatsu Excavator – commissioning test only	105	*101 **	This excavator was under repair for the majority of the year. Once re-commissioned, the Sound Power level will be re-checked.
Total Fleet Sound Power	109	*113 #*	Compliance with expected modelling achieved.

* Condition 47a states: 'The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dBA when measured at 7m.' (This equates to a sound power level of 101dBA.)

'Typical Scenario and Plant Numbers' assessed in the Mod 2 Acoustic Assessment.

6.8.3 Trends and Effectiveness of Controls

6.8.3.1 Noise Trends

Table 37 and *Table 38* summarises 2023 attended noise monitoring results during quarry operations and past noise compliance status. Noise measured at the nominated residences during quarry operations in the reporting period were compliant with Mod 4 criteria.

6.8.3.2 Effectiveness of Noise Management Controls

Table 40. Effectiveness of Noise Management Controls

Control	Interpretation	Effective?
Perimeter Bunds	Noise measured at residences complies with requirements and predictions	Yes
Temporary bunds when extracting in close proximity to residences	Temporary bunds are in place around the current extraction area. Noise measured at residences complies with requirements and predictions. Noise measured at residences lower than previous monitoring.	Yes
Training and awareness for employees and truck drivers	Noise measured at residences complies with requirements and predictions. Road noise attributed to the site complies with requirements and predictions.	Yes

Control	Interpretation	Effective?
Mufflers on excavators	Sound power levels were measured on two excavators; one did not comply, however off-site noise remains inaudible.	Yes
New equipment purchased checked by qualified noise consultant for compliance prior to commissioning	Total fleet sound power levels remain less than modelled	Yes

6.8.4 Measures Proposed for Improvement

As seen from the previous section, the current controls and mitigation measures in place are effective. Any new equipment purchased after the annual noise monitoring event will be tested during the next round.

Should atypical works be undertaken, extraction outside of temporary bunds (surface extraction), or a dozer ripping sandstone during initial topsoil and overburden extraction, a suitably qualified noise consultant will be commissioned to undertake attended noise monitoring during this time. NMP has been updated to include these points but not yet approved by DPE.

6.9 FLORA AND FAUNA

6.9.1 Requirements and Predictions

The consent specifies the following requirements with regard to flora and fauna management:

Table 41. Flora and Fauna Management Conditions

Condition number	Condition Summary	Details of compliance status	Compliant
55	The Applicant shall prepare a Flora and Fauna Management Plan as part of the EMP. The Plan shall be prepared in consultation with National Parks and Wildlife Service and Council, (further detail in consent)	Flora and Fauna Management Plan has been prepared and updated in 2016. OEH (NPWS) was consulted but declined to make comments. Council comments have been included in report	Yes
56	The Applicant shall maintain the revegetated areas for the duration of the Consent. Maintenance may include: (details in consent)	Limited rehabilitation has been undertaken on the site due to the cell staging that has been required. All bundwalls are vegetated and stable.	Yes

Objectives and targets from the Flora and Fauna Management Plan:

Table 42. Flora and Fauna Management Objectives and Targets

Objective / Target	Compliance Status
To protect known threatened flora species on the site and ensure correct procedures are applied in the event of other threatened flora or fauna species being located on the site.	Known species identified, baseline monitoring undertaken in Jan 2018. Monitoring is undertaken annually though 2023 was overlooked. 2024 Autumn or early Winter will likely be the next monitoring occurrence.
Inspections of site flora and fauna to show minimal impacts from operations.	Trends over time show minimised impacts.

Objective / Target	Compliance Status
Consider the post extraction land use in the management and maintenance of conserved and rehabilitated vegetation.	Conserved vegetation is managed in accordance with Landscape and Rehabilitation Plan

6.9.2 Monitoring Results Compliance and Trends

Monitoring of the flora and fauna was not undertaken in 2023 due to oversight. Monitoring is proposed to occur next in Spring 2024.

Monitoring of the remnant vegetation was undertaken in October 2022, in accordance with the Flora and Fauna Management Plan. A full report is supplied in the Biodiversity Report on www.vgt.com.au/hodgsons.

A program of planting was undertaken in October – November 2020 with the aim of improving the vegetation buffer on the perimeter of the site. Low shrubs including bottlebrush species were planted on the Old Northern Rd perimeter bund where pruning by utilities companies has caused severe damage in the past. The 2022 Biodiversity Report states that "The native species which have been planted on a bund wall bordering Roberts Road and Old Northern Road are growing well. Almost all of these species have reached reproductive maturity."

6.9.3 Interpretation and Effectiveness of Controls

Weed management activities were undertaken regularly, focussing on the areas adjacent to the carpark and along Roberts Rd where high concentrations of weeds were noted in the latest Biodiversity Report.

6.9.4 Measures Proposed for Improvement

The Biodiversity report recommended a monthly weed control plan given in Appendix D of the Biodiversity Report which is reproduced below. In response to requested actions by DPE, a weed management plan is produced regularly, with examples given in *Appendix L*.

Table 43. Recommended Weed Control

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
African Lovegrass	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Blackberry	Herbicide	Herbicide	Herbicide						Herbicide	Herbicide	Herbicide	Herbicide
Bridal Creeper	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal
Cobblers Pegs	Hand removal	Hand removal	Hand removal	Hand removal					Herbicide	Herbicide	Herbicide	Hand removal
Crofton Weed	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Fireweed	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal
Lantana	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Paspalum	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide			Herbicide	Herbicide	Herbicide	Herbicide
Rhodes Grass	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide
Whiskey Grass	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Herbicide	Herbicide	Herbicide	Hand removal

6.10 REHABILITATION

The Landscape and Rehabilitation Management Plan (LRMP) was updated in July 2023, no approval has been received to date from DPE. The previous LRMP was approved in August 2018.

6.10.1 Requirements and Predictions

Performance indicators and completion criteria were provided in the LRMP and are presented in *Table 44*. None of these criteria have yet been achieved. The LRMP has been updated to the Mod 4 final landforms presented in *Appendix B*. The Rehabilitation and Conservation Bond has been calculated to the value of $313,619.00 and accepted by DPE via correspondence received 18th December 2023 (*Appendix N*) . The bond has not been paid at the time of this report however provisions are being made for payment of bond.

Table 44. Rehabilitation Performance Indicators and Completion Criteria

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 1 - Decommissioning						
Domain 1 - Infrastructure						
Surface Infrastructure to be decommission and removed, unless the Secretary agrees otherwise. **Minimise the adverse socio-economic effects of quarry closure.**	Services not required for final landuse are disconnected.	Relevant services disconnected by qualified contractors	Report from qualified contractors	Upon decommissioning completion	EIS/This report	Not commenced/ Post extraction completion
	Infrastructure not required for final land use is removed	Relevant infrastructure removed.	Inspection and report	Upon decommissioning completion	EIS/This report	Not commenced/ Post extraction completion
	Roads not required for final landuse are removed.	Roads removed unless specified to be retained	Inspection and report	Upon decommissioning completion	EIS/This report	Not commenced/ Post extraction completion
	Roads required for final landuse are reduced in width (if required)	Roads reduced in width to that suitable for final land use.	Inspection and report	Upon decommissioning completion	EIS/This report	Not commenced/ Post extraction completion
	Hardstand areas reduced to a size required for the final landuse	Hardstand areas reduced in size to that suitable for final landuse.	Inspection and report	Upon decommissioning completion	EIS/This report	Not commenced/ Post extraction completion
	No hazardous material remains	All hazardous material removed	Contamination report prepared by qualified person. Register of Hazardous Material.	Following decommissioning with follow up validation testing as required.	This Report	Not commenced/ Post extraction completion
	No remaining product stockpiles	All remaining product stockpiles are removed.	Inspection and report	Upon decommissioning completion	EIS/This report	Not commenced/ Post extraction completion

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 1 – Decommissioning (continued)						
Domain 3 - Water Management						
Site to be safe, stable and non-polluting	No sediment laden water enters the remaining clean water dam system.	Final water body has been desilted, if required to increase capacity and minimise sediment entrainment in discharged water. The catchment areas for the final water body are sufficiently rehabilitated so as to only contain clean water runoff.	Inspection by quarry manager and suitably qualified person.	On construction completion and monthly until completion	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Final Water Body construction not commenced/ Post extraction completion
	Sediment dam discharge due to overtopping does not entrain sediment.	Final water body will be designed to Best Practice according to the 'Blue Book' Criteria for a 5 day 90th percentile storm event. All drains will be designed for the 1 in 10-year design storm event and do not re-entrain sediment. The dam spillway will be designed for the 1 in 100-year design storm event.	Inspection by quarry manager and suitably qualified person.	For the final water body, on construction completion and monthly until completion.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Final Water Body construction not commenced/ Post extraction completion
Domain 4 – Overburden Emplacement Area						
Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.	No remaining overburden stockpiles	All overburden stockpiles are removed and or incorporated into the final landform.	Inspection and report	Upon decommissioning completion	EIS, and this report	Not commenced/ Post extraction completion
	Sediment retained in water management structures	Final water body will be designed to Best Practice according to the 'Blue Book' Criteria for a 5 day 90th percentile storm event. All drains will be designed for the 1 in 10-year design storm event and do not re-entrain sediment. The dam spillway will be designed for the 1 in 100-year design storm event.	Existing dams currently meet capacity specifications (see SWMP). Final water body is designed to exceed the required capacity and will be assessed once complete. Inspection by quarry manager and suitably qualified person.	On construction completion and monthly until completion.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Final Water Body construction not commenced/ Post extraction completion
Domain 6 - Open Cut Void						
No activities within this domain are required during this phase						
Domain 9 - Native Vegetation Conservation Area						
No activities within this domain are required during this phase						

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 2 - Landform Establishment						
Domain 1 – Infrastructure						
Domain landform is safe, stable and non-polluting. **Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.**	Final landform contours similar to proposed final landform contours.	Slope lengths in rehabilitated areas shall not exceed 20m for a 3H: 1V batter i.e., an earth bank shall be installed. Slope lengths in rehabilitated areas shall not exceed 30m for a 4H: 1V batter i.e., an earth bank shall be installed. Slope lengths in rehabilitated areas shall not exceed 40m for batters >4H: 1V i.e., an earth bank shall be installed.	Survey on completion by registered surveyor.	Upon completion of landform establishment phase.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Not commenced/ Post extraction completion
	Suitable sediment and erosion controls in place.	Final water body will be designed to Best Practice according to the 'Blue Book' Criteria for a 5 day 90th percentile storm event. All drains will be designed for the 1 in 10-year design storm event and do not re-entrain sediment. The dam spillway will be designed for the 1 in 100-year design storm event.	Final water body is designed to exceed the required capacity and will be assessed once complete. Inspection by quarry manager and suitably qualified person.	Visual Inspection on construction completion and monthly until completion.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Final Water Body construction not commenced/ Post extraction completion
Domain 3 - Water Management						
Final water body is non-polluting	Final water body is constructed to the engineer's design specification.	The dam dimensions, location and walls construction will be to the engineer's design specification (yet to be determined). The dam spillway will be designed for the 1 in 100-year design storm event.	Inspection by quarry manager and suitably qualified person.	During construction as determined by the engineer	DECC- Managing Urban Stormwater and engineer's plans	Final Water Body construction not commenced/ Post extraction completion
	Final water body is not a pollution hazard to the downstream environment.	Final water body will be designed to Best Practice according to the 'Blue Book' Criteria for a 5 day 90th percentile storm event. All drains will be designed for the 1 in 10-year design storm event and do not re-entrain sediment. The dam spillway will be designed for the 1 in 100-year design storm event.	Final water body is designed to exceed the required capacity post establishment and will be assessed once complete. Inspection by quarry manager and suitably qualified person.	Visual Inspection on construction completion and monthly until completion.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Final Water Body construction not commenced/ Post extraction completion
Domain 4 - Overburden Emplacement Area						
Domain landform is safe, stable and non-polluting. **Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.**	Final landform contours similar to proposed final landform contours.	Slope lengths in rehabilitated areas shall not exceed 20m for a 3H: 1V batter i.e., an earth bank shall be installed. Slope lengths in rehabilitated areas shall not exceed 30m for a 4H: 1V batter i.e., an earth bank shall be installed. Slope lengths in rehabilitated areas shall not exceed 40m for batters >4H: 1V i.e., an earth bank shall be installed.	Survey on completion by registered surveyor.	Upon completion of landform establishment phase.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Not commenced/ Post extraction completion

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Domain 6 - Open Cut Void						
Domain landform is safe, stable and non-polluting. **Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.** **Minimise the height and slope of batters.** **Minimise the drainage catchment.** **Ensure public safety**	Final landform contours similar to proposed final landform contours.	Slope lengths in rehabilitated areas shall not exceed 20m for a 3H: 1V batter i.e., an earth bank shall be installed. Slope lengths in rehabilitated areas shall not exceed 30m for a 4H: 1V batter i.e., an earth bank shall be installed. Slope lengths in rehabilitated areas shall not exceed 40m for batters >4H: 1V i.e., an earth bank shall be installed.	Survey on completion by registered surveyor.	Upon completion of landform establishment phase.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Not commenced/ Post extraction completion
Minimise the drainage catchment. **Ensure public safety**	Landform drains towards water management domain	Final water body will be designed to Best Practice according to the 'Blue Book' Criteria for a 5 day 90th percentile storm event. All drains will be designed for the 1 in 10-year design storm event and do not re-entrain sediment. The dam spillway will be designed for the 1 in 100-year design storm event.	Existing dams currently meet capacity specifications (see SWMP). Final water body is designed to exceed the required capacity and will be assessed once complete. Inspection by quarry manager and suitably qualified person.	Visual Inspection on construction completion and monthly until completion.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Final Water Body construction not commenced/ Post extraction completion
	Available topsoils are stockpiled appropriately and reused on the site	Available topsoil is spread over final landform	Site contractor to record growth medium management procedures to the quarry manager. Records to include amounts stripped, locations and depths re-spread.	As required during construction.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Not commenced/ Post extraction completion
Ensure public safety	Tracks suitable for private access or pedestrian usage	Slopes of major tracks <10° or have cross drains/banks installed. Where unsuitable soils are present, tracks to be stabilised with crushed bricks, concrete, gravel or similar.	Survey on completion by registered surveyor. Stabilisation methods to be recorded and reported by Site Contractor to the quarry manager.	Upon completion of landform establishment phase.	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Not commenced/ Post extraction completion
Domain 9 - Native Vegetation Conservation Area						
No activities within this domain are required during this phase						

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 3 - Growth Medium Development						
Domain A - Infrastructure						
No revegetation is to occur in this domain; therefore, no activities are required during this phase						
Domain B - Water Management						
No revegetation is to occur in this domain; therefore, no activities are required during this phase						
Domain C & D - Rehabilitation Area – Grassland/Woodland						
Domain landform is safe, stable and non-polluting. **Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.** **The quarry pit floor is landscaped and revegetated using improved pasture species, native trees and understorey species.**	Compacted surfaces deep ripped to 300mm along contour.	Photographs of ripped areas	Inspection by quarry manager and suitably qualified person.	Following Deep ripping	EIS and this report	Not commenced/ Post landform establishment
	Hydromulch Area- Minimum 300mm of subsoil emplaced over deep ripped surface. Minimum of 100mm of topsoil emplaced over subsoil layer.	Small ‘test pits’ dug and photographed to show final media depth, report indicates required thicknesses achieved.	Photographs of test pits reported by quarry manager and/or suitably qualified person	Following spreading of soils.	EIS and this report	Not commenced/ Post landform establishment
	Buffer Setbacks and Embankments with 1V:3H Grade- Minimum 300mm of subsoil emplaced over deep ripped surface. Minimum of 100mm of topsoil emplaced over subsoil layer. Minimum of 75mm of organic mulch emplaced over topsoil.	Small ‘test pits’ dug and photographed to show final media depth, report indicates required thicknesses achieved.	Photographs of test pits reported by quarry manager and/or suitably qualified person	Following spreading of soils.	EIS and this report	Not commenced/ Post landform establishment
	Embankments Steeper than 1V:3H Grade- Minimum 300mm of subsoil emplaced over deep ripped surface. Minimum of 100mm of topsoil emplaced over subsoil layer. Jute matting pinned to topsoiled bank. Minimum of 75mm of organic mulch emplaced over topsoil.	Small ‘test pits’ dug and photographed to show final media depth and presence of jute matting, report indicates required thicknesses achieved.	Photographs of test pits reported by quarry manager and/or suitably qualified person	Following spreading of soils.	EIS and this report	Not commenced/ Post landform establishment

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
	Permanent Bundwalls- Minimum 300mm of topsoil emplaced over deep ripped surface. Jute matting pinned to topsoiled bank. Minimum of 75mm of organic mulch emplaced over topsoil.	Small ‘test pits’ dug and photographed to show final media depth and presence of jute matting, report indicates required thicknesses achieved.	Photographs of test pits reported by quarry manager and/or suitably qualified person	Following spreading of soils.	EIS and this report	Not commenced/ Post landform establishment
Domain J - Native Vegetation Conservation Area						
No activities within this domain are required during this phase						

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 4 - Ecosystem and Land use Establishment						
Domain A - Infrastructure						
No revegetation is to occur in this domain; therefore, no activities are required during this phase						
Domain B - Water Management						
Wetlands water management structure to remain therefore no activities required during this phase						
Domain C & D - Rehabilitation Area – Grassland/Woodland						
Domain landform is safe, stable and non-polluting. **Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.** **The quarry pit floor is landscaped and revegetated using improved pasture species, native trees and understorey species.**	Revegetation species mix applied as suggested in Rehabilitation Management Plan	A target coverage factor of 70% will be subject to further refinement. Low mortality of plants used in progressive revegetation with 75% becoming established 3 years.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EIS and Rehabilitation Management Plan	Not commenced/ Ongoing
	The rehabilitated area does not constitute an erosion hazard.	Total projected foliage cover is greater than or equal to 70%.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	DECC- Managing Urban Stormwater, EIS, SWMP and this report	Not commenced/ Ongoing
	Weeds not preventing revegetation from establishing	Weed cover no more than 25% over a 3-year monitoring period within any given areas where revegetation has occurred. Note that non-native species purposefully planted to control erosion are excluded from this target.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EIS and Rehabilitation Management Plan	Not commenced/ Ongoing
	Grazing by native and domestic fauna not adversely impacting on ecosystem development	Rural fences and gates installed around disturbed area to prevent grazing of domestic stock. Feral animal controls will be implemented if required.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EIS and Rehabilitation Management Plan	Not commenced/ Ongoing
	Branches and logs of any trees cleared on the site are to be spread within the rehabilitation areas to provide habitat for ground fauna	Evidence of logs and other fallen timber spread over re rehabilitated areas. Ground fauna species of similar diversity to adjacent areas of similar habitat.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EIS and Rehabilitation Management Plan	Not commenced/ Ongoing

Domain J - Native Vegetation Conservation Area						
Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.	The rehabilitated area does not constitute an erosion hazard.	Total projected foliage cover is greater than or equal to 70%.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	DECC- Managing Urban Stormwater EIS	Not commenced/ Ongoing
	Weeds not overtaking existing vegetation	Monitoring confirms that after 2 years the non-native/non-target species (weeds) represents less than 20%of projected foliage cover or equivalent to surrounding vegetation not disturbed by mining activities.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EIS and Rehabilitation Management Plan	Not commenced/ Ongoing
	Grazing by native and domestic fauna not adversely impacting on ecosystem development	Rural fences and gates installed around disturbed area to prevent grazing of domestic stock. Feral animal controls will be implemented if required.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EIS and Rehabilitation Management Plan	Not commenced/ Ongoing

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 5 - Ecosystem and Land use Sustainability						
Domain A - Infrastructure						
No activities are required during this phase						
Domain B - Water Management						
Domain landform is safe, stable and non-polluting.	Water quality monitoring results show that the final water body is non-polluting should it overtop and is suitable for stock water.	Water Quality meets the objective of Section 120 of the Protection of the Environment Operations Act 1997: and Water Quality meets the objective of the ANZECC Guidelines for 90% protection of freshwater ecosystems.	Water to be monitored for pH, Turbidity, Oil & Grease and TSS on a once off basis. NATA laboratory	Once off basis.	EA and Rehabilitation Management Plan	Not commenced/ Post completion
Domain C & D - Rehabilitation Area – Grassland/Woodland						
Landscaped and revegetated using improved pasture species, native trees and understorey species.	Vegetation self-sustaining.	Monitoring confirms: • Evidence of new growth of endemic species. • Evidence of successive generations of endemic species • No further active weed control required (beyond that considered necessary at analogue sites).	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EA and Rehabilitation Management Plan	Not commenced/ Ongoing
	Rehabilitated areas to be linked to existing and future areas of vegetation where possible to form a network of wildlife corridors	Connectivity between current and future rehabilitated areas is established adjacent to existing and future areas of vegetation where possible. Patches are not to be separated by more than 10 metres where possible.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EA and Rehabilitation Management Plan	Not commenced/ Ongoing
	Rocks of varying sizes are to be spread over rehabilitated areas to provide ground fauna habitat and refuge.	Evidence of varying sized rocks between 20 mm and greater than 200 mm spread over rehabilitated areas. Ground dwelling fauna species of similar diversity to adjacent areas of similar habitat.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EA and Rehabilitation Management Plan	Not commenced/ Ongoing
	The provision of nest boxes for a range of arboreal fauna to be installed during the establishment of final rehabilitation areas	On completion of the rehabilitation, a suitably qualified ecologist determines the requirement on whether nest boxes are required. If nest boxes are required to be installed a nest box management plan will be prepared.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	On installation	EA and Rehabilitation Management Plan	Not commenced/ Ongoing

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Domain J - Native Vegetation Conservation Area						
Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land.	Vegetation self-sustaining.	Monitoring confirms: • Evidence of new growth of endemic species. • Evidence of successive generations of endemic species • No further active weed control required (beyond that considered necessary at analogue sites).	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EA and Rehabilitation Management Plan	Not commenced/ Ongoing
	Conservation area to be linked to existing and future areas of vegetation where possible to form a network of wildlife corridors	Connectivity between conservation areas is established adjacent to existing and future areas of vegetation where possible. Patches are not to be separated by more than 10 metres where possible.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	Monthly for the first 6 months, then 6 monthly until completion criteria achieved	EA and Rehabilitation Management Plan	Not commenced/ Ongoing
	The provision of nest boxes for a range of arboreal fauna to be installed during the establishment of final rehabilitation areas	On completion of the rehabilitation, a suitably qualified ecologist determines the requirement on whether nest boxes are required. If nest boxes are required to be installed a nest box management plan will be prepared.	Monitoring including photography to be conducted by suitably qualified person and reported annually.	On installation	EA and Rehabilitation Management Plan	Not commenced/ Ongoing

Objective	Performance Indicator	Completion Criteria	Monitoring Methodology and Responsibility	Monitoring Frequency	Justification /Source	Current Progress and Expected Completion
Phase 6 - Relinquishment						
All Domains						
Relinquishment	Demonstrated compliance with all completion criteria	Outlined above	Completion Report to be prepared by suitably qualified person describing compliance with all criteria.	-	-	Not commenced
Minimise the socio-economic effects of quarry closure	Demonstrated compliance with all completion criteria		Completion Report to be prepared by suitably qualified person describing compliance with all criteria.	-	-	Not commenced

6.10.2 Monitoring Results Compliance and Trends

No rehabilitation monitoring has been undertaken this report period.

6.10.3 Interpretation and Effectiveness of Controls

The perimeter bund walls have been revegetated with grass and shrub species and are stable and not prone to erosion. The perimeter bund walls are providing effective visual screening from the site operations despite the absence of mature trees. The general compliance of the dust and noise monitoring results indicates that this control measure is effective. Internal bunds and topsoil stockpiles are generally well covered with pasture species.

Progressive rehabilitation in the extraction cells has not occurred on the site to date due to the lack of finished faces. Although this results in erosion on the internal faces of the extraction area, sediment is captured within the pit void and does not impact on surrounding land or waterways.

The 10m buffer on the northern boundary has been reinstated and the bund wall vegetated with native species.

The remaining areas on the site, outside the extraction footprint are well vegetated with pasture species and are stable and protected from erosion impacts.

6.10.4 Measures Proposed for Improvement

During the next report period the following activities will be undertaken towards development of the final landform:

- Monitor and maintain perimeter vegetation.
- Revegetation activities will continue on perimeter bunds.
- Regular weed management.
- Payment of the Rehabilitation and Conservation Bond will be undertaken.

7 Management Targets and Strategies for Future Stages

The targets and strategies for future stages have been outlined in the Environmental Management Plan and each individual sub-plan. They are summarised in the table below.

Table 45. Future Targets

Aspect	Target	Criteria
Air Quality	To receive no reasonably preventable complaints from members of the public or statutory authorities regarding air quality emissions from the site, and for monitoring to show that air quality criteria are being met	Air quality criteria outlined in *6.3.1*
Water	To ensure there is no reasonably preventable impact on surface water external to the site or regional groundwater	Water quality criteria outlined in Sections *6.4.1*, *6.5.1*, and *6.7.1.*
Sediment and Erosion	To control erosion on the site to as to reasonable prevent impacts off site	Sediment and erosion criteria are outlined in *6.4*
Noise	To receive no reasonably preventable complaints from members of the public or statutory authorities regarding noise or road noise impacts from the site, and for monitoring to show that noise criteria are being met	Noise and road noise criteria are outlined in *6.8.1*
Flora and Fauna	Inspections of site flora and fauna to show minimal impacts from operations. Consider the post extraction land use in the management and maintenance of conserved and rehabilitated vegetation.	Performance and completion criteria are detailed in the FFMP
Rehabilitation	To ensure that temporary and permanent rehabilitation activities are undertaken in accordance with the Rehabilitation Plan	Performance and completion criteria are detailed in the LRMP.

8 Opportunities for Improvement

8.1 WATER MANAGEMENT PLAN UPDATES

An update of the Water Management Plan was prepared with consultation from DPI Water and NRAR, and submitted to DPIE in 2022. That plan is yet to be approved. A further update will be prepared in 2024.

Schedule 2, Condition 44 of the consent states:

> *44. The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with DPIE Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval by 31 December 2016. The plan must be updated on an annual basis in consultation with DPIE Water for three years from the date of approval of Modification 2 and thereafter as agreed with by the Secretary.*

NRAR and DPE will be approached as per the above condition to review whether annual updates are required and whether 6 monthly reporting of groundwater depths is still required.

8.2 REHABILITATION CONSERVATION BOND

The bond calculation has been approved. A payment method has been established and is being undertaken.

8.3 INDEPENDENT AUDIT

Table 46. 2023 Independent Audit Recommendations

Opportunity	Actions	Date Achieved
Consider reducing the volume of oil and grease to levels which can be stored within the existing bunded areas	Empty drums removed. Liaison with supplier to ensure cost effective supply of consumables in smaller volumes. Bunded pallets purchased and installed in workshop.	June 2023 Ongoing December 2023
Metal parts stored in various locations on site should be sorted and stored in a single location in a neat and tidy manner	Metal and poly pipe removed. Scrap metal recycle bin in use.	April 2023 July 2023.

Another Independent Environmental Audit is due in 2026.

8.4 ACTIONS AND IMPROVEMENTS PLANNED FOR 2024

Table 47. Summary of Proposed Improvements

Aspect	Improvement
Transport and Traffic	The TMP and Drivers Code of Conduct is to be reviewed annually.
Air Quality	Continue monitoring and management as outlined in AQMP.
Water	Liaise with Water and Planning authorities regarding the further need for WMP annual updates. Investigate whether sprinkler usage is significant enough to record for the water balance calculations. Continue monitoring and management in accordance with WMP.
Noise	Undertake attended operational and road traffic noise monitoring, including compliance with conditions 47 (a) and (b). Any newly purchased equipment to tested for Sound Power compliance.
Flora and Fauna	Biodiversity monitoring will be undertaken during the calendar year. Weed control and quarterly reports as per Biodiversity Report schedule will be undertaken as recommended in Section *6.9.* Update Flora and Fauna Management Plan for Mod 4 changes.
Rehabilitation	Monitor and maintain perimeter vegetation. Payment of Rehabilitation and Conservation Bond.
Administrative	Environmental Management Strategy and sub-plans to be reviewed and revised following submission of this ARCR. Liaise with DPIE regarding outstanding Management Plan approvals to allow further improvements to the site operations.

References

Dundon Consulting. (April 2018). *Roberts Rd Maroota Sand Quarry Groundwater Study Report.*

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Holmes Air Sciences. (October 1999). *Air Quality Impact Assessment, Proposed Sand Extraction Operations, Roberts Rd Maroota, NSW.*

Jacobs Group Australia Pty Ltd. (2019). *Roberts Road Quarry Air Quality Impact Assessment for Proposed Modification 4.*

National Environment Protection Council. (February 2016). *National Environment Protection (Ambient Air) Measure.*

Nexus Environmental Planning Pty Ltd. (May 2015). *Environmental Assessment Section 75W Mod 3.*

Nexus Environmental Planning Pty Ltd. (November 1999). *Environmental Impact Statement.*

Nexus Environmental Planning Pty Ltd. (September 2015). *Environmental Assessment Section 75W Mod 2.*

NSW Department of Planning and Environment. (March 2016). *DA 267-11-99.*

NSW EPA. (2015). *Environment Protection Licence 6535.*

Umwelt (Australia) Pty Limited. (2019). *Robert Road Quarry Modification 4 Statement of Environmental Effects.* Teralba.

Wilkinson Murray Pty Ltd. (June 2015). *Air Quality Impact Assessment.*

Appendix A Compliance Review

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

DA Conditions

Compliant	75
Non Compliant	2

	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
Obligation to Prevent and Minimise Harm to the Environment	1	1	There is an obligation on the Applicant to prevent and minimise harm to the environment throughout the life of the project. This requires that all practicable measures are to be taken to prevent and minimise harm that may result from the construction, operation and, where relevant, the decommissioning of the development.		Y	Administration	
Adherence to Terms of DA and EIS	2	2	The Applicant shall:(a) carry out the development generally in accordance with the EIS, Modification 1, ~~Modification 3 and Modification 2~~ Modification 2, Modification 3 and Modification 4; and (b) comply with the conditions of this consent		N	Administration	Section 2
Compliance	3	3	The Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of the Conditions of this Consent, within such time as the Secretary agrees. The Secretary may order the Applicant to cease work until non-compliance has been addressed to the Secretary's satisfaction.	None required this report period	Y	Administration	
	4	4	The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent.	All contractors and sub-contractors are inducted to site and Induction Checklist completed	Y	Administration	Appendix M
	5	5	The Applicant shall comply with all relevant conditions prescribed in Part 7 of the Environmental Planning and Assessment Regulation 1994, as required by Section 80A (11) of the Act.	Buildings unchanged	Y	Administration	
	6	6	The Applicant will submit a Conditions Compliance Report to the Secretary prior to the commencement of extraction in areas that are not currently subject to extraction. Subsequent reports will be submitted annually for the first three years of extraction in areas not currently subject to extraction. Further reports shall be submitted as required by the Secretary.	Compliance Report 2022 version F0 submitted 31/03/2023, DPE acceptance response received 27/04/2023.	Y	Administration	Appendix N
	6 (a)	6 (a)	To enable ready comparison with the EIS's predictions, diagrams and tables, the Conditions Compliance Reports shall include, but not be limited to, the following matters:(a) a compliance audit of the performance of the project against conditions of Consent and statutory approvals				Appendix A
	6 (b)	6 (b)	(b) a review of the effectiveness of the environmental management of the development				Section 6
	6 (c)	6 (c)	(c) the results of environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;				Section 6
	6 (d)	6 (d)	(d) a listing of any variations obtained to approvals applicable to the DA since the last report;	No variations this report period			Section 4
	6 (e)	6 (e)	(e) a record of all complaints and the actions taken to mitigate all such complaints;	No complaints were received			Section 5.4, Appendix F
	6 (f)	6 (f)	(f) a report detailing the rehabilitation measures undertaken since the last report; and				Section 6.10

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

DA Conditions

Compliant	75
Non Compliant	2

	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	6 (g)	6 (g)	(g) environmental management targets and strategies for stages of the development yet to be completed.				Section 7
	7	7	The Secretary may, after considering a Conditions Compliance Report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant shall comply with those requirements within such time as the Secretary may direct. Note: The Applicant is obliged to ensure that all statutory requirements, including all relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions and Directions of the Councils and relevant government agencies are met and approvals obtained.	Compliance Report 2022 version F0 submitted 31/03/2023, DPE acceptance response received 27/04/2023.	Y	Administration	None required from Annual Report 2022
Commencement and Duration / Limits on Approval	8 a)	8 a)	No extraction shall commence in areas that are not currently subject to extraction, until the Applicant has: (a) constructed the bund walls at the corner of Roberts Road and Old Northern Road;	The relevant bundwalls have been completed.	Y	Administration	Figures 2 - 4
	8 b)	8 b)	(b) submitted the Conditions Compliance Report required under Condition 6; and	Compliance Report 2022 version F0 submitted 31/03/2023, DPE acceptance response received 27/04/2023.			Appendix A, Appendix N
	8 c)	8 c)	(c) obtained all licences necessary for the commencement of extraction.	EPA licence current Bore licences current			Section 4, Appendix C, Appendix D
	9	9	The duration of extraction under this Consent is until 31 May ~~2025~~ 2030. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.	Extraction not yet completed	Y	Administration	
		9A (a)	(a) process or dispatch more than 480,000 tonnes of quarrying products at the site in any calendar year;	Compliant	Y	Operations	Section 5
		9A (b)	(b) receive more than 320,000 tonnes of VENM and ENM (in total) at the site in any calendar year;	Compliant			Section 5.3
		9A (c)	(c) import more than 3 million tonnes of VENM and ENM to the site; and	Compliant			Section 5.3
		9A (d)	(d) import VENM and ENM beyond 31 May 2030.	Compliant			
Complaints Procedures	10 a)	10 a)	Prior to commencement of construction, the Applicant shall: (a) publicise a telephone number on which complaints about the subject development can be registered during the hours of operation in Condition 16; and	Complaints phone number is advertised in the white pages and signage at the front gate.	Y	Administration	Section 5.4
	10 b)	10 b)	(b) publicise a postal address where written complaints may be lodged. The telephone number and postal address shall be displayed on the property where it can be read from a public road, for the duration of the development.	Address is publicised in White Pages, website and signage at the front gate.			Section 5.4
	11	11	The Applicant shall record details of all complaints received and actions taken in response to complaints in an up-to-date log book. The log book shall be made available for inspection upon request by the Secretary, the EPA or the Council; and a summary of complaints received shall be included in the Conditions Compliance Reports under Condition 6.	Complaints log book available on site. No complaints received this report period.	Y	Administration	Section 5.4, Appendix F

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

DA Conditions

Compliant	75
Non Compliant	2

	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	12 a)	12 a)	The Applicant shall ensure that an initial response to complaints is provided to the complainant within 24 hours of receipt. The Applicant shall then: (a) investigate the concerns raised by the complainant and undertake all reasonable attempts to determine the cause of concern; and	No complaints received.	Y	Administration	Not required
	12 b)	12 b)	(b) if adverse impacts are identified, undertake all practicable measures to modify the activity which may be causing the impacts.	No complaints received.			Not required
	13	13	If the Applicant's response does not address the complaint to the satisfaction of the complainant within six weeks, the Applicant shall inform the Secretary and take any action as directed by the Secretary. This may include a requirement to carry out independent investigations of noise and/or dust at the cost of the Applicant, in accordance with Condition 14.	Not applicable as yet	Y	Administration	Not required
	14 a)	14 a)	If the Secretary is satisfied that an independent investigation is required, the Applicant shall: (a) appoint a qualified independent person or team to plan and implement an investigation to qualify the impact and determine the sources of the impact; and	Not applicable as yet			Not required
	14 b)	14 b)	(b) bear the cost of the independent investigation and make available plans, programs and other information necessary for the independent person to form an appreciation of the past, present and future works and their effects on dust and/or noise emissions. This investigation is to be carried out in accordance with a documented Plan. The Plan shall be designed and implemented to measure and/or compute (with appropriate calibration by measurement) the relevant noise and/or dust levels at the complainant's property, that are emitted by the development; and specify a monitoring period and reporting schedule. The independent person or team, the Plan and the timing of its implementation, shall be approved by the Secretary. The independent person or team shall report to the Secretary and the Applicant. Further independent investigations shall cease if the Secretary is satisfied that the relevant levels are not being exceeded and are unlikely to be exceeded in the future.	Not applicable as yet	Y	Administration	Not required
Dispute Resolution	15	15	In the event that the Applicant, Council, the PCA, or a government authority other than the Department, cannot agree on the specification or requirements applicable under this Consent, the matter shall be referred by either party to the Secretary or, if not resolved, to the Minister, whose determination of the disagreement shall be final and binding on the parties.	Not applicable as yet	Y	Administration	Not required

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
Hours of Operation	16	16	Unless prior written approval of the EPA is obtained, the hours of operation are: • construction: 7.00am to 6.00pm Monday to Friday • extraction and processing of material: 7.00am to 6.00pm, Monday to Friday and 7.00am to 1.00pm on Saturdays • vehicle loading: 6.00am to 6.00pm, Monday to Friday and 6.00am to 1.00pm on Saturdays. No works shall be undertaken on Sundays or Public Holidays. These restrictions do not apply to routine maintenance work, such as the repair of machinery, provided the work does not result in exceedance of the noise limits in Condition 47.	Hours included in induction	Y	Administration	Section 5.1
Depth of Extraction	17	17	The Applicant shall ensure that extraction does not take place below a level 2 metres above the wet weather high groundwater level of the regional aquifer, as measured and mapped on the site (see Conditions 39(d) and 44).	Extraction has not progressed deeper than Wet Weather High Groundwater level	Y	Operations	Section 6.5, Figure Five A, B
Production Data		17A	The Applicant must provide MEG with annual quarry production data, covering a full calendar year, by no later than 30 January for the following calendar year	MEG requires this data be supplied on a financial year basis. Data to be completed via Portal	Y	Administration	Section 5.1
		17B	The data must be provided using the relevant standard form and a copy of the data must be included in the Annual Review (required under condition 66).	MEG requires this data be supplied on a financial year basis. Data to be completed via Portal	Y	Administration	Section 5.1
Environmental Management Plan	18	18	The Applicant shall prepare a Construction Environmental Management Plan (EMP) to the satisfaction of the Secretary prior to commencement of construction. The Construction EMP shall contain appropriate measures which demonstrate how the environmental objectives for the project will be achieved, including objectives stated in this Consent; and contain a monitoring, reporting and response program. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	Construction Environmental Management Plan approved 9/12/16. Updated Jul 23, not yet approved.	Y	Administration	
	19	19	The Applicant shall prepare an Operational Environmental Management Plan (EMP) in consultation with the relevant authorities and to the satisfaction of the Secretary, prior to the commencement of extraction under this Consent. The EMP shall incorporate and integrate environmental management for the existing extraction areas, as well as the areas approved under this Consent.	All current plans and strategies with approvals are available at www.vgt.com.au/hodgsons	Y	Administration	

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	20	20	The Operational EMP shall include, but not be limited to: (a) environmental objectives for the site; (b) the Air Quality Management Plan (Condition 29); (c) the Water Management Plan (Condition 42); (d) the Noise Management Plan (Condition 46); (e) the Road Noise Management Plan (Condition 48); (f) The Traffic Management Plan (Conditions 50A) ~~(f)~~ (g) the Flora and Fauna Management Plan (Condition 55); and ~~(g)~~ (h) the Rehabilitation Plan (Condition 58).	All current plans and strategies with approvals are available at www.vgt.com.au/hodgsons.	Y	Administration	
	21	21	The Applicant shall make copies of both EMPs available to Council, EPA and ~~DPI Water~~ (DPIE Water) within 14 days of approval by the Secretary. The Applicant shall also make a current copy of the EMPs available for inspection by the public or these agencies, for the duration of the Consent.	All current plans and strategies with approvals are available at www.vgt.com.au/hodgsons	Y	Administration	
	22	22	The Applicant shall, in consultation with the Secretary, the EPA and the ~~DPI Water~~ (DPIE Water), update the Operational EMP from time to time in order to ensure continuing compliance with the Conditions of this Consent and all relevant approvals and licenses. **The EMR shall be responsible for determining if any significant changes to the Operational EMP should be referred to the Secretary for approval.** The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	All current plans and strategies with approvals are available at www.vgt.com.au/hodgsons	Y	Administration	
	23		Deleted				
	24		Deleted				
	25		Deleted				
	26	26 (a)	~~Deleted~~ (a) ensure only verified VENM and ENM is received at the site;	Compliant	Y	Operations	Section 5.3
		26 (b)	(b) collect data on the VENM and ENM received including details of the origin, date, and quantity received; and	Compliant			Section 5.3, Appendix E.
		26 (c)	(c) include a copy of this data in the Annual Review.	Compliant			Section 5.3, Appendix E.
Waste	27	27	~~The Applicant must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal, or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997. This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence under the Protection of the Environment Operations Act 1997.1~~ No other materials classified as waste under the EPA's Waste Classification Guidelines 2009 (or its latest version) may be received or processed on the site, except as expressly permitted in an applicable EPL, specific resource recovery order or exemption under the Protection of the Environment Operations (Waste) Regulation 2014.	No other waste has been received by the premises. Waste is managed on site through the use of bins (removed by contractor) and recycled where possible.	Y	Operations	

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
Air Quality Criteria	28	28	~~The Applicant shall take all practical steps to manage the development so that the ambient air quality goals for total suspended particles (TSP) of 90 µg/m³ (annual average), particulate matter (PM10) of 50 µg/m³ (24 hours average) and 30 µg/m³ (annual average) and the dust deposition goal of 4gm/m2 (annual average) are not exceeded as a result of the development, when measured at any monitoring location specified in the Air Quality Management Plan.~~ The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 1 at any residence on privately-owned land. **Table 1:** *Air quality criteria* Pollutant / Averaging period / Criterion Particulate matter < 10 µm (PM_{10}) — Annual — [a, c] 25 µg/m³ Particulate matter < 10 µm (PM_{10}) — 24 hour — [b] 50 µg/m³ Particulate matter < 2.5 µm ($PM_{2.5}$) — Annual — [a, c] 8 µg/m³ Particulate matter < 2.5 µm ($PM_{2.5}$) — 24 hour — [b] 25 µg/m³ Total suspended particulate (TSP) matter — Annual — [a, c] 90 µg/m³ [d] Deposited dust — Annual — [b] 2 g/m²/month — [a] 4 g/m²/month **Notes:** [a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources). [b] Incremental impact (i.e. incremental increase in concentrations due to the development on its own). [c] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary. [d] Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, *AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method*.	PM 2.5 24hour average criteria exceedance on 24/8/2023 was not due to the development but caused by smoke from burning.	Y	Air Quality	Section 6.3
		28A	The air quality criteria in Table 1 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or infrastructure to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.	Not applicable as yet	Y	Air Quality	
Air Quality Management	29	29	The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall:	Air Quality Management Plan was submitted as part of the 2016 OEMP approved 9/12/16. Update submitted 15/8/23, not yet approved.			
	29 a)	29 a)	(a) identify existing and potential sources of dust deposition, TSP and fine particulates (PM10 and PM2.5) and specify appropriate monitoring intervals and locations. The purpose of the monitoring is to evaluate, assess and report on these emissions and the ambient impacts with the objective of understanding the development's contribution to levels of dust deposition, TSP and fine particulates in ambient air around the site;				

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29 (b)	29 (b)	(b) provide a monitoring plan having regard to local meteorology and the relevant Australian Standards, identifying the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements;		Y	Air Quality	
29 c)	29 c)	(c) provide details of dust suppression measures for all sources of dust from the development, including a planting and watering regime to ensure that areas of the site which are exposed and active at any one time are minimised to the greatest extent practicable. ~~no more than 3 hectares of the site are exposed and active at any one time~~. The use of a polymer in the water to minimise dust impacts shall be investigated as part of this Plan				
29 d)	29 d)	(d) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and				
29 e)	29 e)	(e) provide the design of the reactive management system intended to reduce the day-to-day impacts of dust and fine particulates due to the development. The Applicant shall implement the approved management plan as approved from time to time by the Secretary				
29	29	The Applicant shall implement the approved management plan as approved from time to time by the Secretary	Plan has been implemented			Section 6.3
	29A (a)	The Applicant must commission an expert review of the air quality monitoring system at the site. This review must: (a) be undertaken by a suitably qualified and experience person(s) whose appointment has been approved by the Secretary;	Review submitted 23/11/2022. Approved 28/2/2023	Y	Air Quality	Section 2.2.2,
	29A (b)	(b) review the accuracy of the air quality monitoring system at the site over a 12 month period, in general accordance with the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007)* and with a particular focus on PM2.5 monitoring;	Review submitted 23/11/2022. Approved 28/2/2023			
	29A (c)	(c) provide recommendations (where required) to improve the accuracy of air quality monitoring system at the site; and	Review submitted 23/11/2022. Approved 28/2/2023			
	29A (d)	(d) be undertaken in consultation with the EPA.	Review submitted 23/11/2022. Approved 28/2/2023			
	29B	A copy of the expert review report along with a timetable for implementing any recommendations arising from the review required under condition 29A of this Schedule, must be submitted by 30 November 2022, or as otherwise agreed by the Planning Secretary. The Applicant must implement the recommendations of the expert review to the satisfaction of the Secretary.	Review submitted 23/11/2022. Approved 28/2/2023	Y	Air Quality	
30	30	Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises	Plan has been implemented	Y	Air quality	

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	31	31	The Applicant shall cease offending work at such times when the operations are resulting in visible dust emissions blowing in a direction so as to cross onto public roads or lands not owned by the Applicant.	Work ceases when visible dust crossing public roads or lands not owned by the applicant.	Y	Air quality	Not applicable this report period
	32	32	The Applicant shall install, operate and maintain a sprinkler system to adequately water all cleared areas and stockpiles so as to minimise dust emissions to acceptable levels.	Mobile sprinkler installed over stockpiles and used over disturbed areas if/when visible dust is generated.	Y	Air quality	Section 6.3
	33	33	The Applicant shall ensure that all vehicular movements on unsealed areas are restricted to specific routes and that all vehicles within the subject site keep to a speed limit of 30 km/h.	Speed limit on site is 5km/hr or walking pace. Truck drivers also informed in induction.	Y	Air quality	Appendix O
	34	34	The Applicant shall ensure that trucks are covered when entering and leaving the premises carrying loads of potentially dust generating material.	Trucks are covered when entering and leaving premises	Y	Air quality	Appendix O
Air Quality Monitoring	35	35	All monitoring equipment is to be installed and operational prior to commencement of construction.	Dust and HVAS monitoring equipment is installed and operating	Y	Air quality	Section 6.3
	36 (a)	36 (a)	Operation of dust deposition gauges and monitoring must be carried out in accordance with; (a) Australian Standard 3580.10. 01 (1991) Particulates – Deposited Matter – Gravimetric Method. Approved method AM-19 referred to in Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, December 1999.	Monitoring procedures justified in AQMR and described in updated AQMP. Not yet approved.	Y	Air quality	Section 6.3
	36 (b)	36 (b)	(b) Australian Standard 2724.3 (1984) Particulate Matter – Determination of Total Suspended Particulates (TSP) - High Volume Sampler Gravimetric Method. Approved method AM 15 referred to in Approved Methods for the sampling and Analysis of Air Pollutants in New South Wales, December 1999.	Monitoring procedures justified in AQMR and described in updated AQMP. Not yet approved.			Section 6.3
	36 (c)	36 (c)	(c) Australian Standard 3580.9.6 (1990) for Suspended Particulate Matter – PM10 High Volume Sampler with Size Selective Inlet-Gravimetric Method. Approved method AM-18 referred to in Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, December 1999.	Monitoring procedures justified in AQMR and described in updated AQMP. Not yet approved.			Section 6.3
	37	37	A meteorological station measuring wind speed and direction must be installed and operated by the Applicant at a site determined in consultation with the EPA.	Approval obtained from NSW EPA for location of weather station and air monitoring locations	Y	Air quality	
Limits on Extraction	38(a)	38(a)	The Applicant shall not extract: (a) below a depth of 182 m AHD in the footprint of the Process Water Dam, if not already extracted as at the date of Modification 2; and	Survey of Process Water Dam shows max depth at 186m AHD	Y	Operations	Figure 4
	38(b)	38(b)	(b) below a depth of 186.1 m AHD in all other areas of the site; unless in accordance with Condition 17, and following written notification to the Secretary and ~~DPI Water~~ (DPIE Water).	Recent surveys show the site to be compliant			Figure 4

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
Groundwater Study and Remediation Works	39(a)	39(a)	Within six weeks of the date of approval of Modification 2, the Applicant shall commission a comprehensive groundwater study of the site. This study must: (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary and ~~DPI-Water~~ (DPIE Water);	Peter Dundon engaged 30/3/16, approved by then DPI-W 10/5/16, approved by DPE 5/4/16.	Y	Soil and Water	
	39(b)	39(b)	(b) consult with ~~DPI-Water~~ (DPIE Water)				
	39(c)	39(c)	(c) examine all existing records of groundwater levels at the site;				
	39(d)	39(d)	(d) develop an interim contour map of the wet weather high groundwater level of the regional aquifer, based on all available records (see also Condition 44); and				
	39(e)	39(e)	(e) provide advice and recommendations on the Groundwater Monitoring Program as set out in Condition 43.				
	40	40	Unless otherwise agreed by the Secretary, the Applicant shall submit a report of the study to the Secretary and ~~DPI-Water~~ (DPIE Water) within six months of commissioning the study. The report must be accompanied by a Groundwater Management Improvement Program, based on the study's findings and recommendations which includes a program of proposed timeframes for implementation. Should the Applicant propose not to implement any of the report's recommendations, it must provide detailed justification to this effect. The Groundwater Management Improvement Program must be prepared and implemented to the satisfaction of the Secretary. Progress against the Program shall be reported through Annual Reviews and considered as part of the Independent Environmental Audit.	Groundwater Study, Water Management Plan and Groundwater Monitoring Program approved	Y	Soil and Water	
	41	41	Within six months of the submission of the Groundwater Study and accompanying documents (see Conditions 39 and 40), the Applicant must infill any area of the site identified as being below the wet weather high groundwater level to at least that level as mapped (see Condition 39(d)). Within six months of any update of the groundwater level contour map, the Applicant must infill any area of the site identified as being below the wet weather high groundwater level to at least that level as mapped (see Condition 44).	No areas below the groundwater level yet identified.	Y	Soil and Water	Not required
Water Management Plan	42	42	The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with ~~DPI Water~~ (DPIE Water) by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval by 31 December 2016. The plan must be updated on an annual basis in consultation with DPI-Water for three years from the date of approval of Modification 2 and thereafter as agreed with by the Secretary.	WMP dated 19/5/2022 approved 28/6/2022			Section 6.4 to 6.7

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42(a)	42(a)	In addition to the standard requirements for management plans (see Condition 65), this plan must include a: (a) Site Water Balance that: • includes details of: o sources and security of water supply, including contingency planning; o water use on site; o water management on site, including groundwater inflows to the quarry voids and site discharges; and o audit and reporting procedures, including comparisons of the site water balance each calendar year; and o describes the measures that would be implemented to minimise clean water use on site and maximise recycling opportunities;				Section 6.6
42(b)	42(b)	(b) Surface Water Management Plan, that includes: • a detailed description of the surface water management system on site, including the: o clean water diversion systems; o erosion and sediment controls; o effluent irrigation system; o water transfers from the extraction areas; o water storages; and o discharge points;				
42(b)	42(b)	• design objectives and performance criteria for proposed: o erosion and sediment control structures; o water storages, including quarry voids; o site discharges; and o control of water pollution from rehabilitated areas of the site;				
42(b)	42(b)	• performance criteria, including trigger levels for investigating any potentially adverse impacts for surface water quality;				
42(b)	42(b)	• a program to monitor: o the effectiveness of the water management system; o site discharge water quality; and o surface water level and quality in the Process Water Dam, including the quantification of rainfall inflow, groundwater inflow and evaporation;				
42(b)	42(b)	• a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project;				
42(b)	42(b)	• long term water quality management objectives and the measures to achieve these objectives;				
42(b)	42(b)	• a plan that ensures surface stormwater runoff from the disturbed areas is directed to the sedimentation dam(s);				
42(b)	42(b)	• a plan that ensures tailgate drainage does not discharge into or onto any adjoining public or Crown road, any other persons land, any Crown land, any river, creek or watercourse, any groundwater aquifer, any native vegetation as described under the Native Vegetation Conservation Act 1997 and any wetlands of environmental significance;				

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42(b)	42(b)	• a detailed description of design and construction criteria for the Process Water Dam based on a feasibility study of: o capacity to construct multiple cells within the overall dam footprint (ie a two stage or three stage dam); o whether the dam floor and walls are able to be effectively lined with compacted clay (especially for multiple cells); o whether effective hydraulic separation can be achieved between such cells;		Y	Soil and Water	Section 6.7
42(b)	42(b)	• a strategy for the decommissioning of water management structures, including storage, sedimentation and leachate dams once extraction is complete; and				
42(b)	42(b)	• audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of surface water monitoring results;	Updated WMP requires annual monitoring and reporting in Annual Report			Sections 6.4, 6.5
42(c)	42(c)	Groundwater Management Plan that takes into account the Web-based Reporting Guideline (DPE 2015) and Groundwater Monitoring and Modelling Plans – Information for Prospective Mining and Petroleum Exploration Activities (then DPI 2014), and includes: • detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land, that could be affected by the project;				
42(c)	42(c)	• a program to undertake surveyed probe testing of all extracted areas where clay fines have been deposited to: o accurately determine the depth of extraction and depth of clay fines; o identify any ongoing intersection or other interaction between clay fines and the regional groundwater aquifer; o identify any geotechnical characteristics of the emplaced clay fines which may pose risks to workplace safety or implementation of the process water dam design or the final landform; and o identify measures which can be successfully used in rehabilitating these areas;				
42(c)	42(c)	• a program to monitor potential groundwater quality impacts to the regional aquifer from receiving off-site runoff water in the Process Water Dam;				
42(c)	42(c)	• groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, in accordance with the NSW Aquifer Interference Policy;				
42(c)	42(c)	• a program to monitor: o the impacts of the project on: - groundwater inflows to water storages; - any groundwater bores on privately-owned land that could be affected by the project; and o seepage from water storages or backfilled voids on site;				
42(c)	42(c)	• a plan to respond to any exceedances of the groundwater assessment criteria;				

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	42(c)	42(c)	• emergency contingency plans for implementation in the event that the groundwater is encountered during excavation; and				
	42(c)	42(c)	• audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of groundwater monitoring results, The Applicant shall implement the approved management plan as approved from time to time by the Secretary.				
Groundwater Monitoring	43	43	The Applicant shall prepare a Groundwater Monitoring Program for the development to the satisfaction of the Secretary. This program must:	GW Monitoring Program approved Aug 2018			
	43(a)	43(a)	(a) be prepared in consultation with DPI-Water and be submitted to the Secretary for approval within four months of the date of approval of Modification 2;	First submitted 23rd August 2016. Approved Aug 2018			
	43(b)	43(b)	(b) include proposed construction of a network of at least five active monitoring bores around the south-eastern, southern, western and north-western boundaries of the extraction area (but outside of the overall extraction footprint) in proximity to extraction Phases 1 to 6 as identified in Modification 2, to collect continuous groundwater level monitoring data from the regional aquifer;	Groundwater level monitored continuously	Y	Soil and Water	Section 6.5, Figure 3
	43(c)	43(c)	(c) include proposed construction to deepen (or replace) PT84MW1 in order that a bore in that general location monitors the regional aquifer; and	MW7			Figure 3
	43(d)	43(d)	(d) include proposed construction of active monitoring bores within the largest components of at least the two forthcoming extraction Phases (on a rolling basis), each to collect at least 2 years of continuous baseline groundwater monitoring data prior to extraction commencing with that Phase.	MW9, MW13 (now mined out), MW12			Figure 3
	44	44	The results of the Groundwater Monitoring Program shall be reported the Department and ~~DPI-Water~~ (DPIE Water), using contour plans depicting the surface topography, updated contour maps of the wet weather high groundwater level of the regional aquifer and proposed depth of extraction for each extraction Phase. Reporting is to occur on a six monthly basis for the duration of extractive operations, and throughout rehabilitation of the site, unless otherwise agreed with the Secretary. The Applicant shall implement the Groundwater Monitoring Program as approved from time to time by the Secretary.	GW Monitoring Program approved Aug 2018.	Y	Soil and Water	Section 6.5
Process Water Dam Design and Construction	45	45	The Applicant must ensure that the Process Water Dam is designed and constructed in a manner that satisfies the design and construction criteria for the Process Water Dam as developed under the Surface Water Management Plan (see condition 42(b) above).	Process Dam construction no longer required.	Y	Soil and Water	Section 6.7
Noise Management Plan	46	46	The Applicant shall prepare a Noise Management Plan as part of the EMP	NMP first approved 9/12/16. Update submitted 15/8/23 not yet approved.			

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46 (a)	46 (a)	The Noise Management Plan shall: (a) identify existing and potential noise sources and their relative contribution to noise impacts from the development;		Y	Noise	
46 (b)	46 (b)	(b) specify appropriate intervals for noise monitoring to evaluate, assess and report noise emission levels due to construction and normal operations of the development under prevailing weather conditions;				
46 (c)	46 (c)	(c) outline the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements, the design of any noise modelling or other studies, including the means for determining the noise levels emitted by the development;				
46 (d)	46 (d)	(d) specify measures to be taken to document any higher level of impacts or patterns of temperature inversions, and detail actions to quantify and ameliorate enhanced impacts if they occur;				
46 (e)	46 (e)	(e) provide details of noise amelioration measures, including measures to be used to reduce the impact of intermittent, low frequency and tonal noise (including truck reversing alarms) and reactive management responses for particular noise sources; and				
46 (f)	46 (f)	(f) contingency measures to be implemented should noise complaints be received.				
46 (g)	46 (g)	(g) provision for the notification of adjoining property owners of the commencement and duration of works adjoining the boundary;				
46 (h)	46 (h)	(h) construction of temporary noise shielding to residences affected by short-term noise impacts, including the bund recommended under Modification 2, and include an assessment of the effectiveness of this measure in reducing noise levels; and	Noise monitoring shows compliance with required noise criteria.			Section 6.8
46(i)	46(i)	(i) include a noise reduction strategy for typical operations to ensure the noise levels from these operations do not exceed the noise criteria specified in Condition 47. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	Noise monitoring shows compliance with required noise criteria.			Section 6.8

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

DA Conditions

Compliant	75
Non Compliant	2

Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
47		~~For typical operations, noise from the premises must not exceed:~~ ~~• an LAeq,15 min noise emission criterion of 43 dB(A) (7am to 6pm) Monday to Saturday;~~ ~~• an LAeq,15 min noise emission criterion of 40 dB(A) (6am to 7am) Monday to Saturday; and~~ ~~• an LA1,1 minute noise emission criterion of 50 dB(A) (6am to 7am) Monday to Saturday.Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy (as may be updated or replaced from time to time).~~ ~~However, these criteria do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement."~~		Y	Noise	
	47	***Noise Operating Conditions*** 47 The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land. *Table 2: Operational noise criteria dB(A)* Receiver / Day (7am-6pm) Monday to Saturday $L_{Aeq\ (15\ min)}$ / 6am-7am Monday to Saturday $L_{Aeq\ (15\ min)}$ / 6am-7am Monday to Saturday $L_{A1\ (1\ min)}$ Receiver B: 44 / 40 / 50 All other receivers: 43 / 40 / 50 *[a]The Noise Assessment Locations referred to in Table 2 are shown in Appendix 2*	Noise monitoring shows compliance with required noise criteria.	Y	Noise	Section 6.8, Appendix K
47(a)	47(a)	The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dB(A) when measured at 7 metres.	No new equipment this report period			Section 6.8, Appendix K
47(b)	47(b)	47(b)The on-site generator is to be fitted with an acoustic enclosure to ensure that noise levels less than 44dB(A) at 30m are achieved.	Noise monitoring shows compliance with required noise criteria.			Section 6.8, Appendix K
47(c)	47(c)	A noise compliance investigation is to undertaken within one month of the installation of the equipment to demonstrate compliance with the noise level limits stated in Conditions 47(a) and 47(b). The results of the compliance investigation are to be provided for the approval of the Secretary within 14 days of the completion of the investigations.	No new equipment this report period			Section 6.8

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	47(d)	47(d)	The Applicant must ensure works associated with atypical operations, as described in Modification 2, only occur: (a) for a maximum of 24 days in a year, and only between 8 am to 5 pm on those days, Monday to Saturday; (b) after an investigation of options for avoiding multiple atypical operations at any one time so as to limit noise levels at affected receptors, and the outcomes of this investigation are detailed in the Noise Management Plan; and (c) at least 24 hours after notifying potentially affected receptors, with such notification to include information on the duration and extent of works, the likely noise to be experienced, and a contact telephone number.	No atypical works this report period			Not required
Road Noise Management Plan	48	48	The Applicant shall ensure that traffic noise from the development does not exceed (L Aeq(1 hr)) 55 dB(A) between 7 am and 10 pm and 50 dB(A) between 10 pm and 7 am at any affected residence under adverse weather conditions. Where ambient Leq levels already exceed these criteria, the Applicant shall ensure that traffic noise from the development does not result in an increase of more than 2 dB(A). Note: Adverse weather conditions means in the presence of winds up to 3 metres per second and/or temperature inversions of up to 4 degrees Centigrade per 100 metres.	Noise monitoring undertaken December 2023 shows compliance with required noise criteria.	Y	Traffic and Transport	Not required
	49	50	The Applicant shall prepare a Road Noise Management Plan as part of the EMP. The Plan shall document measures to be taken to meet the criteria, including a monitoring, reporting and response program; and methods for educating drivers in the reduction of road noise impacts. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	NMP first approved 9/12/16. Update submitted 15/8/23 not yet approved.	Y	Traffic and Transport	
	50	50	~~The Applicant shall ensure that truck movements associated with the development do not exceed 100 movements per day (50 laden truck movements) or 20 (10 laden truck movements) movements per hour, during construction or operation.~~ The Applicant must ensure that truck movements associated with the development do not exceed 70 outbound and 70 inbound per day and does not exceed 10 outbound and 10 inbound per hour.	Maximum laden trucks per day was 41, which equates to an average of 3.4 movements per hour.	Y	Traffic and Transport	Section 5.2
		50A (a)	The Applicant must prepare a Traffic Management Plan that must: (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;	TMP Rev 4 dated 22/11/22 approved 13/12/22			Section 5.2
		50A (b)	(b) be prepared in consultation with TfNSW and Council;				

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
		50A (c)	(c) include a Drivers' Code of Conduct that contains procedures to ensure that drivers: (i) adhere to posted speed limits or other required travelling speeds; (ii) adhere to designated transport routes; (iii) implement safe and quiet driving practices; and (iv) minimise potential conflict with school buses.		Y	Traffic and Transport	
		50A (d)	(d) describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct; and				
		50A (e)	(e) propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles exiting the site. The Applicant must submit the Traffic Management Plan for the approval of the Secretary by the 31 October 2021, or as otherwise agreed by the Secretary. The Applicant must implement the Traffic Management Plan as approved.				
	51	51	The Applicant shall pay to Council a contribution under Section 94A of the Act at the rate of $0.65 per tonne of all extracted/ processed material transported from the subject site. The following conditions apply to the payment of this contribution: (A) The contribution will be calculated and paid monthly from the date of this Consent; (b) The contribution will be indexed and adjusted annually as from the date of Consent, in accordance with the Consumer Price Index. This adjustment will be applicable to each financial year for the duration of this Consent and shall take effect from and including July each year, commencing 1 July 2000; (c) On or before the fourteenth day of each month for the duration of the Consent, the Applicant shall deliver to Council weighbridge records showing the true quantities of extracted/processed material transported from the property during the immediately proceeding month and the Council will then, as soon as it can conveniently do so, issue an invoice to the Applicant, to be paid within fourteen days; (d) The Council has the right to inspect and have the original records relating to any extraction/processing material, including numbers and types of laden trucks, trailers and load quantities transported from the property audited, at any time when Council makes a written request to do so; (e) The Council will pay all the said contribution payments into a specially identified account for payment towards the rehabilitation, restoration, repair and/or maintenance of Old Northern and Wisemans Ferry Roads within the Baulkham Hills Shire boundary.	Records indicate Section 94 contributions are paid.	Y	Administration	
Flora and Fauna	52	52	Deleted				

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	53	53	The Applicant shall not clear the strip of remnant vegetation along the southern fence line (Old Northern Road) and the vegetation to the north of the site entrance (Roberts Road) containing Blue Mountains Mahogany (Eucalyptus notabilis). This area shall be fenced off to prevent vehicles entering the area.	The areas have been maintained. The vegetation to the north of the site entrance is fenced off using electric fence and there is evidence that the access road is rehabilitating	Y	Flora and Fauna	Section 6.9
	54	54	In construction of the bund walls at the corner of Roberts Road and Old Northern Road, the Applicant shall minimise disturbance to existing native vegetation.	Bundwalls have been constructed with minimal disturbance.	Y	Flora and Fauna	
Flora and Fauna Management Plan	55	55	The Applicant shall prepare a Flora and Fauna Management Plan as part of the EMP. The Plan shall be prepared in consultation with ~~National Parks and Wildlife Service~~ Heritage NSW and Council, and shall:	Flora and Fauna Management Plan was first approved 9/12/16. Update submitted 15/8/23 not yet approved.			
	55 a)	55 a)	(a) describe the characteristics and location of species, populations and communities that the proposal may impact upon;				
	55 b)	55 b)	(b) consider the feasibility and practicality of salvaging trees removed for the development for relocation to conserved or rehabilitated areas, for the purposes of reconstructing habitat for ground fauna				
	55 c)	55 c)	(c) contain a program for the active management and maintenance of all conserved and rehabilitated vegetation (as detailed in the EIS and required under this Consent) including consideration of: • post-extraction land use objectives for the site;• utilisation of local endemic species or species naturally occurring in the Maroota area; • planting around the conservation area to further buffer this area and enhance its long term viability as a bushland ecosystem; • connection of existing areas and future areas of revegetation to form a network of wildlife corridors throughout site and to adjoining lands to facilitate species recruitment through natural immigration; • provision of rocks of varying sizes to provide refuge and basking sites for herpetofauna; • fencing of revegetated areas to prohibit grazing by stock; and • provision of artificial nest boxes for a range of arboreal fauna.		Y	Flora and Fauna	
	55 d)	55 d)	(d) mitigation measures to be implemented should operations compromise the significant flora and fauna communities identified in the EIS;				
	55 e)	55 e)	(e) an ongoing monitoring program of the existing and proposed revegetated areas to assess their floristical structure and diversity, resilience and robustness to disturbance, and fauna species diversity. The information obtained from the monitoring shall be used to guide future revegetation and management efforts; and				

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	55 f)	55 f)	(f) include detailed performance and completion criteria for evaluating the performance of the flora and fauna management measures and rehabilitation of the site, including triggers for any necessary remedial action.				
	56	56	The Applicant shall maintain the revegetated areas for the duration of the Consent. Maintenance may include: • replanting failed or unsatisfactory areas • repairing erosion problems • fire management – fire suppression or fire encouragement • pest and weed control • control of feral animal populations • maintain and repair fencing • fertiliser application • watering plants in drier areas, especially in the establishment phase • application of lime or gypsum to control pH and improve soil structure.	Monitoring of the remnant vegetation was not undertaken this report period.	N	Flora and Fauna	Sections 6.9 and 6.10
Heritage	57	57	If, during the development, the Applicant becomes aware of any heritage or archaeological material, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include ~~NPWS, the Heritage Office~~ Heritage NSW, and the Local Aboriginal Land Councils. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work.	No heritage or archaeological sites have been located	Y	Heritage	Not required
Rehabilitation Objectives	58	58	The Applicant shall rehabilitate the site in a manner that is consistent with the final landform designs in Appendix 1 to the satisfaction of the Secretary. ~~This~~ All rehabilitation must comply with the objectives in Table 1:	Rehabilitation Plan first approved August 2018. Updated plan submitted 22/8/23, not yet approved	Y	Landscape and Rehabilitation	Section 6.10
	Table 1	Table 1	Site (as a whole) • Safe, stable and non-polluting • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land				Section 6.10
	Table 1	Table 1	Surface Infrastructure • Decommissioned and removed, unless the Secretary agrees otherwise				Section 6.10
	Table 1	Table 1	~~Quarry Benches~~ ~~• Landscaped and vegetated using native tree and understorey species~~				Section 6.10
	Table 1	Table 1	Quarry Pit Floor • Landscaped and revegetated using improved pasture species, native trees and understorey species				Section 6.10
	Table 1	Table 1	Final Void • Minimise the height and slope of batters • Minimise the drainage catchment				Section 6.10

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	Table 1	Table 1	Community • Ensure public safety • Minimise the adverse socio-economic effects of quarry closure				Section 6.10
		Table 1	Water Quality • Water retained on the site is fit for the intended post-mining land use/s • Water discharged from the site is suitable for receiving water and fit for aquatic ecology and riparian vegetation	Testing of dam water will confirm that is meets ANZECC Guidelines for 90% protection level for fresh ecosystems.			WMP
Progressive Rehabilitation	59	59	The Applicant shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation. Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.	Dust monitoring indicates compliance with required levels.	Y	Landscape and Rehabilitation	Section 6.3 and 6.10
Landscape and Rehabilitation Management Plan	60(a)	60(a)	The Applicant shall prepare a Landscape and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be submitted to the Secretary for approval by 30 June 2017, unless otherwise agreed by the Secretary;	Rehabilitation Plan first approved August 2018. Updated plan submitted 22/8/23, not yet approved			
	60(b)	60(b)	(b) provide details of the conceptual final landform and associated land uses for the site;				
	60(c)	60(c)	(c) describe the short, medium and long-term measures that would be implemented to ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;				
	60(d)	60(d)	(d) include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following the 3 years covered by the initial approval of the plan) including the procedures to be implemented for: • maximising the salvage of environmental resources within the approved disturbance area for beneficial reuse; • protecting vegetation and fauna habitat outside the approved disturbance area on-site; • minimising the impacts on native fauna; • landscaping the site to minimise visual and lighting impacts; • reviewing improved pasture species and application rates; • controlling weeds and feral pests; • controlling erosion; • controlling access; and • bushfire management;		Y	Landscape and Rehabilitation	

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	60(e)	60(e)	(e) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;				Sections 6.9 and 6.10
	60(f)	60(f)	(f) include a mass balance calculation to ensure that appropriate volumes of material are available to implement the final landform as described in this plan;				
	60(g)	60(g)	(g) provide for the construction and maintenance of the process water dam in accordance with the approved design and construction criteria (see Condition 42(b));				
	60(h)	60(h)	(h) identify the potential risks to the successful rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks; and				
	60(i)	60(i)	(i) include details of who would be responsible for monitoring, reviewing, and implementing the plan.The Applicant shall implement the management plan as approved from time to time by the Secretary				
	61	61	By 31 December 2017, the Applicant shall lodge a Conservation and Rehabilitation Bond with the Department to ensure that the management of biodiversity and the rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the Flora and Fauna Management Plan and Landscape and Rehabilitation Plan. The sum of the bond shall be determined by:	Calculation of Conservation and Rehabilitation Bond approved 18/12/23			Section 8.2
	61(a)	61(a)	(a) calculating the cost of rehabilitating the site taking into account the likely surface disturbance over the following 3 years of quarrying operations; and		Y	Landscape and Rehabilitation	
	61(b)	61(b)	(b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary. Note: If the rehabilitation of the site is completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the rehabilitation of the site is not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.				
	62	62	Within 3 months of each Independent Environmental Audit (see Condition 70), the Applicant shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the:	Calculation of Conservation and Rehabilitation Bond approved 18/12/23			Section 8.2
	62(a)	62(a)	(a) effects of inflation;		Y	Landscape and Rehabilitation	
	62(b)	62(b)	(b) likely cost of rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and				
	62(c)	62(c)	(c) performance of the implementation of the rehabilitation of the site to date.				
Environmental Management Strategy	63	63	The Applicant shall prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: (a) be submitted to the Secretary for approval by 30 June 2016;	Strategy submitted 25/11/2016, approved 9/12/16. Updated 15/8/23 not yet approved			

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	63 (b)	63 (b)	(b) provide the strategic framework for environmental management of the development;		Y	Administration	
	63 (c)	63 (c)	(c) identify the statutory approvals that apply to the development;				
	63 (d)	63 (d)	(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;				
	63 (e)	63 (e)	(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 development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; • respond to emergencies; and				
	63 (f)	63 (f)	(f) include: • copies of any strategies, plans and programs approved under the conditions of this consent; and • a clear plan depicting all the monitoring required to be carried out in relation to the development.				
Adaptive Management	64	64	The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this Consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this Consent 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 Applicant must, at the earliest opportunity: (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.	Exceedance of PM 2.5 24 hour criteria not considered due to site activities	Y	Administration	Section 6.3
Management Plan Requirements	65 (a)	65 (a)	The Applicant shall ensure that the management plans required under this Consent are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data;	Current plans and approvals available at www.vgt.com.au/hodgsons			
	65 (b)	65 (b)	(b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • 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;				

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	65 (c)	65 (c)	(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;		Y	Administration	
	65 (d)	65 (d)	(d) a program to monitor and report on the: • impacts and environmental performance of the development; • effectiveness of any management measures (see c above);				
	65 (e)	65 (e)	(e) a contingency plan to manage any unpredicted impacts and their consequences;				
	65 (f)	65 (f)	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;				
	65 (g)	65 (g)	(g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and				
	65 (h)	65 (h)	(h) a protocol for periodic review of the plan.				
Annual Review	66	66	By the end of March each year (or as otherwise agreed by the Secretary), the Applicant shall review the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary. This review must:	Compliance Report 2022 version F0 submitted 31/03/2023, DPE acceptance response received 27/04/2023.	Y	Administration	
	66 (a)	66 (a)	(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;				Section 5, Section 6.10
	66 (b)	66 (b)	(b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the: • relevant statutory requirements, limits or performance measures/criteria; • monitoring results of previous years; and • relevant predictions in the EIS, Modification 1 and Modification 2;				Section 6
	66 (c)	66 (c)	(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;				Section 2, 6 and Appendix A
	66 (d)	66 (d)	(d) identify any trends in the monitoring data over the life of the development;				Section 6
	66 (e)	66 (e)	(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and				Section 6
	66 (f)	66 (f)	(f) describe what measures will be implemented over the next year to improve the environmental performance of the development.				Sections 6, 7, and 8

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
Revision of Strategies, Plans and Programs	67	67	Within 3 months of the submission of: (a) an annual review under Condition 66 above; (b) an incident report under Condition 68 below; (c) an audit report under Condition 70 below; or (d) any modification to the conditions of this Consent (unless the conditions require otherwise), the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this Consent to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.	All plans updated during 2023. Not yet approved.	Y	Administration	Due 3 months from approval of this report
Incident ~~Reporting~~ Notification	68	68	~~The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.~~ The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.	PM 2.5 24hour average exceedance 24/08/23. Notified 27/11/23 via Major Projects Portal. No action required	Y	Administration	6.3.3.2
		68A	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	PM 2.5 24hour average exceedance 24/08/23. Notified 27/11/23 via Major Projects Portal. No action required	Y	Administration	6.3.3.2
Regular Reporting	69	69	The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this Consent.	www.vgt.com.au/hodgsons	Y	Administration	Section 5.4
Independent Environmental Audit	70	70	Every 3 years from the date of this consent and at the completion of works under this consent, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:	Independent Environmental Audit undertaken 2023			

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	Mod 2 Condition No.	Mod 4 Condition No.	Condition Text (Mod 4 changes shown in red text - active following 14/08/2021)	Details of compliance status	Compliant Y/N	Category	Where addressed in Annual Review
	70 (a)	70 (a)	(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.	Auditor James Hart approved 10/2/2023	Y	Administration	
	70 (b)	70 (b)	(b) include consultation with the relevant agencies;				
	70 (c)	70 (c)	(c) assess the environmental performance of the development and assess whether it is complying with the requirements in this Consent and any relevant EPL (including any assessment, plan or program required under these approvals);				
	70 (d)	70 (d)	(d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and				
	70 (e)	70 (e)	(e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.				
	71	71	Within 6 weeks of the completion of this audit, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.		Y	Administration	
Access to Information	72	72	By 30 June 2016 the Applicant shall: (a) make copies of the following publicly available on its website: • the documents identified in Condition 2(a) above; • current statutory approvals for the development; • approved strategies, plans and programs required under the conditions of this Consent; • a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this Consent, or any approved plans and programs; • a complaints register, which is to be updated monthly; • the annual reviews of the development (for the last 5 years, if applicable); • any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit; • any other matter required by the Secretary; and(b) keep this information up-to-date, to the satisfaction of the Secretary.	www.vgt.com.au/hodgsons	Y	Administration	

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EPL Licence no. 6535

Text in red is changes after June 2023

<table>
<tr><th>Condition</th><th>Condition Text</th><th>Details of compliance status</th></tr>
<tr><td colspan="2">Compliance Summary</td><td>Nil non-compliant</td></tr>
<tr><td colspan="2">Adminstrative Conditions</td><td></td></tr>
<tr><td>A1.1</td><td>Crushing Grinding or Separating not to exceed 100000-500000T processed p/a. Extractive Activities not to exceed 100000-500000T extracted, processed or stored. Waste disposal by application to land any capacity.</td><td>Crushing grinding or separating does not exceed this limit.</td></tr>
<tr><td>A2.1</td><td>Licence applies to the following premises: HB Maroota Pty Ltd, Cnr Roberts & Old Northern Roads, Maroota, NSW 2756, Lot 1 DP 228308, Lot 2 DP 228308, Lot 2 DP 313327</td><td>Compliant</td></tr>
<tr><td>A3.1</td><td>Licence applies to all other activities carried on at the premises.</td><td>Compliant</td></tr>
<tr><td>A4.1</td><td>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.
In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</td><td>Compliant</td></tr>
<tr><td colspan="2">Discharges to Air and Water and Applications to Land</td><td></td></tr>
<tr><td>P1.1</td><td>The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area (no table included)</td><td>N/A</td></tr>
<tr><td>P1.2</td><td>The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.</td><td></td></tr>
<tr><td></td><td>
<table>
<tr><th>EPA identi-fication no.</th><th>Type of monitoring point</th><th>Location description</th></tr>
<tr><td>1</td><td>Noise monitoring</td><td>100 Old telegraph Road, Maroota</td></tr>
<tr><td>2</td><td>Noise monitoring</td><td>35 Roberts Road, Maroota</td></tr>
<tr><td>3</td><td>Noise monitoring</td><td>4471 Northern Road, Maroota</td></tr>
<tr><td>4</td><td>Noise monitoring</td><td>11 Roberts Road, Maroota</td></tr>
<tr><td>5</td><td>Noise monitoring</td><td>4460 Old Northern Road, Maroota</td></tr>
<tr><td>6</td><td>Noise monitoring</td><td>59 Roberts Road, Maroota</td></tr>
<tr><td>7</td><td>Noise monitoring</td><td>45 Roberts Road, Maroota</td></tr>
</table>
</td><td>Compliant</td></tr>
</table>

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

EPL Licence no. 6535

Text in red is changes after June 2023

Condition	Condition Text	Details of compliance status
Limit Conditions		
L1.1	(Pollution of Water) Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997	No waters have been polluted
L2.1	The licensee must not: (a) receive more than 320,000 tonnes of VENM and ENM (in total) at the site in any calendar year; (b) import more than 3 million tonnes of VENM and ENM to the site; (c) import VENM and ENM beyond 31 May 2030.	Compliant
L2.2	No other materials classified as waste under the NSW EPA's Waste Classification Guidelines 2009 (or its latest version) may be received or processed on the site, except as expressly permitted in this licence or a specific resource recovery order or exemption under the Protection of the Environment Operations (Waste) Regulation 2014.	Compliant
L3.1	Noise generated at the premises that is measured at each noise monitoring point established under this licence must not exceed the noise levels specified in Column 4 of the table below for that point during the corresponding time periods specified in Column 1 when measured using the corresponding measurement parameters listed in Column 2.	Noise monitoring indicates compliance
	Point 1,3,4,5,6,7	
	Time period / **Measurement parameter** / **Measurement frequency** / **Noise level dB(A)** Day / LAeq (15 minute) / - / 43	
	Point 2	
	Time period / **Measurement parameter** / **Measurement frequency** / **Noise level dB(A)** Day / LAeq (15 minute) / - / 44	
L3.2	For the purpose of condition L3.1: a) Day means the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.	
L3.3	a) The noise limits set out in Condition L3.1 apply under the meteorological conditions shown in the table below. b) For those meteorological conditions not referred to in Condition L3.3(a), the noise limits that apply are the noise limits in Condition L3.1 plus 5dB.	
	Assessment Period / **Meteorological Conditions** Day / Stability Categories A, B, C, D and E with wind speeds up to and including 3m/s at 10m above ground level.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

EPL Licence no. 6535

Text in red is changes after June 2023

Condition	Condition Text	Details of compliance status
L3.4	For the purpose of condition L3.3: a) The meteorological conditions are to be determined from meteorological data obtained from a meteorological weather station. b) Stability category shall be determined using the following method from fact Sheet D of the Noise Policy for Industry (NSW EPA, 2017): i. Pasquill-Gifford stability classification scheme (section D1.3.1).	
L3.5	To assess compliance: a) with LAeq (15 minutes) noise limits in condition L3.1, the noise measurement equipment must be located: (i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises: or where applicable, (ii) in an area within 30 metres of a residence facade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable, (iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve, (iv) at any other location identified in condition L3.1 b) with the LAeq (15 minutes) noise limits in condition L3.1, the noise measurement equipment must be located: (i) at the reasonably most affected point at a location where there is no residence at the location; or, (ii) at the reasonably most affected point within an area at a location prescribed by condition L3.5(a).	Noise monitoring indicates compliance
L3.6	A non-compliance of Condition L3.1 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L3. 5 (a) or L3.5 (b). Notes to L3.5 and L3.6: The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.	
L3.7	For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the Noise Policy for Industry (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.	
L3.8	Noise measurement must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.	
Operating Conditions		
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Compliant

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

EPL Licence no. 6535

Text in red is changes after June 2023

Condition	Condition Text	Details of compliance status
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Compliant
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Dust monitoring results illustrate compliance
O3.2	All loaded trucks entering or leaving the premises must have their loads covered.	Trucks are covered when entering and leaving premises
O4.1	The licensee must prevent any tracking of mud on to public roads by vehicles leaving the premises.	Haul road is sealed from road to weighbridge. Water used to clean off road area as required.
Monitoring and Recording Conditions		
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	All required monitoring has been recorded and retained.
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	All required monitoring has been recorded and retained.
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	"Samples" not required by this licence. Date, time, location and technician undertaking noise monitoring has been included in the noise monitoring report.
M2.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	No complaints have been made. Log book is maintained on site and reported on website
M2.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Complaints register
M2.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Complaints Register
M2.4	The record must be produced to any authorised officer of the EPA who asks to see them.	No complaints have been made. Log book is maintained on site and reported on website

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

EPL Licence no. 6535

Text in red is changes after June 2023

Condition	Condition Text	Details of compliance status
M3.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Complaints phone number is advertised in the white pages and signage at the front gate.
M3.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Complaints phone number is advertised in the white pages, website and signage at the front gate.
M3.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence	N/A

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

EPL Licence no. 6535

Text in red is changes after June 2023

Condition	Condition Text	Details of compliance status
Reporting Conditions		
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due. At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA	Completed annually. Reporting period ends 11 March. Monitoring data published vgt.com.au/hodgsons
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below	Completed annually. Reporting period ends 11 March
R1.3	Where this licence is transferred from the licensee to a new licensee: a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.	N/A
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	N/A
R1.5	The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Lodged via portal
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA	Digital copies retained
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Completed annually. Reporting period ends 11 March
Notification of Environmental Harm		
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555	PIRMP

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

EPL Licence no. 6535

Text in red is changes after June 2023

Condition	Condition Text	Details of compliance status
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.	PIRMP
Written Report		
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	N/A
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request	N/A
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	N/A
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	N/A
General Conditions		
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Printed copy is in the site office
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Printed copy is in the site office
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Printed copy is in the site office

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023
Monitoring Bore Licences

Bore Name	Licence Number	Date Commenced	Valid to	Purpose	Cond #	Condition Text	Details of compliance status
Compliance Summary					**Number of Conditions Non-compliant**		**Nil non-compliant**
PT84MW1	10BL158808	12/11/1998	Perpetuity	Monitoring Bore		All works licences have the same conditions	Compliant
PT84MW5	10BL158808	12/11/1998	Perpetuity	Monitoring Bore			
PT84MW6	10BL605696	13/01/2015	Perpetuity	Monitoring Bore			
PT84MW7	10BL605799	29/08/2016	Perpetuity	Monitoring Bore			
PT84MW8	10BL605795	29/08/2016	Perpetuity	Monitoring Bore			
PT84MW9	10BL605799	29/08/2016	Perpetuity	Monitoring Bore			
PT84MW10	10BL605798	29/08/2016	Perpetuity	Monitoring Bore			
PT84MW11	10BL605797	29/08/2016	Perpetuity	Monitoring Bore			
PT84MW12	10BL605799	29/08/2016	Perpetuity	Monitoring Bore			
PT84MW13	10BL605799	29/08/2016	Perpetuity	Monitoring Bore			

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023
Monitoring Bore Licences

Bore Name	Licence Number	Date Commenced	Valid to	Purpose	Cond #	Condition Text	Details of compliance status
					1	The licence shall lapse if the work is not commenced and completed within three years of the date of the issue of the licence	Latest works commenced December 2016
					2	The licensee shall within two months of completion or after the issue of the licence if the work is existing, furnish to NSW Office of Water:-	Mar-17
					a	Details of the work set out in the attached for "A" (must be completed by the driller)	Forms received from driller and sent NOW March 2017
					b	A plan accurately showing the location of the work, in relation to portion and property boundaries	Sent to NOW March 2017
					c	A one litre sample for all licences other than those for stock, domestic, test bores and farming purposes	Test bore, therefore not required
					d	Details of any water analysis and/or pumping tests	N/A
					3	The licensee shall allow NSW Office of Water or any person authorised by it, full and free access to the works, either during or after construction, for the purpose of carrying out inspection or test of the works and its fittings and shall carry out any work or alterations deemed necessary by the department for the protection and proper maintenance of the works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.	Access available
					4	If during the construction of the work, saline or polluted water is encountered above the producing aquifer, such water shall be sealed off.	Not encountered
					5a	The licensee shall notify NSW Office of Water if a flowing supply of water is obtained. The bore shall then be lined with casing and cemented and a suitable closing gear shall be attached to the borehead as specified by NSW Office of Water	Not flowing
					5b	If a flowing supply of water is obtained from the work, the licensee shall only distribute water from the bore head by a system of pipe lines and shall not distribute it in drains, natural or artificial channels or depressions.	Not flowing
					6	If a work is abandoned at any time the licensee shall notify NSW Office of Water that the work has been abandoned and seal the aquifer.	Notification underway for MW9 & MW13
					7	The licensee shall not allow any tailwater / drainage to discharge into or onto:- any adjoining property; any other persons land; any Crown land; any river, creek or watercourse; any native vegetation as described under the Native Vegetation Conservation Act; any Wetlands of environmental significance	Compliant
					8	Works used for the purpose of conveying, distributing or storing water taken by means of the licensed work shall not be constructed or installed so as to obstruct the reasonable passage of flood waters flowing into or from a river.	No conveying, distributing or storing water applicable

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023
Monitoring Bore Licences

Bore Name	Licence Number	Date Commenced	Valid to	Purpose	Cond #	Condition Text	Details of compliance status
					9	If the bore authorised by this license is lined with steel or plastic casing the inside diameter of that casing shall not exceed 2200mm	Casing 65mm plastic
					10	Water shall not be pumped from the bore authorised by this license for any purpose other than groundwater investigation	Compliant
					11	Subject to condition (12) the licensee shall within two months of the date of completion of the bore authorised by the license: Backfill it with clay or cement to groundlevel, after withdrawing any casing (lining) or render it ineffective by any other means acceptable to the department	See condition 12
					12	Condition (11) shall have no force or effect if: at the relevant time there is with NSW Office of Water an application in respect of which the Department has not made a decision to convert the groundwater investigation bore into a production bore; or the licensee has completed the bore for the purpose of measuring water levels or water quality by the addition of casing with a diameter not exceeding 220mm.	Test bore, casing 65mm

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Work Approval 10WA114817 Water Access Licence WAL 24163 for PT84PB1: Plant Usage Bore

Work Approval 10WA114817 and Water Access Licence WAL 24163 Ref 10AL114816 Conditions

Number	Text	Compliance Status
Compliance Summary	**Number of Conditions Non-compliant**	**Nil**
Information		
Source	Maroota Tertiary Sands Groundwater Source	
Tenure Type	Continuing	
Share	45.00 ML	Take for 2023 = 10.29 ML
Take of water		
MW092900001	From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then: A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river. B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website. C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.	Not located within 40m of a river
MW060400001	Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.	
MW060500001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.	
MW060300001	The total volume of water taken under this access licence in any water year must not exceed a volume equal to: A. the sum of water in the account from the available water determination for the current year, plus B. the net amount of water assigned to or from the account under a water allocation assignment, plus C. any water recredited by the Minister to the account.	
Monitoring and recording		
MW233800001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	
MW233600001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Work Approval 10WA114817 Water Access Licence WAL 24163 for PT84PB1: Plant Usage Bore

Work Approval 10WA114817 and Water Access Licence WAL 24163 Ref 10AL114816 Conditions

Number	Text	Compliance Status
MW233700001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	
MW060600001	The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.	
MW233900001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023
Work Approval 10WA114817 Water Access Licence WAL 24163 for PT84PB1: Plant Usage Bore

Work Approval 10WA114817 and Water Access Licence WAL 24163 Ref 10AL114816 Conditions

Number	Text	Compliance Status
Reporting		
MW005100002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	
Take of Water		
MW065500001	Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.	
Water management works		
MW009700001	If contaminated water is found above the production aquifer during the construction of the water supply work authorised by this approval, the licensed driller must: A. notify DPI Water in writing within 48 hours of becoming aware of the contaminated water, and B. adhere to the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time.	No contamination found
MW048700001	The water supply work authorised by this approval must be constructed within three (3) years from the date this approval is granted.	Constructed 6/7/1999
MW004400001	When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.	In use
Monitoring and recording		
MW048100001	A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.	Logbook kept
MW048200001	Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.	Logbook kept
Reporting		

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Work Approval 10WA114817 Water Access Licence WAL 24163 for PT84PB1: Plant Usage Bore

Work Approval 10WA114817 and Water Access Licence WAL 24163 Ref 10AL114816 Conditions

Number	Text	Compliance Status
MW005100001	Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	N/A
MK048500001	Within sixty (60) days of completing construction of the water supply work authorised by this approval, the approval holder must provide a completed Form A for that work to DPI Water.	Constructed 6/7/1999
Take of water		
DK031600128	The approval holder must not take water from the approved work at a rate that exceeds 3.0 L/second (180L/min).	Compliant
Water management works		
DK136300001	The approval holder must not construct or install works used for the purpose of conveying, distributing or storing water from the works authorised by this approval, that obstruct the reasonable passage of floodwaters flowing in, to, or from a river or lake.	No obstruction to floodwaters, rivers or natural lake
DK120200001	The approval holder must allow DPI Water or any person authorised by it, full and free access to the approved works, either during or after construction, for the purpose of carrying out inspection or test of the approved works and its fittings and must carry out any work or alterations deemed necessary by the department for the protection or proper maintenance of the approved works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of subsurface water.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Water Access Licence WAL 26163 for PT84PB2: Land Owners Bore, not used for quarry operations

Number	Text	Compliance Status
Compliance Summary	**Number of Conditions Non-compliant**	**Nil**
Information		
Source	Maroota Tertiary Sands Groundwater Source	
Tenure Type	Continuing	
Share	264.00 ML	
Take of water		
MW092900001	From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then: A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river. B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website. C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.	Not located within 40m of a river
MW060400001	Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.	
MW060500001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.	
MW060300001	The total volume of water taken under this access licence in any water year must not exceed a volume equal to: A. the sum of water in the account from the available water determination for the current year, plus B. the net amount of water assigned to or from the account under a water allocation assignment, plus C. any water recredited by the Minister to the account.	
Monitoring and recording		
MW233800001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	
MW233600001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Water Access Licence WAL 26163 for PT84PB2: Land Owners Bore, not used for quarry operations

Number	Text	Compliance Status
MW233700001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	
MW060600001	The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.	
MW233900001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Water Access Licence WAL 26163 for PT84PB2: Land Owners Bore, not used for quarry operations

Number	Text	Compliance Status
Reporting		
MW005100002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	
Take of Water		
MW065500001	Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.	
Water management works		
MW009700001	If contaminated water is found above the production aquifer during the construction of the water supply work authorised by this approval, the licensed driller must: A. notify DPI Water in writing within 48 hours of becoming aware of the contaminated water, and B. adhere to the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time.	No contamination found
MW048700001	The water supply work authorised by this approval must be constructed within three (3) years from the date this approval is granted.	Constructed 6/7/1999
MW004400001	When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.	In use
Monitoring and recording		
MW048100001	A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.	Logbook kept - site owner, not quarry
MW048200001	Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.	Logbook kept - site owner, not quarry
Reporting		

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January to December 2023

Water Access Licence WAL 26163 for PT84PB2: Land Owners Bore, not used for quarry operations

Number	Text	Compliance Status
MW005100001	Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	N/A
MK048500001	Within sixty (60) days of completing construction of the water supply work authorised by this approval, the approval holder must provide a completed Form A for that work to DPI Water.	Constructed 6/7/1999
Take of water		
DK031600128	The approval holder must not take water from the approved work at a rate that exceeds 3.0 L/second (180L/min).	Compliant
Water management works		
DK136300001	The approval holder must not construct or install works used for the purpose of conveying, distributing or storing water from the works authorised by this approval, that obstruct the reasonable passage of floodwaters flowing in, to, or from a river or lake.	No obstruction to floodwaters, rivers or natural lake
DK120200001	The approval holder must allow DPI Water or any person authorised by it, full and free access to the approved works, either during or after construction, for the purpose of carrying out inspection or test of the approved works and its fittings and must carry out any work or alterations deemed necessary by the department for the protection or proper maintenance of the approved works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of subsurface water.	

Appendix B

Notice of Modification and draft Consolidated Consent Conditions Mod 4

Notice of Modification

Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning and Public Spaces, I modify the development consent referred to in Schedule 1, as set out in Schedule 2.

Carl Dumpleton
A/Director Resource Assessments

Sydney 13 August 2021

SCHEDULE 1

The Development Consent (DA 267-11-99) for the Roberts Road Quarry, granted by the Minister for Urban Affairs and Planning on 31 May 2000.

SCHEDULE 2

1. In the list of definitions, delete "Department", "DPI Water", "National Parks and Wildlife Service" and insert the following in alphabetical order:

BCD	Biodiversity and Conservation Division within the Department
Calendar year	A period of 12 months from 1 January to 31 December
Department	Department of Planning, Industry and Environment
DPIE Water	The Water Group within the Department
ENM	Excavated Natural Material, as defined in the EPA's resource recovery orders and exemptions clauses 91, 92 and 93 of the *Protection of the Environment Operations (Waste) Regulation 2014*
EPL	Environment Protection Licence under the POEO Act
Heritage NSW	Heritage NSW within the Department of Premier and Cabinet
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
INP	*NSW Industrial Noise Policy (NSW EPA, 2000)*
Laden Trucks	Trucks transporting quarry products from the site and/or trucks transporting VENM/ENM to the site
MEG	Regional NSW – Mining, Exploration and Geoscience
Minister	NSW Minister for Planning and Public Spaces, or delegate
Modification 4	Modification application DA 267-11-99 MOD 4 and Statement of Environmental Effects titled: *Roberts Road Quarry Modification 4*, dated December 2019 prepared by Umwelt Environmental Consulting and Submissions Report titled: *Roberts Road Quarry Modification 4, Response to Submissions,* dated March 2020 prepared by Umwelt Environmental Consulting, and additional information supporting the Response to Submissions, including: • revised noise assessment titled*: Noise Impact Assessment Rev 1*, dated May 2020 prepared by Umwelt Environmental Consulting; • letter from Umwelt Environmental Consulting, dated 20 May 2020; and • letter from Benbow Environmental, dated 10 September 2020.
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
POEO Act	*Protection of the Environment Operations Act 1997*
Quarrying products	Includes all saleable quarry products, but excludes tailings, other wastes and material needed for rehabilitation
Secretary	Planning Secretary under the EP&A Act, or nominee
TfNSW	Transport for NSW

VENM	Virgin Excavated Natural Material, as defined in the POEO Act
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act

2. Delete all references to “DPI-Water” and replace with “DPIE Water”.
3. Delete all references to “National Parks and Wildlife Service”, “NPWS” and “Heritage Office” and replace with “Heritage NSW”.

4. In condition 2(a) of Schedule 2, delete “Modification 3 and Modification 2” and replace with “Modification 2, Modification 3 and Modification 4”.

5. In the heading of condition 8 of Schedule 2, delete “Commencement and duration” and replace with “Limits on Approval”.

6. In condition 9 of Schedule 2 delete “2025” and replace with “2030".

7. After condition 9, of Schedule 2 insert the following:

   9A. The Applicant must not:
   (a) process or dispatch more than 480,000 tonnes of quarrying products at the site in any calendar year;
   (b) receive more than 320,000 tonnes of VENM and ENM (in total) at the site in any calendar year;
   (c) import more than 3 million tonnes of VENM and ENM to the site; and
   (d) import VENM and ENM beyond 31 May 2030.

8. After condition 17 insert the following:

   PRODUCTION DATA

   17A. The Applicant must provide MEG with annual quarry production data, covering a full calendar year, by no later than 30 January for the following calendar year.

   17B. The data must be provided using the relevant standard form and a copy of the data must be included in the Annual Review (required under condition 66).

9. In condition 20 of Schedule 2:
   a. delete the “g” in clause 20(g) and replace with “h”;
   b. delete the “f” in clause 20(f) and replace with “g”; and
   c. after condition 20(e), insert “(f) the Traffic Management Plan (Condition 50A)”.

10. Before condition 27 insert the following:

    Importation of VENM and ENM

    26. The applicant must:
    (a) ensure only verified VENM and ENM is received at the site;
    (b) collect data on the VENM and ENM received including details of the origin, date, and quantity received; and
    (c) include a copy of this data in the Annual Review.

11. In condition 27, delete the contents of the condition and replace with:

    27. No other materials classified as waste under the EPA’s *Waste Classification Guidelines 2009* (or its latest version) may be received or processed on the site, except as expressly permitted in an applicable EPL, specific resource recovery order or exemption under the *Protection of the Environment Operations (Waste) Regulation 2014.*

12. In condition 28 of Schedule 2, delete the contents of the condition and replace with:

    28. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 1 at any residence on privately-owned land.

Table 1: *Air quality criteria*

Pollutant	***Averaging period***	***Criterion***	
Particulate matter < 10 µm (PM_{10})	Annual	[a, c] 25 µg/m^3	
	24 hour	[b] 50 µg/m^3	
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, c] 8 µg/m^3	
	24 hour	[b] 25 µg/m^3	
Total suspended particulate (TSP) matter	Annual	[a, c] 90 µg/m^3	
[d] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes:
[a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
[b] Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
[c] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.
[d] Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, *AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method*.

13. After condition 28 of Schedule 2, insert the following:

28A. The air quality criteria in Table 1 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or infrastructure to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

14. In condition 29(c) of Schedule 2, after "to ensure that areas", insert "of the site which are exposed and active at any one time are minimised to the greatest extent practicable".

15. After condition 29 of Schedule 2, insert the following:

29A. The Applicant must commission an expert review of the air quality monitoring system at the site. This review must:
(a) be undertaken by a suitably qualified and experience person(s) whose appointment has been approved by the Secretary;
(b) review the accuracy of the air quality monitoring system at the site over a 12 month period, in general accordance with the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007)* and with a particular focus on $PM_{2.5}$ monitoring;
(c) provide recommendations (where required) to improve the accuracy of air quality monitoring system at the site; and
(d) be undertaken in consultation with the EPA.

29B. A copy of the expert review report along with a timetable for implementing any recommendations arising from the review required under condition 29A of this Schedule, must be submitted by 30 November 2022, or as otherwise agreed by the Planning Secretary.

The Applicant must implement the recommendations of the expert review to the satisfaction of the Secretary.

16. Delete the contents of condition 47 of Schedule 2 and insert the following:

Noise Operating Conditions

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

Table 2: Operational noise criteria dB(A)

Receiver	***Day (7am-6pm) Monday to Saturday*** $L_{Aeq\ (15\ min)}$	***6am-7am Monday to Saturday*** $L_{Aeq\ (15\ min)}$	***6am-7am Monday to Saturday*** $L_{A1\ (1\ min)}$
Receiver B	44	40	50
All other receivers	43	40	50

[a]*The Noise Assessment Locations referred to in Table 2 are shown in Appendix 2*

17. Delete the contents of Condition 50 of Schedule 2 and insert the following:

The Applicant must ensure that truck movements associated with the development do not exceed 70 outbound and 70 inbound per day and does not exceed 10 outbound and 10 inbound per hour.

18. After Condition 50 of Schedule 2, Insert the following:

Traffic Management Plan

50A. The Applicant must prepare a Traffic Management Plan that must:

(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;

(b) be prepared in consultation with TfNSW and Council;

(c) include a Drivers' Code of Conduct that contains procedures to ensure that drivers:

(i) adhere to posted speed limits or other required travelling speeds;

(ii) adhere to designated transport routes;

(iii) implement safe and quiet driving practices; and

(iv) minimise potential conflict with school buses.

(d) describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct; and

(e) propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles exiting the site.

The Applicant must submit the Traffic Management Plan for the approval of the Secretary by the 31 October 2021, or as otherwise agreed by the Secretary. The Applicant must implement the Traffic Management Plan as approved.

19. In condition 58 of Schedule 2:

- after "rehabilitate the site", insert "in a manner that is consistent with the final landform designs in Appendix 1,";
- After "satisfaction of the Secretary." delete "This" and replace with "All"; and
- In Table 1: Rehabilitation Objectives, delete the row and contents for "Quarry Benches".
- In Table 1: Rehabilitation Objectives, add the following row as the last row:

Water Quality	• Water retained on the site is fit for the intended post-mining land use/s • Water discharged from the site is suitable for receiving waters and fit for aquatic ecology and riparian vegetation

20. In condition 68 of Schedule 2, delete the contents of the condition and replace with:

REPORTING AND AUDITING

Incident Notification

68. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

21. After condition 68 of Schedule 2, insert the following:

Non-Compliance Notification

68A. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

22. After condition 72 of Schedule 2 insert the following:

APPENDIX 1
FINAL LANDFORM DESIGN

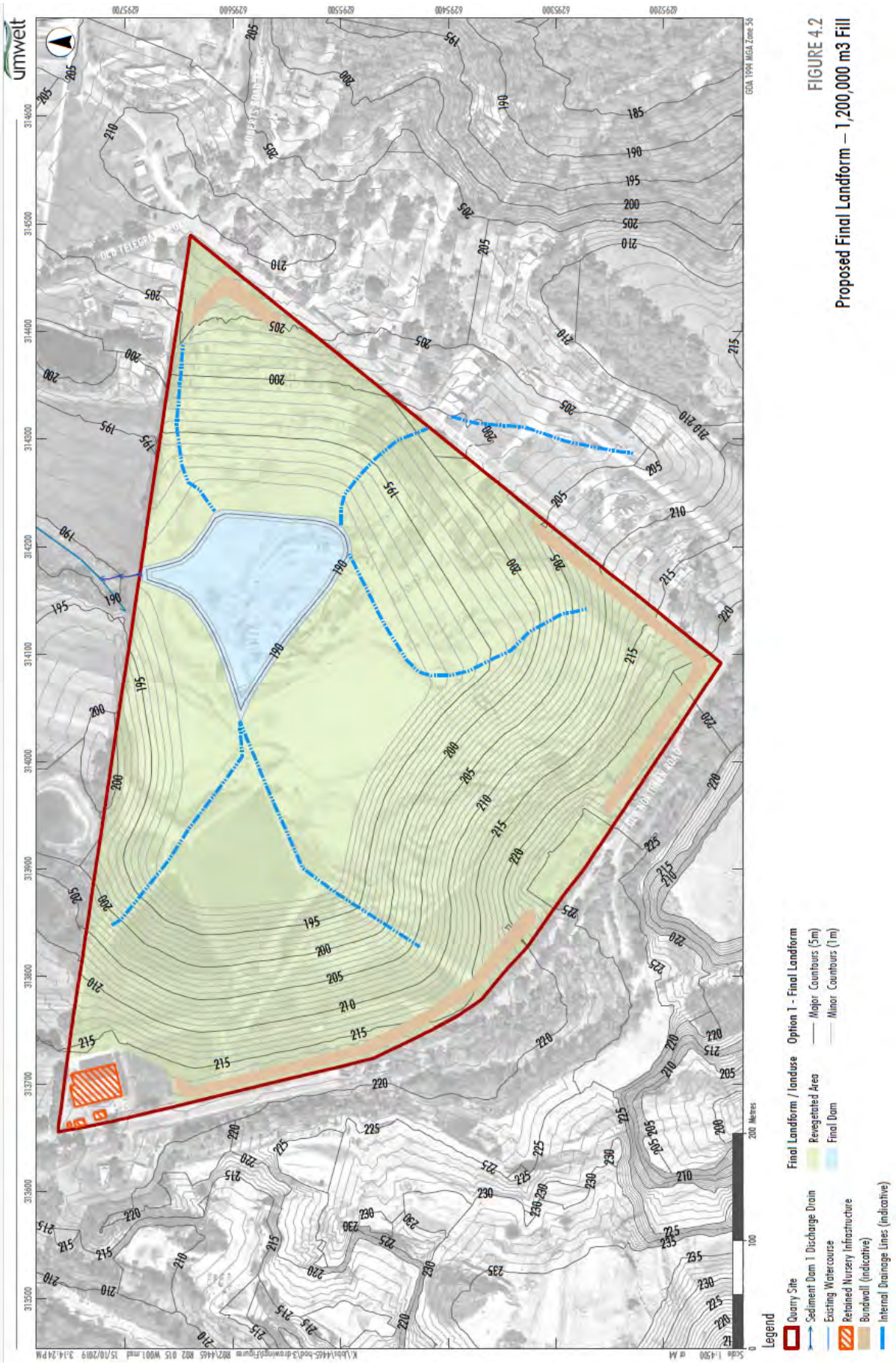

Figure 1: Final Landform Concept 1

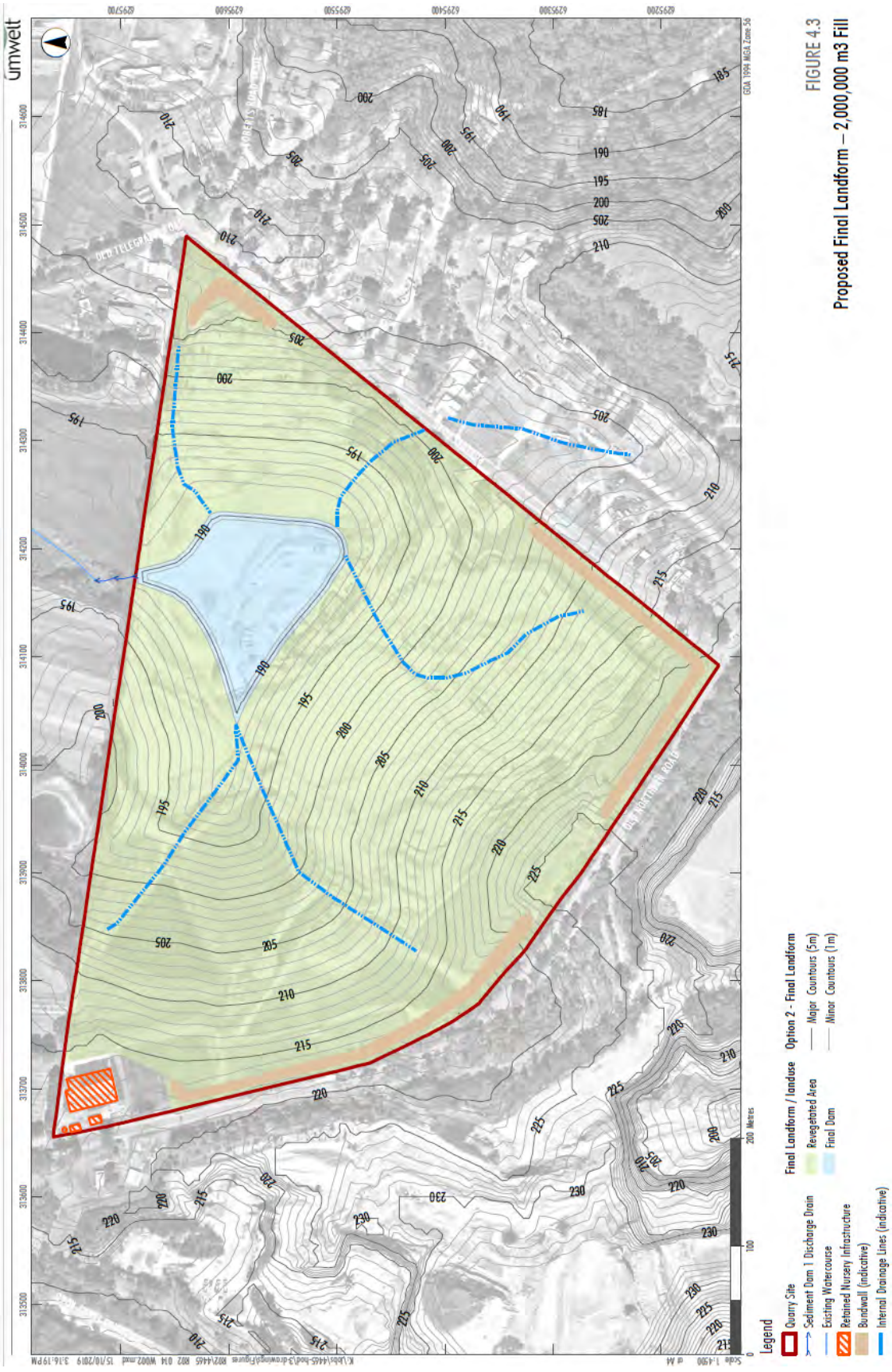

Figure 2: Final Landform Concept 2

APPENDIX 2
RECEIVER LOCATION PLAN

End of Modification

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

DETERMINATION OF A DEVELOPMENT APPLICATION UNDER SECTION 80(1) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

I, the Minister for Urban Affairs and Planning, under Section 80(1) of the Environmental Planning and Assessment Act, 1979 (the Act), determine the Development Application referred to in Schedule 1 by granting consent to the Application, subject to the conditions set out in Schedule 2.

The reason for the imposition of conditions is to minimise any adverse environmental effects of the development, consistent with the objectives of the Act.

Andrew Refshauge MP
Minister for Urban Affairs and Planning

Sydney 2000 File No. S98/00772

SCHEDULE 1

Application made by:	Dr L. S. Martin ('the Applicant").
To:	The Minister for Urban Affairs and Planning ("the Minister").
In respect of:	Lots 1 and 2 DP 228308, Lot 2 DP 312327, Roberts Road, Maroota, in the Baulkham Hills Local Government Area.
For the following:	Extraction and on-site processing of sand, clay and pebble; construction of a bund wall.
Development Application:	DA No. 267-11-99 lodged with the Department of Urban Affairs and Planning on 22 November 1999, accompanied by a Environmental Impact Statement prepared by Nexus Environmental Planning Pty Ltd. and dated November 1999.
Determination:	1) To ascertain the date upon which the consent becomes effective, refer to Section 83 of the Act. 2) To ascertain the date upon which the consent is liable to lapse, refer to Section 95 of the Act. 3) Section 97 of the Act confers on an applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of notice.

This instrument includes changes made by DA 267-11-99 Mod 1 in 29 November 2000 (marked red).
This instrument includes changes made by DA 267-11-99 Mod 3 in 18 August 2015 (marked blue).
This instrument includes changes made by DA 267-11-99 Mod 2 in 18 March 2016 (marked green).
This instrument includes changes made by DA 267-11-99 Mod 4 in 13 August 2021 (marked purple).

SCHEDULE 2

Conditions of Development Consent

DEFINITIONS

The Act	*Environmental Planning and Assessment Act 1979*, as amended
Approval from EPA	means approved in writing by the EPA or as specified as a condition of a licence
BCA	Building Code of Australia
BCD	Biodiversity and Conservation Division within the Department
Calendar year	A period of 12 months from 1 January to 31 December
Conditions of this consent	The conditions set out in this Schedule
Construction	Construction of the bund wall
Council	The Hills Shire Council
DA	Development Application
DCP 500	Baulkham Hills Shire Council Development Control Plan No. 500 – Extractive Industry
Department	Department of Planning, Industry and Environment
DPIE Water	The Water Group within the Department
EIS	Development application DA 267-11-99 and supporting documentation including the Environmental Impact Statement prepared by Nexus Environmental Planning Pty Ltd, dated November 1999, including the attached landscaping plan; the fax from Holmes Air Sciences dated 21 December 1999; the letter from Nexus Environmental Planning Pty Ltd dated 21 December 1999 and attachments; the letter from Woodward-Clyde dated 21 December 1999; the letter from Woodward-Clyde dated 16 December 1999; the letter from Dick Benbow and Associates Pty Ltd dated 5 January 2000 and attachments; the letter from Dick Benbow and Associates Pty Ltd dated 27 January 2000; and the two faxes from Dick Benbow and Associates Pty Ltd dated 17 February 2000 and attachments, except as modified by the report of Dick Benbow and Associates (Report No 10065 Issue 1) dated 26 June 2000
EMP	Environmental Management Plan
ENM	Excavated Natural Material, as defined in the EPAs resource recovery orders and exemptions clauses 91, 92 and 93 of the *Protection of the Environment Operations (Waste) Regulation 2014.*
EPA	Environment Protection Authority
EPL	Environment Protection Licence under the POEO Act
GTA	General Term of Approval
Heritage NSW	Heritage NSW within the Department of Premier and Cabinet
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
INP	*NSW Industrial Noise Policy (NSW EPA, 2000)*
$L_{A10(15\ minute)}$	is the sound pressure level that is exceeded for 10% of the time when measured over a 15 minute period
Laden Trucks	Trucks transporting quarry products from the site and/or trucks transporting VENM/ENM to the site
m AHD	metres Australian Height Datum
MEG	Regional NSW – Mining, Exploration and Geoscience
Minister	NSW Minister for Planning and Public Spaces, or delegate
Modification 1	Modification application 07-00M1 to DA 267-11-99 and supporting SEE titled Amendment to Method of Extraction and Related Acoustic Bund

	Wall, dated 17 July 2000 and prepared by Nexus Environmental Planning Pty Ltd
Modification 2	Modification application DA 267-11-99 Mod 2 and supporting documentation titled: *Environmental Assessment Section 75W Modification (2): DA 267-11-99, Hodgson Quarries and Plant Pty Ltd: Roberts Road: Maroota* (Volumes 1 and 2), dated 23 September 2015 and prepared by Nexus Environmental Planning Pty Ltd; Response to Submissions *75W Modification (2): DA 267-11-99, Hodgson Quarries and Plant Pty Ltd: Roberts Road: Maroota*, dated 3 December 2015 and prepared by Nexus Environmental Planning Pty Ltd; and email correspondence from Nexus Environmental Planning Pty Ltd to the Department, dated 12 February 2016, 16 February 2016 and 24 February
Modification 3	Modification application DA 267-11-99 Mod 3 and supporting documentation titled Environmental Assessment Section 75W Modification (3): DA 267-11-99, Hodgson Quarry Products Pty Ltd: Roberts Road: Maroota, dated 17 May 2015 and prepared by Nexus Environmental Planning Pty Ltd
Modification 4	Modification application DA 267-11-99 MOD 4 and Statement of Environmental Effects titled: *Roberts Road Quarry Modification 4*, dated December 2019 prepared by Umwelt Environmental Consulting and Submissions Report titled: *Roberts Road Quarry Modification 4, Response to Submissions*, dated March 2020 prepared by Umwelt Environmental Consulting, and additional information supporting the Response to Submissions, including: • Revised noise assessment titled: *Noise Impact Assessment Rev 1*, dated May 2020 prepared by Umwelt Environmental Consulting; • Letter from Umwelt Environmental Consulting, dated 20 May 2020; and • Letter from Benbow Environmental, dated 10 September 2020.
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
PCA	Principal Certifying Authority
POEO Act	*Protection of the Environment Operations Act 1997*
Process Water Dam	The process water dam located in the north-eastern corner of the site
Quarrying products	Includes all saleable quarry products, but excludes tailings and other wastes and rehabilitation material
Secretary	Planning Secretary under the EP&A Act, or nominee
Subject Site	Lots 1 and 2 DP 228308, Lot 2 DP 312327, Roberts Road, Maroota, in the Baulkham Hills Local Government Area
TfNSW	Transport for NSW
VENM	Virgin Excavated Natural Material, as defined in the POEO Act
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
Wet weather high groundwater level	The rolling average of all recorded groundwater level measurements at any monitoring location on the site, as first recorded following any rainfall event of at least 50 mm over any 24-hour period, and as contour mapped using this data

INTEGRATED DEVELOPMENT

Integrated development is development (not being complying development) that, in order for it to be carried out, requires development consent and one or more of the approvals set out in the Act. The subject proposal is integrated development, as it requires development consent and the approval of the Environment Protection Authority under the *Protection of the Environment Operations Act 1997* and, the approval of the Department of Land and Water Conservation under Parts 2 and 5 of the *Water Act 1912*. The general terms of approval of both the EPA and the DPIE Water therefore form part of this Consent.

GENERAL

Obligation to Prevent and Minimise Harm to the Environment

1. There is an obligation on the Applicant to prevent and minimise harm to the environment throughout the life of the project. This requires that all practicable measures are to be taken to prevent and minimise harm that may result from the construction, operation and, where relevant, the decommissioning of the development.

Adherence to Terms of DA and EIS

2. The Applicant shall:
   (a) carry out the development generally in accordance with the EIS, Modification 1, Modification 2, Modification 3 and Modification 4; and
   (b) comply with the conditions of this consent.

   If there is any inconsistency between the documents in Condition 2(a), the most recent documents shall prevail to the extent of the inconsistency. The conditions of this consent shall prevail over documents in Condition 2(a) to the extent of any inconsistency.

Compliance

3. The Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of the Conditions of this Consent, within such time as the Secretary agrees. The Secretary may order the Applicant to cease work until non-compliance has been addressed to the Secretary's satisfaction.

4. The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent.

5. The Applicant shall comply with all relevant conditions prescribed in Part 7 of the *Environmental Planning and Assessment Regulation 1994*, as required by Section 80A (11) of the Act.

6. The Applicant SHALL submit a Conditions Compliance Report to the Secretary prior to the commencement of extraction in areas that are not currently subject to extraction. Subsequent reports will be submitted annually for the first three years of extraction in areas not currently subject to extraction. Further reports SHALL be submitted as required by the Secretary.

   To enable ready comparison with the EIS's predictions, diagrams and tables, the Conditions Compliance Reports shall include, but not be limited to, the following matters:
   (a) a compliance audit of the performance of the project against conditions of Consent and statutory approvals;
   (b) a review of the effectiveness of the environmental management of the development;
   (c) the results of environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;

(d) a listing of any variations obtained to approvals applicable to the DA since the last report;
(e) a record of all complaints and the actions taken to mitigate all such complaints;
(f) a report detailing the rehabilitation measures undertaken since the last report; and
(g) environmental management targets and strategies for stages of the development yet to be completed.

7. The Secretary may, after considering a Conditions Compliance Report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant SHALL comply with those requirements within such time as the Secretary may direct.

Note: The Applicant is obliged to ensure that all statutory requirements, including all relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions and Directions of the Councils and relevant government agencies are met and approvals obtained.

Limits on Approval

8. No extraction shall commence in areas that are not currently subject to extraction, until the Applicant has:
(a) constructed the bund walls at the corner of Roberts Road and Old Northern Road;
(b) submitted the Conditions Compliance Report required under Condition 6; and
(c) obtained all licences necessary for the commencement of extraction.

9. The duration of extraction under this Consent is until 31 May 2030. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.

9A. The Applicant must not:
(a) process or dispatch more than 480,000 tonnes of quarrying products at the site in any calendar year;
(b) receive more than 320,000 tonnes of VENM and ENM (in total) at the site in any calendar year;
(c) import more than 3 million tonnes of VENM and ENM to the site; and
(d) import VENM and ENM beyond 31 May 2030.

Complaints Procedures

10. Prior to commencement of construction, the Applicant shall:
(a) publicise a telephone number on which complaints about the subject development can be registered during the hours of operation in Condition 16; and
(b) publicise a postal address where written complaints may be lodged.
The telephone number and postal address shall be displayed on the property where it can be read from a public road, for the duration of the development.

11. The Applicant shall record details of all complaints received and actions taken in response to complaints in an up-to-date log book. The log book shall be made available for inspection upon request by the Secretary, the EPA or the Council; and a summary of complaints received shall be included in the Conditions Compliance Reports under Condition 6.

12. The Applicant shall ensure that an initial response to complaints is provided to the complainant within 24 hours of receipt. The Applicant shall then:
(a) investigate the concerns raised by the complainant and undertake all reasonable attempts to determine the cause of concern; and
(b) if adverse impacts are identified, undertake all practicable measures to modify the activity which may be causing the impacts.

13. If the Applicant's response does not address the complaint to the satisfaction of the complainant within six weeks, the Applicant shall inform the Secretary and take any action as directed by the Secretary.

This may include a requirement to carry out independent investigations of noise and/or dust at the cost of the Applicant, in accordance with Condition 14.

14. If the Secretary is satisfied that an independent investigation is required, the Applicant shall:
    (a) appoint a qualified independent person or team to plan and implement an investigation to qualify the impact and determine the sources of the impact; and
    (b) bear the cost of the independent investigation and make available plans, programs and other information necessary for the independent person to form an appreciation of the past, present and future works and their effects on dust and/or noise emissions.

    This investigation is to be carried out in accordance with a documented Plan. The Plan shall be designed and implemented to measure and/or compute (with appropriate calibration by measurement) the relevant noise and/or dust levels at the complainant's property, that are emitted by the development; and specify a monitoring period and reporting schedule.

    The independent person or team, the Plan and the timing of its implementation, shall be approved by the Secretary. The independent person or team shall report to the Secretary and the Applicant.

    Further independent investigations shall cease if the Secretary is satisfied that the relevant levels are not being exceeded and are unlikely to be exceeded in the future.

Dispute Resolution

15. In the event that the Applicant, Council, the PCA, or a government authority other than the Department, cannot agree on the specification or requirements applicable under this Consent, the matter shall be referred by either party to the Secretary or, if not resolved, to the Minister, whose determination of the disagreement shall be final and binding on the parties.

HOURS OF OPERATION

16. Unless prior written approval of the EPA is obtained, the hours of operation are:
    - construction: 7.00am to 6.00pm Monday to Friday
    - extraction and processing of material: 7.00am to 6.00pm, Monday to Friday and 7.00am to 1.00pm on Saturdays
    - vehicle loading: 6.00am to 6.00pm, Monday to Friday and 6.00am to 1.00pm on Saturdays.

    No works shall be undertaken on Sundays or Public Holidays.

    These restrictions do not apply to routine maintenance work, such as the repair of machinery, provided the work does not result in exceedance of the noise limits in Condition 47.

DEPTH OF EXTRACTION

17. The Applicant shall ensure that extraction does not take place below a level 2 metres above the wet weather high groundwater level of the regional aquifer, as measured and mapped on the site (see Conditions 39(d) and 44).

PRODUCTION DATA

17A. Each year the Applicant must provide MEG with annual quarry production data, covering a full calendar year, by no later than 30 January the following calendar year.

17B. The data must be provided using the relevant standard form and a copy of the data must be included in the Annual Review (required under condition 66).

ENVIRONMENTAL MANAGEMENT PLAN

18. The Applicant shall prepare a Construction Environmental Management Plan (EMP) to the satisfaction of the Secretary prior to commencement of construction. The Construction EMP shall contain appropriate measures which demonstrate how the environmental objectives for the project will be achieved, including objectives stated in this Consent; and contain a monitoring, reporting and response program.

    The Applicant shall implement the approved management plan as approved from time to time by the Secretary.

19. The Applicant shall prepare an Operational Environmental Management Plan (EMP) in consultation with the relevant authorities and to the satisfaction of the Secretary, prior to the commencement of extraction under this Consent. The EMP shall incorporate and integrate environmental management for the existing extraction areas, as well as the areas approved under this Consent.

20. The Operational EMP shall include, but not be limited to:
    (a) environmental objectives for the site;
    (b) the Air Quality Management Plan (Condition 29);
    (c) the Water Management Plan (Condition 42);
    (d) the Noise Management Plan (Condition 46);
    (e) the Road Noise Management Plan (Condition 48);
    (f) the Traffic Management Plan (Condition 50A);
    (g) the Flora and Fauna Management Plan (Condition 55); and
    (h) the Rehabilitation Plan (Condition 58).

21. The Applicant shall make copies of both EMPs available to Council, EPA and DPIE Water within 14 days of approval by the Secretary. The Applicant shall also make a current copy of the EMPs available for inspection by the public or these agencies, for the duration of the Consent.

22. The Applicant shall, in consultation with the Secretary, the EPA and the DPIE Water, update the Operational EMP from time to time in order to ensure continuing compliance with the Conditions of this Consent and all relevant approvals and licenses. The EMR shall be responsible for determining if any significant changes to the Operational EMP should be referred to the Secretary for approval.

    The Applicant shall implement the approved management plan as approved from time to time by the Secretary.

23. *Deleted.*

24. *Deleted.*

25. *Deleted.*

Importation of VENM and ENM

26. The applicant must:
    (a) ensure only verified VENM and ENM is received at the site
    (b) collect date on the VENM and ENM received including detail of the origin, date, and quantity received; and
    (c) include a copy of this data in the Annual Review.

WASTE

27. No other materials classified as waste under the *EPA's Waste Classification Guidelines 2009 (or its latest version) may be received or processed on the site, except as expressly permitted in an applicable EPL, specific resource recovery order or exemption under the Protection of the Environment Operations (Waste) Regulation 2014.*

AIR QUALITY

Air Quality Criteria

28. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in

29.

30. TABLE at any residence on privately-owned land.

Table 1: *Air quality criteria*

Pollutant	***Averaging period***	***Criterion***	
Particulate matter < 10 µm (PM_{10})	Annual	[a, c] 25 µg/m^3	
	24 hour	[b] 50 µg/m^3	
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, c] 8 µg/m^3	
	24 hour	[b] 25 µg/m^3	
Total suspended particulate (TSP) matter	Annual	[a, c] 90 µg/m^3	
[d] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes:

[a] *Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).*

[b] *Incremental impact (i.e. incremental increase in concentrations due to the development on its own).*

[c] *Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.*

[d] *Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.*

28A. The air quality criteria in

A1.

Table do not apply if the Applicant has an agreement with the owner/s of the relevant residence or infrastructure to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Air Quality Management

31. The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall:
    (a) identify existing and potential sources of dust deposition, TSP and fine particulates (PM10 and PM2.5) and specify appropriate monitoring intervals and locations. The purpose of the monitoring is to evaluate, assess and report on these emissions and the ambient impacts with the objective of understanding the development's contribution to levels of dust deposition, TSP and fine particulates in ambient air around the site;

(b) provide a monitoring plan having regard to local meteorology and the relevant Australian Standards, identifying the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements;
(c) provide details of dust suppression measures for all sources of dust from the development, including a planting and watering regime to ensure that areas of the site which are exposed and active at any one time are minimised to the greatest extent practicable. The use of a polymer in the water to minimise dust impacts shall be investigated as part of this Plan;
(d) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and
(e) provide the design of the reactive management system intended to reduce the day-to-day impacts of dust and fine particulates due to the development.

The Applicant shall implement the approved management plan as approved from time to time by the Secretary.

29A. The Applicant must commission an expert review of air quality monitoring at the site. This review must:
(a) be undertaken by a suitably qualified and experience person(s) whose appointment has been endorsed by the Secretary;
(b) review the accuracy of air quality monitoring at the site over a 12 month period, in general accordance with the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007)* and with a particular focus on $PM_{2.5}$ monitoring;
(c) provide recommendations (where required) to improve the accuracy of air quality monitoring at the site; and
(d) be undertaken in consultation with the EPA.

29B. A copy of the expert review report along with a timetable for implementing any recommendations arising from the review required under condition 29A of this Schedule, must be submitted by 1 October 2022, or as otherwise agreed by the Planning Secretary.

The Applicant must implement the recommendations of the expert review to the satisfaction of the Secretary.

32. Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.[1]

33. The Applicant shall cease offending work at such times when the operations are resulting in visible dust emissions blowing in a direction so as to cross onto public roads or lands not owned by the Applicant.

34. The Applicant shall install, operate and maintain a sprinkler system to adequately water all cleared areas and stockpiles so as to minimise dust emissions to acceptable levels.

35. The Applicant shall ensure that all vehicular movements on unsealed areas are restricted to specific routes and that all vehicles within the subject site keep to a speed limit of 30 km/h.

36. The Applicant shall ensure that trucks are covered when entering and leaving the premises carrying loads of potentially dust generating material.

Air Quality Monitoring

37. All monitoring equipment is to be installed and operational prior to commencement of construction.

38. Operation of dust deposition gauges and monitoring must be carried out in accordance with;

[1] Environment Protection Authority General Term of Approval

(a) Australian Standard 3580.10. 01 (1991) Particulates – Deposited Matter – Gravimetric Method. Approved method AM-19 referred to in *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*, December 1999.
(b) Australian Standard 2724.3 (1984) Particulate Matter – Determination of Total Suspended Particulates (TSP) - High Volume Sampler Gravimetric Method. Approved method AM 15 referred to in Approved Methods for the sampling and Analysis of Air Pollutants in New South Wales, December 1999.
(c) Australian Standard 3580.9.6 (1990) for Suspended Particulate Matter – PM10 High Volume Sampler with Size Selective Inlet-Gravimetric Method. Approved method AM-18 referred to in *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*, December 1999.[2]

39. A meteorological station measuring wind speed and direction must be installed and operated by the Applicant at a site determined in consultation with the EPA.[3]

SOIL AND WATER

Note: The Applicant is required to obtain the necessary water licences for the development under the Water Act 1912 and/or Water Management Act 2000.

Limits on Extraction

40. The Applicant shall not extract:
(a) below a depth of 182 m AHD in the footprint of the Process Water Dam, if not already extracted as at the date of Modification 2; and
(b) below a depth of 186.1 m AHD in all other areas of the site;
unless in accordance with Condition 17, and following written notification to the Secretary and DPIE Water.

Groundwater Study and Remediation Works

41. Within six weeks of the date of approval of Modification 2, the Applicant shall commission a comprehensive groundwater study of the site. This study must:
(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary and DPIE Water;
(b) consult with DPIE Water;
(c) examine all existing records of groundwater levels at the site;
(d) develop an interim contour map of the wet weather high groundwater level of the regional aquifer, based on all available records (see also Condition 44); and
(e) provide advice and recommendations on the Groundwater Monitoring Program as set out in Condition 43.

42. Unless otherwise agreed by the Secretary, the Applicant shall submit a report of the study to the Secretary and DPIE Water within six months of commissioning the study. The report must be accompanied by a Groundwater Management Improvement Program, based on the study's findings and recommendations which includes a program of proposed timeframes for implementation. Should the Applicant propose not to implement any of the report's recommendations, it must provide detailed justification to this effect.

[2] Environment Protection Authority General Term of Approval
[3] Environment Protection Authority General Term of Approval

The Groundwater Management Improvement Program must be prepared and implemented to the satisfaction of the Secretary. Progress against the Program shall be reported through Annual Reviews and considered as part of the Independent Environmental Audit.

43. Within six months of the submission of the Groundwater Study and accompanying documents (see Conditions 39 and 40), the Applicant must infill any area of the site identified as being below the wet weather high groundwater level to at least that level as mapped (see Condition 39(d)).

    Within six months of any update of the groundwater level contour map, the Applicant must infill any area of the site identified as being below the wet weather high groundwater level to at least that level as mapped (see Condition 44).

Water Management Plan

44. The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with DPIE Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval by 31 December 2016. The plan must be updated on an annual basis in consultation with DPIE Water for three years from the date of approval of Modification 2 and thereafter as agreed with by the Secretary.

    In addition to the standard requirements for management plans (see Condition 65), this plan must include a:

    (a) Site Water Balance that:
    - includes details of:
        - sources and security of water supply, including contingency planning;
        - water use on site;
        - water management on site, including groundwater inflows to the quarry voids and site discharges; and
        - audit and reporting procedures, including comparisons of the site water balance each calendar year; and
        - describes the measures that would be implemented to minimise clean water use on site and maximise recycling opportunities;

    (b) Surface Water Management Plan, that includes:
    - a detailed description of the surface water management system on site, including the:
        - clean water diversion systems;
        - erosion and sediment controls;
        - effluent irrigation system;
        - water transfers from the extraction areas;
        - water storages; and
        - discharge points;
    - design objectives and performance criteria for proposed:
        - erosion and sediment control structures;
        - water storages, including quarry voids;
        - site discharges; and
        - control of water pollution from rehabilitated areas of the site;
    - performance criteria, including trigger levels for investigating any potentially adverse impacts for surface water quality;
    - a program to monitor:
        - the effectiveness of the water management system;
        - site discharge water quality; and
        - surface water level and quality in the Process Water Dam, including the quantification of rainfall inflow, groundwater inflow and evaporation;

- a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project;
- long term water quality management objectives and the measures to achieve these objectives;
- a plan that ensures surface stormwater runoff from the disturbed areas is directed to the sedimentation dam(s);
- a plan that ensures tailgate drainage does not discharge into or onto any adjoining public or Crown road, any other persons land, any Crown land, any river, creek or watercourse, any groundwater aquifer, any native vegetation as described under the *Native Vegetation Conservation Act 1997* and any wetlands of environmental significance;
- a detailed description of design and construction criteria for the Process Water Dam based on a feasibility study of:
  - capacity to construct multiple cells within the overall dam footprint (ie a two stage or three stage dam);
  - whether the dam floor and walls are able to be effectively lined with compacted clay (especially for multiple cells);
  - whether effective hydraulic separation can be achieved between such cells;
  - rehabilitating such cells to create a single dam within the final landform; and
  - the appropriateness of diverting runoff received from off-site around the dam;
- a strategy for the decommissioning of water management structures, including storage, sedimentation and leachate dams once extraction is complete; and
- audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of surface water monitoring results;

(c) Groundwater Management Plan that takes into account the *Web-based Reporting Guideline* (DPE 2015) and *Groundwater Monitoring and Modelling Plans – Information for Prospective Mining and Petroleum Exploration Activities* (DPI 2014), and includes:

- detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land, that could be affected by the project;
- a program to undertake surveyed probe testing of all extracted areas where clay fines have been deposited to:
  - accurately determine the depth of extraction and depth of clay fines;
  - identify any ongoing intersection or other interaction between clay fines and the regional groundwater aquifer;
  - identify any geotechnical characteristics of the emplaced clay fines which may pose risks to workplace safety or implementation of the process water dam design or the final landform; and
  - identify measures which can be successfully used in rehabilitating these areas;
- a program to monitor potential groundwater quality impacts to the regional aquifer from receiving off-site runoff water in the Process Water Dam;
- groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, in accordance with the *NSW Aquifer Interference Policy*;
- a program to monitor:
  - the impacts of the project on:
    - groundwater inflows to water storages;
    - any groundwater bores on privately-owned land that could be affected by the project; and
  - seepage from water storages or backfilled voids on site;
- a plan to respond to any exceedances of the groundwater assessment criteria;
- emergency contingency plans for implementation in the event that the groundwater is encountered during excavation; and
- audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of groundwater monitoring results,

The Applicant shall implement the approved management plan as approved from time to time by the Secretary.

Groundwater Monitoring

45. The Applicant shall prepare a Groundwater Monitoring Program for the development to the satisfaction of the Secretary. This program must:
    (a) be prepared in consultation with DPIE Water and be submitted to the Secretary for approval within four months of the date of approval of Modification 2;
    (b) include proposed construction of a network of at least five active monitoring bores around the south-eastern, southern, western and north-western boundaries of the extraction area (but outside of the overall extraction footprint) in proximity to extraction Phases 1 to 6 as identified in Modification 2, to collect continuous groundwater level monitoring data from the regional aquifer;
    (c) include proposed construction to deepen (or replace) PT84MW1 in order that a bore in that general location monitors the regional aquifer; and
    (d) include proposed construction of active monitoring bores within the largest components of at least the two forthcoming extraction Phases (on a rolling basis), each to collect at least 2 years of continuous baseline groundwater monitoring data prior to extraction commencing with that Phase.

46. The results of the Groundwater Monitoring Program shall be reported the Department and DPIE Water, using contour plans depicting the surface topography, updated contour maps of the wet weather high groundwater level of the regional aquifer and proposed depth of extraction for each extraction Phase. Reporting is to occur on a six monthly basis for the duration of extractive operations, and throughout rehabilitation of the site, unless otherwise agreed with the Secretary.

    The Applicant shall implement the Groundwater Monitoring Program as approved from time to time by the Secretary.

Process Water Dam Design and Construction

47. The Applicant must ensure that the Process Water Dam is designed and constructed in a manner that satisfies the design and construction criteria for the Process Water Dam as developed under the Surface Water Management Plan (see condition 42(b) above).

NOISE

Noise Management Plan

48. The Applicant shall prepare a Noise Management Plan as part of the EMP.

    The Noise Management Plan shall:
    (a) identify existing and potential noise sources and their relative contribution to noise impacts from the development;
    (b) specify appropriate intervals for noise monitoring to evaluate, assess and report noise emission levels due to construction and normal operations of the development under prevailing weather conditions;
    (c) outline the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements, the design of any noise modelling or other studies, including the means for determining the noise levels emitted by the development;
    (d) specify measures to be taken to document any higher level of impacts or patterns of temperature inversions, and detail actions to quantify and ameliorate enhanced impacts if they occur;

(e) provide details of noise amelioration measures, including measures to be used to reduce the impact of intermittent, low frequency and tonal noise (including truck reversing alarms) and reactive management responses for particular noise sources; and
(f) contingency measures to be implemented should noise complaints be received.
(g) provision for the notification of adjoining property owners of the commencement and duration of works adjoining the boundary;
(h) construction of temporary noise shielding to residences affected by short-term noise impacts, including the bund recommended under Modification 2, and include an assessment of the effectiveness of this measure in reducing noise levels; and
(i) include a noise reduction strategy for typical operations to ensure the noise levels from these operations do not exceed the noise criteria specified in Condition 47.

The Applicant shall implement the approved management plan as approved from time to time by the Secretary.

Noise Operating Conditions

49. The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 1 at any residence on privately-owned land.

Table 1: Operational noise criteria dB(A)

Receiver	Day (7am-6pm) Monday to Saturday $L_{Aeq\ (15\ min)}$	6am-7am Monday to Saturday $L_{A1\ (1\ min)}$	6am-7am Monday to Saturday $L_{Aeq\ (15\ min)}$
Receiver B	44	50	40
All other receivers	43	50	40

[a] *The Noise Assessment Locations referred to in Table 1 are shown in Appendix 2*

Noise generated by the development is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy* (as may be updated or replaced from time-to-time).

However, these criteria do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement."

47(a) The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dB(A) when measured at 7 metres.

47(b) The on-site generator is to be fitted with an acoustic enclosure to ensure that noise levels less than 44dB(A) at 30m are achieved.

47(c) A noise compliance investigation is to undertaken within one month of the installation of the equipment to demonstrate compliance with the noise level limits stated in Conditions 47(a) and 47(b). The results of the compliance investigation are to be provided for the approval of the Secretary within 14 days of the completion of the investigations.

47(d) The Applicant must ensure works associated with atypical operations, as described in Modification 2, only occur:
(a) for a maximum of 24 days in a year, and only between 8 am to 5 pm on those days, Monday to Saturday;
(b) after an investigation of options for avoiding multiple atypical operations at any one time so as to limit noise levels at affected receptors, and the outcomes of this investigation are detailed in the Noise Management Plan; and

(c) at least 24 hours after notifying potentially affected receptors, with such notification to include information on the duration and extent of works, the likely noise to be experienced, and a contact telephone number.

TRAFFIC AND TRANSPORT

Road Noise Management Plan

50. The Applicant shall ensure that traffic noise from the development does not exceed (L Aeq(1 hr)) 55 dB(A) between 7 am and 10 pm and 50 dB(A) between 10 pm and 7 am at any affected residence under adverse weather conditions. Where ambient Leq levels already exceed these criteria, the Applicant shall ensure that traffic noise from the development does not result in an increase of more than 2 dB(A).

Note: Adverse weather conditions means in the presence of winds up to 3 metres per second and/or temperature inversions of up to 4 degrees Centigrade per 100 metres.

51. The Applicant shall prepare a Road Noise Management Plan as part of the EMP. The Plan shall document measures to be taken to meet the criteria, including a monitoring, reporting and response program; and methods for educating drivers in the reduction of road noise impacts.

The Applicant shall implement the approved management plan as approved from time to time by the Secretary.

Truck movements

52. The Applicant must ensure that truck movements associated with the development do not exceed 70 outbound and 70 inbound per day and does not exceed 10 outbound and 10 inbound per hour.

Traffic Management Plan

50A. The Applicant must prepare a Traffic Management Plan that must:

(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;

(b) be prepared in consultation with TfNSW and Council;

(c) include a Drivers' Code of Conduct that contains procedures to ensure that drivers:

(i) adhere to posted speed limits or other required travelling speeds;

(ii) adhere to designated transport routes;

(iii) implement safe and quiet driving practices; and

(iv) minimise potential conflict with school buses.

(d) describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct; and

(e) propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles exiting the site.

The Applicant must submit the Traffic Management Plan as approved by the Secretary by the 31 October 2021, or otherwise agreed by the Secretary. The Applicant must implement the Traffic Management Plan as approved by the Secretary.

Section 94A Contributions

53. The Applicant shall pay to Council a contribution under Section 94A of the Act at the rate of $0.65 per tonne of all extracted/ processed material transported from the subject site.

The following conditions apply to the payment of this contribution:

(A) The contribution will be calculated and paid monthly from the date of this Consent;
(b) The contribution will be indexed and adjusted annually as from the date of Consent, in accordance with the Consumer Price Index. This adjustment will be applicable to each financial year for the duration of this Consent and shall take effect from and including July each year, commencing 1 July 2000;
(c) On or before the fourteenth day of each month for the duration of the Consent, the Applicant shall deliver to Council weighbridge records showing the true quantities of extracted/processed material transported from the property during the immediately proceeding month and the Council will then, as soon as it can conveniently do so, issue an invoice to the Applicant, to be paid within fourteen days;
(d) The Council has the right to inspect and have the original records relating to any extraction/processing material, including numbers and types of laden trucks, trailers and load quantities transported from the property audited, at any time when Council makes a written request to do so;
(e) The Council will pay all the said contribution payments into a specially identified account for payment towards the rehabilitation, restoration, repair and/or maintenance of Old Northern and Wisemans Ferry Roads within the Baulkham Hills Shire boundary.

Note: This condition has been imposed in accordance with Council's Contributions Plan No. 6 – Extractive Industries. A copy of this plan may be inspected at the Customer Service Centre, Council's Administration Complex, corner of Carrington and Showground Roads, Castle Hill, between the hours of 8:30 am and 4:30 pm weekdays.

FLORA AND FAUNA

54. Deleted.

55. The Applicant shall not clear the strip of remnant vegetation along the southern fence line (Old Northern Road) and the vegetation to the north of the site entrance (Roberts Road) containing Blue Mountains Mahogany (*Eucalyptus notabilis*). This area shall be fenced off to prevent vehicles entering the area.

56. In construction of the bund walls at the corner of Roberts Road and Old Northern Road, the Applicant shall minimise disturbance to existing native vegetation.

Flora and Fauna Management Plan

57. The Applicant shall prepare a Flora and Fauna Management Plan as part of the EMP. The Plan shall be prepared in consultation with National Parks and Wildlife Service and Council, and shall:
    (a) describe the characteristics and location of species, populations and communities that the proposal may impact upon;
    (b) consider the feasibility and practicality of salvaging trees removed for the development for relocation to conserved or rehabilitated areas, for the purposes of reconstructing habitat for ground fauna
    (c) contain a program for the active management and maintenance of all conserved and rehabilitated vegetation (as detailed in the EIS and required under this Consent) including consideration of:
        - post-extraction land use objectives for the site;
        - utilisation of local endemic species or species naturally occurring in the Maroota area;
        - planting around the conservation area to further buffer this area and enhance its long term viability as a bushland ecosystem;

- connection of existing areas and future areas of revegetation to form a network of wildlife corridors throughout site and to adjoining lands to facilitate species recruitment through natural immigration;
- provision of rocks of varying sizes to provide refuge and basking sites for herpetofauna;
- fencing of revegetated areas to prohibit grazing by stock; and
- provision of artificial nest boxes for a range of arboreal fauna.

(d) mitigation measures to be implemented should operations compromise the significant flora and fauna communities identified in the EIS;

(e) an ongoing monitoring program of the existing and proposed revegetated areas to assess their floristical structure and diversity, resilience and robustness to disturbance, and fauna species diversity. The information obtained from the monitoring shall be used to guide future revegetation and management efforts; and

(f) include detailed performance and completion criteria for evaluating the performance of the flora and fauna management measures and rehabilitation of the site, including triggers for any necessary remedial action.

58. The Applicant shall maintain the revegetated areas for the duration of the Consent. Maintenance may include:
- replanting failed or unsatisfactory areas
- repairing erosion problems
- fire management – fire suppression or fire encouragement
- pest and weed control
- control of feral animal populations
- maintain and repair fencing
- fertiliser application
- watering plants in drier areas, especially in the establishment phase
- application of lime or gypsum to control pH and improve soil structure.

HERITAGE

59. If, during the development, the Applicant becomes aware of any heritage or archaeological material, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include Heritage NSW, and the Local Aboriginal Land Councils. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work.

LANDSCAPE AND REHABILITATION

Rehabilitation Objectives

60. The Applicant shall rehabilitate the site in a manner that is generally consistent with the final landform designs in Appendix 1, to the satisfaction of the Secretary. All rehabilitation must comply with the objectives in Table 1:

Table 1: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	• Safe, stable and non-polluting • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land •
Surface Infrastructure	• Decommissioned and removed, unless the Secretary agrees otherwise

Quarry Pit Floor	• Landscaped and revegetated using improved pasture species, native trees and understorey species
Final Void	• Minimise the height and slope of batters • Minimise the drainage catchment
Community	• Ensure public safety • Minimise the adverse socio-economic effects of quarry closure

Progressive Rehabilitation

59. The Applicant shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

    Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.

Landscape and Rehabilitation Management Plan

60. The Applicant shall prepare a Landscape and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
    (a) be submitted to the Secretary for approval by 30 June 2017, unless otherwise agreed by the Secretary;
    (b) provide details of the conceptual final landform and associated land uses for the site;
    (c) describe the short, medium and long-term measures that would be implemented to ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
    (d) include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following the 3 years covered by the initial approval of the plan) including the procedures to be implemented for:
        - maximising the salvage of environmental resources within the approved disturbance area for beneficial reuse;
        - protecting vegetation and fauna habitat outside the approved disturbance area on-site;
        - minimising the impacts on native fauna;
        - landscaping the site to minimise visual and lighting impacts;
        - reviewing improved pasture species and application rates;
        - controlling weeds and feral pests;
        - controlling erosion;
        - controlling access; and
        - bushfire management;
    (e) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;
    (f) include a mass balance calculation to ensure that appropriate volumes of material are available to implement the final landform as described in this plan;
    (g) provide for the construction and maintenance of the process water dam in accordance with the approved design and construction criteria (see Condition 42(b));
    (h) identify the potential risks to the successful rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks; and
    (i) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

    The Applicant shall implement the management plan as approved from time to time by the Secretary

Conservation and Rehabilitation Bond

61. By 31 December 2017, the Applicant shall lodge a Conservation and Rehabilitation Bond with the Department to ensure that the management of biodiversity and the rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the Flora and Fauna Management Plan and Landscape and Rehabilitation Plan. The sum of the bond shall be determined by:
    (a) calculating the cost of rehabilitating the site taking into account the likely surface disturbance over the following 3 years of quarrying operations; and
    (b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs,

    to the satisfaction of the Secretary.

    Note: If the rehabilitation of the site is completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the rehabilitation of the site is not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.

62. Within 3 months of each Independent Environmental Audit (see Condition 70), the Applicant shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the:
    (a) effects of inflation;
    (b) likely cost of rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and
    (c) performance of the implementation of the rehabilitation of the site to date.

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

63. The Applicant shall prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
    (a) be submitted to the Secretary for approval by 30 June 2016;
    (b) provide the strategic framework for environmental management of the development;
    (c) identify the statutory approvals that apply to the development;
    (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
    (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 development;
        - receive, handle, respond to, and record complaints;
        - resolve any disputes that may arise during the course of the development;
        - respond to any non-compliance;
        - respond to emergencies; and

    (f) include:
        - copies of any strategies, plans and programs approved under the conditions of this consent; and
        - a clear plan depicting all the monitoring required to be carried out in relation to the development.

    The Environmental Management Strategy is to include a copy of the sequence of extraction as updated under Modification 2, with all dam areas on the site clearly labelled and described.

    The Applicant shall implement the approved strategy as approved from time to time by the Secretary.

Adaptive Management

64. The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this Consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this Consent 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 Applicant must, at the earliest opportunity:

(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
(b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
(c) implement remediation measures as directed by the Secretary,

to the satisfaction of the Secretary.

Management Plan Requirements

65. The Applicant shall ensure that the management plans required under this Consent are prepared in accordance with any relevant guidelines, and include:

(a) detailed 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;
- 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 that would 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;
- effectiveness of any management measures (see c above);

(e) a contingency plan to manage any unpredicted impacts and their consequences;
(f) a program to investigate and implement ways to improve the environmental performance of the development over time;
(g) a protocol for managing and reporting any:
- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria; and

(h) a protocol for periodic review of the plan.

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

Annual Review

66. By the end of March each year (or as otherwise agreed by the Secretary), the Applicant shall review the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary. This review must:

(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development 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 development over the past year, which includes a comparison of these results against the:

- relevant statutory requirements, limits or performance measures/criteria;
- monitoring results of previous years; and
- relevant predictions in the EIS, Modification 1 and Modification 2;

(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
(d) identify any trends in the monitoring data over the life of the development;
(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
(f) describe what measures will be implemented over the next year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

67. Within 3 months of the submission of:
(a) an annual review under Condition 66 above;
(b) an incident report under Condition 68 below;
(c) an audit report under Condition 70 below; or
(d) any modification to the conditions of this Consent (unless the conditions require otherwise),
the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this Consent to the satisfaction of the Secretary.

Where this review leads to revisions in any such document, then within 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

REPORTING AND AUDITING

Incident Notification

68. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

Non-Compliance Notification

68A. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Regular Reporting

69. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this Consent.

INDEPENDENT ENVIRONMENTAL AUDIT

70. Every 3 years from the date of this consent and at the completion of works under this consent, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
    (a) be 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;
    (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this Consent and any relevant EPL (including any assessment, plan or program required under these approvals);
    (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
    (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.

    Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.

71. Within 6 weeks of the completion of this audit, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

72. By 30 June 2016 the Applicant shall:
    (a) make copies of the following publicly available on its website:
        - the documents identified in Condition 2(a) above;
        - current statutory approvals for the development;
        - approved strategies, plans and programs required under the conditions of this Consent;
        - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this Consent, or any approved plans and programs;
        - a complaints register, which is to be updated monthly;
        - the annual reviews of the development (for the last 5 years, if applicable);
        - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
        - any other matter required by the Secretary; and
    (b) keep this information up-to-date,

to the satisfaction of the Secretary.'

APPENDIX 1
FINAL LANDFORM DESIGN

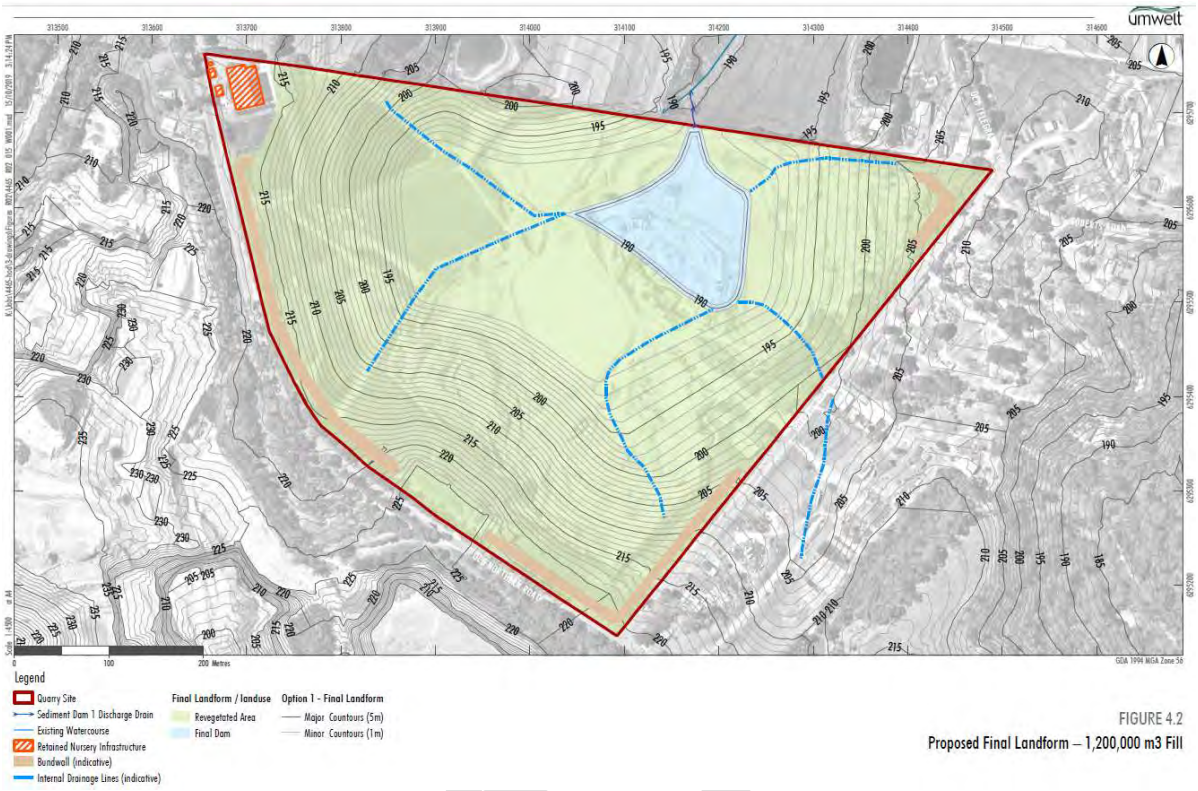

FIGURE 4.2
Proposed Final Landform – 1,200,000 m3 Fill

Final Landform Concept 1

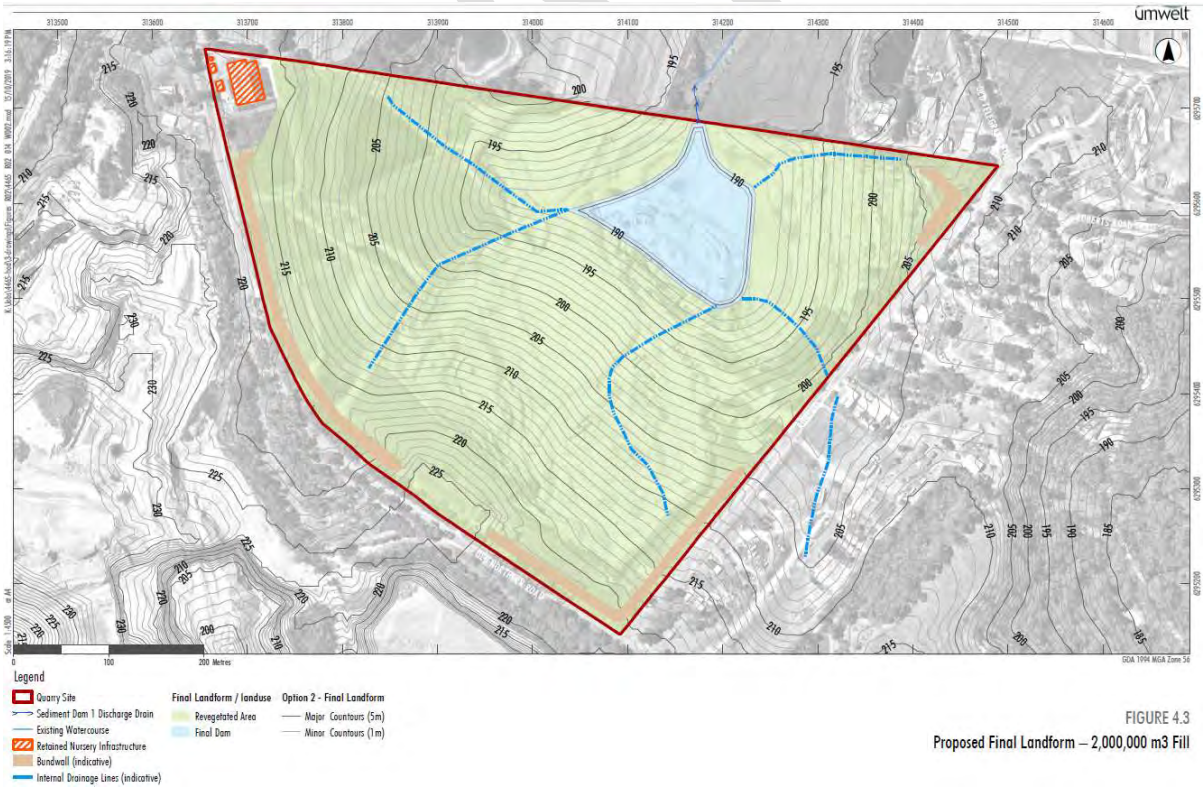

FIGURE 4.3
Proposed Final Landform – 2,000,000 m3 Fill

Final Landform Concept 2

APPENDIX 2
RECEIVER LOCATION PLAN

Appendix C Environmental Protection Licence 6535

Environment Protection Licence

Licence - 6535

Licence Details	
Number:	6535
Anniversary Date:	12-March

Licensee
HB MAROOTA PTY LTD
PO BOX 355
GLENORIE NSW 2157

Premises
HB MAROOTA PTY LTD
CNR ROBERTS & OLD NORTHERN ROADS
MAROOTA NSW 2756

Scheduled Activity
Crushing, grinding or separating
Extractive activities
Waste disposal (application to land)

Fee Based Activity	Scale
Crushing, grinding or separating	> 100000-500000 T annual processing capacity
Extractive activities	> 100000-500000 T annually extracted or processed
Waste disposal by application to land	Any capacity

Contact Us
NSW EPA
6 Parramatta Square
10 Darcy Street
PARRAMATTA NSW 2150
Phone: 131 555
Email: info@epa.nsw.gov.au
Locked Bag 5022
PARRAMATTA NSW 2124

Environment Protection Licence

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Environment Protection Licence

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Information about this licence

Dictionary

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

Responsibilities of licensee

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

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

Variation of licence conditions

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

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

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

Duration of licence

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

Licence review

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

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

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

Environment Protection Licence

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

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

Transfer of licence

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

Public register and access to monitoring data

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

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

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

This licence is issued to:

HB MAROOTA PTY LTD
PO BOX 355
GLENORIE NSW 2157

subject to the conditions which follow.

Environment Protection Licence

Licence - 6535

1 Administrative Conditions

A1 What the licence authorises and regulates

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

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

Scheduled Activity	Fee Based Activity	Scale
Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity
Extractive activities	Extractive activities	> 100000 - 500000 T annually extracted or processed
Waste disposal (application to land)	Waste disposal by application to land	Any capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
HB MAROOTA PTY LTD
CNR ROBERTS & OLD NORTHERN ROADS
MAROOTA
NSW 2756
LOT 1 DP 228308, LOT 2 DP 228308, LOT 2 DP 312327

A2.2 The premises location is shown on the map below.

Environment Protection Licence

Licence - 6535

A3 Information supplied to the EPA

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

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

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.2 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

Environment Protection Licence

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EPA identification no.	Type of monitoring point	Location description
1	Noise monitoring	100 Old telegraph Road, Maroota
2	Noise monitoring	35 Roberts Road, Maroota
3	Noise monitoring	4471 Northern Road, Maroota
4	Noise monitoring	11 Roberts Road, Maroota
5	Noise monitoring	4460 Old Northern Road, Maroota
6	Noise monitoring	59 Roberts Road, Maroota
7	Noise monitoring	45 Roberts Road, Maroota

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

L2.1 The licensee must not:
(a) receive more than 320,000 tonnes of VENM and ENM (in total) at the site in any calendar year;
(b) import more than 3 million tonnes of VENM and ENM to the site;
(c) import VENM and ENM beyond 31 May 2030.

L2.2 No other materials classified as waste under the NSW EPA's Waste Classification Guidelines 2009 (or its latest version) may be received or processed on the site, except as expressly permitted in this licence or a specific resource recovery order or exemption under the Protection of the Environment Operations (Waste) Regulation 2014.

L3 Noise limits

L3.1 Noise generated at the premises that is measured at each noise monitoring point established under this licence must not exceed the noise levels specified in Column 4 of the table below for that point during the corresponding time periods specified in Column 1 when measured using the corresponding measurement parameters listed in Column 2.

POINT 1,3,4,5,6,7

Environment Protection Licence

Time period	Measurement parameter	Measurement frequency	Noise level dB(A)
Day	LAeq (15 minute)	-	43

POINT 2

Time period	Measurement parameter	Measurement frequency	Noise level dB(A)
Day	LAeq (15 minute)	-	44

L3.2 For the purpose of condition L3.1:
a) Day means the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.

L3.3 a) The noise limits set out in Condition L3.1 apply under the meteorological conditions shown in the table below.

b) For those meteorological conditions not referred to in Condition L3.3(a), the noise limits that apply are the noise limits in Condition L3.1 plus 5dB.

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C, D and E with wind speeds up to and including 3m/s at 10m above ground level.

L3.4 For the purpose of condition L3.3:
a) The meteorological conditions are to be determined from meteorological data obtained from a meteorological weather station.
b) Stability category shall be determined using the following method from fact Sheet D of the Noise Policy for Industry (NSW EPA, 2017):
i. Pasquill-Gifford stability classification scheme (section D1.3.1).

L3.5 To assess compliance:
a) with LAeq (15 minutes) noise limits in condition L3.1, the noise measurement equipment must be located:
(i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises: or where applicable,
(ii) in an area within 30 metres of a residence facade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable,
(iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve,
(iv) at any other location identified in condition L3.1
b) with the LAeq (15 minutes) noise limits in condition L3.1, the noise measurement equipment must be located:
(i) at the reasonably most affected point at a location where there is no residence at the location; or,
(ii) at the reasonably most affected point within an area at a location prescribed by condition L3.5(a).

L3.6 A non-compliance of Condition L3.1 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L3. 5 (a) or L3.5 (b).

Notes to L3.5 and L3.6: The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.

L3.7 For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the
Noise Policy for Industry (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.

L3.8 Noise measurement must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

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

O3.2 All loaded trucks entering or leaving the premises must have their loads covered.

O4 Other operating conditions

O4.1 The licensee must prevent any tracking of mud on to public roads by vehicles leaving the premises.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

M2 Recording of pollution complaints

M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M2.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M3 Telephone complaints line

M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M3.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

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

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

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

Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

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

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

R2 Notification of environmental harm

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

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

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

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

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

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not

satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

Environment Protection Licence

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Dictionary

General Dictionary

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

Environment Protection Licence

Licence - 6535

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

Environment Protection Licence

Licence - 6535

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste
Wellhead	Has the same meaning as in Schedule 1 to the Protection of the Environment Operations (General) Regulation 2021.

Mr Nigel Sargent

Environment Protection Authority

(By Delegation)

Date of this edition: 14-June-2000

Environment Protection Licence

Licence - 6535

End Notes

1	Licence varied by change to Common Name field, issued on 15-Oct-2001, which came into effect on 15-Oct-2001.
2	Licence transferred through application 140865, approved on 29-Oct-2001, which came into effect on 24-Sep-2001.
3	Licence varied by notice 1012523, issued on 21-May-2002, which came into effect on 15-Jun-2002.
4	Licence varied by correction to EPA Sub Region data record, issued on 20-Sep-2002, which came into effect on 20-Sep-2002.
5	Licence transferred through application 141899, approved on 23-Apr-2003, which came into effect on 21-Apr-2003.
6	Licence varied by notice 1034428, issued on 13-Dec-2004, which came into effect on 07-Jan-2005.
7	Licence varied by notice 1081877, issued on 10-Mar-2008, which came into effect on 10-Mar-2008.
8	Licence varied by Change to schedule 1, issued on 07-May-2008, which came into effect on 07-May-2008.
9	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
10	Licence varied by notice 1111632, issued on 01-Apr-2010, which came into effect on 01-Apr-2010.
11	Licence varied by notice 1527501 issued on 09-Mar-2015
12	Licence varied by notice 1529566 issued on 03-Jun-2015
13	Licence varied by notice 1603067 issued on 26-Nov-2020
14	Licence varied by notice 1627580 issued on 16-Jun-2023

Appendix D Water Licence Conditions

Monitoring Bore Licences

NSW Office of Water

Sydney South Coast Region
Po Box 3720
10 Valentine Avenue
Parramatta NSW 2124
Phone: (02) 82817777

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL158808

Department of Primary Industries Office of Water

Maroota Super Fund Pty Ltd
P O Box 1778
Gosford NSW 2250

LICENSE NUMBER
10BL158808
DATE LICENSE VALID FROM
12-Nov-1998
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 47661556763 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
1//228308	Maroota	Cumberland

PT84MW1 & PT84MW5

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

COPY

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL158808 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 12-Nov-1998

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

Information about a water licence or approval

Use this tool to search for information about water licences and approvals issued under the *Water Act 1912* or *Water Management Act 2000*.

Select the type of licence or approval and enter the licence or approval number:

- **Water access licence (WAL):** a WAL number starts with the letters 'WAL' followed by several numbers; a WAL also has a reference number that starts with a two digit number, followed by 'AL' and then several numbers.
- **1912 water licence:** a water licence number starts with a two digit number, followed by a two letter code and then several numbers. Note: a PT reference number cannot be entered.
- **Approval:** an approval number starts with a two digit number, followed by a two letter code (WA, UA, CA or FW) and then several numbers.

Search for information about either a:

- ○ Water access licence (WAL) issued under the *Water Management Act 2000*
- ○ Approval issued under the *Water Management Act 2000*

Find out if a *Water Act 1912* licence has been converted

- ◉ **Water licence conversion status**

Water Licence Number 10 ▼ BL ▼ 158808

Notes:

Water Act 1912 licences and authorities are being converted to water access licences and approvals under the *Water Management Act 2000* as water sharing plans commence (see licence conversion).

If a *Water Act 1912* licence has been converted, the search results will display the water access licences and approvals that have been created. Water access licences are registered in the Water Access Licence Register administered by Land and Property Information. Those water access licences that do not display a WAL number in the search results are still to have their licence details confirmed and completed.

Due to privacy laws very little information on *Water Act 1912* licence and authorities can be made freely available. Full information for a particular licence or authority can be obtained if required for conveyancing by applying to the NSW Office of Water. See legal searches for water related interests.

«Previous Search Print Export

Search Results

The licence 10BL158808 has not been converted and is not subject to a water sharing plan.

Disclaimer: The NSW Office of Water does not warrant the data is current nor does it warrant that the data or the data capturing processes are free from corruption or error.

Privacy: The information provided is limited to meet the requirements of section 57 of the *Privacy and Personal Information Act 1998*.

Exporting and printing: Search results show a maximum of 50 rows per page. Search results can only be printed page by page.

More information: Should you require further information or technical assistance, please submit your request to water.enquiries@dpi.nsw.gov.au or contact 1800 353 104.

NSW Office of Water

Sydney South Coast Region
Po Box 3720
10 Valentine Avenue
Parramatta NSW 2124
Phone: (02) 82817777

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL605696

Department of Primary Industries Office of Water

Maroota Super Fund Pty Ltd
P O Box 1778
Gosford NSW 2250

LICENSE NUMBER
10BL605696
DATE LICENSE VALID FROM
13-Jan-2015
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 47661556763 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
1//228308	Maroota	Cumberland

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

PT84MW6

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL605696 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 13-Jan-2015

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

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(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

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ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

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(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

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End Of Conditions

Information about a water licence or approval

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- **Water access licence (WAL):** a WAL number starts with the letters 'WAL' followed by several numbers; a WAL also has a reference number that starts with a two digit number, followed by 'AL' and then several numbers.
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- ○ Water access licence (WAL) issued under the *Water Management Act 2000*
- ○ Approval issued under the *Water Management Act 2000*

Find out if a *Water Act 1912* licence has been converted

- ◉ **Water licence conversion status**

Water Licence Number 10 ▼ BL ▼ 605696

Notes:

Water Act 1912 licences and authorities are being converted to water access licences and approvals under the *Water Management Act 2000* as water sharing plans commence (see licence conversion).

If a *Water Act 1912* licence has been converted, the search results will display the water access licences and approvals that have been created. Water access licences are registered in the Water Access Licence Register administered by Land and Property Information. Those water access licences that do not display a WAL number in the search results are still to have their licence details confirmed and completed.

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«Previous Search Print Export

Search Results

The licence 10BL605696 has not been converted and is not subject to a water sharing plan.

Disclaimer: The NSW Office of Water does not warrant the data is current nor does it warrant that the data or the data capturing processes are free from corruption or error.

Privacy: The information provided is limited to meet the requirements of section 57 of the *Privacy and Personal Information Act 1998*.

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More information: Should you require further information or technical assistance, please submit your request to water.enquiries@dpi.nsw.gov.au or contact 1800 353 104.

NSW Office of Water

Sydney South Coast Region
Locked Bag 5123
Level 11, 10 Valentine Avenue
Parramatta NSW 2124
Phone: (18) 00353104

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL605795

Department of Primary Industries Office of Water

Maroota Super Fund Pty Ltd
P O Box 1778
Gosford NSW 2250

LICENSE NUMBER
10BL605795
DATE LICENSE VALID FROM
29-Aug-2016
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 72189919072 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
1//228308	Maroota	Cumberland

MW 8, 9, 13

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL605795 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 29-Aug-2016

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

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(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

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- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

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End Of Conditions

NSW Office of Water

Sydney South Coast Region
Locked Bag 5123
Level 11, 10 Valentine Avenue
Parramatta NSW 2124
Phone: (18) 00353104

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL605797

Department of Primary Industries Office of Water NSW

Hitchcock, Noelene Joyce
100 Old Telegraph Road
Maroota NSW 2756

LICENSE NUMBER
10BL605797
DATE LICENSE VALID FROM
29-Aug-2016
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 72189919072 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
B//356946	Maroota	Cumberland

MW11

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL605797 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 29-Aug-2016

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

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(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW Office of Water

Sydney South Coast Region
Locked Bag 5123
Level 11, 10 Valentine Avenue
Parramatta NSW 2124
Phone: (18) 00353104

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL605798

Department of Primary Industries Office of Water

Martin, Glin
16 Bay Rd
Arcadia NSW 2159

LICENSE NUMBER
10BL605798
DATE LICENSE VALID FROM
29-Aug-2016
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 72189919072 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
2//312327	Maroota	Cumberland

MW10

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL605798 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 29-Aug-2016

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

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- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

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End Of Conditions

NSW Office of Water

Sydney South Coast Region
Locked Bag 5123
Level 11, 10 Valentine Avenue
Parramatta NSW 2124
Phone: (18) 00353104

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL605799

Department of Primary Industries Office of Water

Martin, Leonard Stanley
16 Bay St
Arcadia NSW 2159

LICENSE NUMBER
10BL605799
DATE LICENSE VALID FROM
29-Aug-2016
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 72189919072 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
2//228308	Maroota	Cumberland

MW7, 12

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL605799 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 29-Aug-2016

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

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(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

Pumping Bore Licence

BOX 1W
(AI845103)

COPY

NEW SOUTH WALES

CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000

WAL TITLE REFERENCE	
WAL24163	
EDITION	DATE OF ISSUE
1	1/9/2014
CERTIFICATE AUTHENTICATION CODE	
MP27-QV-7HVH	

This certificate is issued under s87B of the Water Management Act, 2000.

WARNING NOTE: INFORMATION ON THIS REGISTER IS NOT GUARANTEED

TENURE TYPE: CONTINUING PT84PB1

HOLDER(S)

LEONARD STANLEY MARTIN (DW AG357440)

ENCUMBRANCES
---
1. TERM TRANSFER: NIL

ACCESS LICENCE DETAILS

CATEGORY: AQUIFER

SHARE COMPONENT:
SHARE - 45 UNITS
WATER SOURCE - MAROOTA TERTIARY SANDS GROUNDWATER SOURCE
WATER SHARING PLAN - GREATER METROPOLITAN REGION GROUNDWATER SOURCES

EXTRACTION COMPONENT:
TIMES/RATES/CIRCUMSTANCES - SUBJECT TO THE CONDITIONS OF THE WATER ACCESS LICENCE
EXTRACTION FROM - AQUIFER
EXTRACTION ZONE - WHOLE WATER SOURCE

NOMINATED WORKS:
WORK APPROVAL NUMBER(S) - 10WA114817
INTERSTATE TAGGING ZONE - NIL

CONDITIONS

LICENCE CONDITIONS FORM A PART OF THIS LICENCE AND AFFECT THE SHARE AND EXTRACTION COMPONENTS. CONDITION STATEMENTS ARE AVAILABLE FROM THE NSW OFFICE OF WATER (NOW).

NOTES

A WATER LICENCE INFORMATION SHEET IS AVAILABLE FROM THE NSW OFFICE OF WATER (NOW) AND SHOULD BE REFERRED TO IN INTERPRETING THIS LICENCE.
NOW WEBSITE WWW.WATER.NSW.GOV.AU, PHONE 1800 353 104, EMAIL INFORMATION@WATER.NSW.GOV.AU
NOW REFERENCE NUMBER: 10AL114816
PREVIOUS WATER ACT LICENCE NUMBER(S): 10PT901430, 10BL159748.

**** END OF CERTIFICATE ****

392127

Information about a water licence or approval

Use this tool to search for information about water licences and approvals issued under the *Water Act 1912* or *Water Management Act 2000*.

Select the type of licence or approval and enter the licence or approval number:

- **Water access licence (WAL):** a WAL number starts with the letters 'WAL' followed by several numbers; a WAL also has a reference number that starts with a two digit number, followed by 'AL' and then several numbers.
- **1912 water licence:** a water licence number starts with a two digit number, followed by a two letter code and then several numbers. Note: a PT reference number cannot be entered.
- **Approval:** an approval number starts with a two digit number, followed by a two letter code (WA, UA, CA or FW) and then several numbers.

Search for information about either a:

- ○ Water access licence (WAL) issued under the *Water Management Act 2000*
- ○ Approval issued under the *Water Management Act 2000*

Find out if a *Water Act 1912* licence has been converted

- ◉ **Water licence conversion status**

Water Licence Number 10 ▼ BL ▼ 159748

Notes:

Water Act 1912 licences and authorities are being converted to water access licences and approvals under the *Water Management Act 2000* as water sharing plans commence (see licence conversion).

If a *Water Act 1912* licence has been converted, the search results will display the water access licences and approvals that have been created. Water access licences are registered in the Water Access Licence Register administered by Land and Property Information. Those water access licences that do not display a WAL number in the search results are still to have their licence details confirmed and completed.

Due to privacy laws very little information on *Water Act 1912* licence and authorities can be made freely available. Full information for a particular licence or authority can be obtained if required for conveyancing by applying to the NSW Office of Water. See legal searches for water related interests.

«Previous Search Print Export

Search Results

Access licenses created for '10BL159748'

WAL No.	Water Source	Status
24163	Maroota Tertiary Sands Groundwater Source	Current

Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)
Aquifer	Current	Maroota Tertiary Sands Groundwater Source	Continuing		45.00

Extraction Times or Rates

Subject to conditions water may be taken at any time or rate

Nominated Work Approval(s)

10WA114817

- Conditions

Plan Conditions

Water sharing plan	Greater Metropolitan Region Groundwater Sources
	Take of water
MW0929-00001	From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then: A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river. B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website. C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.
MW0604-00001	Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.
MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.
MW0603-00001	The total volume of water taken under this access licence in any water year must not exceed a volume equal to: A. the sum of water in the account from the available water determination for the current year, plus B. the net amount of water assigned to or from the account under a water allocation assignment, plus C. any water re-credited by the Minister to the account.
	Monitoring and recording
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.
MW2336-00001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.

MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.
MW0606-00001	The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.

Reporting

MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

Approvals created for '10BL159748'

Approval No.	Water Source	Status
10WA114817	Maroota Tertiary Sands Groundwater Source	Current

Kind of Approval	Issue Date	Expiry Date	Approval Number	Status	Water Source
Water Supply Works	01-JUL-2011	14-JUN-2025	10WA114817	Current	Maroota Tertiary Sands Groundwater Source

Work Type	Description	No of Works	Location (Lot/DP)
Extraction Works Gw	Bore	1	Lot 1, DP 228308

Water Access Licences nominating these works

Reference Number	WAL Number
10AL114816	24163

- Conditions

Plan Conditions

Water sharing plan	Greater Metropolitan Region Groundwater Sources

Take of water

MW0655-00001 Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.

Water management works

MW0097-00001 If contaminated water is found above the production aquifer during the construction of the water supply work authorised by this approval, the licensed driller must:
A. notify DPI Water in writing within 48 hours of becoming aware of the contaminated water, and
B. adhere to the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time.

MW0487-00001 The water supply work authorised by this approval must be constructed within three (3) years from the date this approval is granted.

MW0044-00001 When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.

The work is to be decommissioned, unless the approval holder receives notice from the Minister not to do so.

When decommissioning the work the approval holder must:
A. comply with the minimum requirements for decommissioning bores prescribed in the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time, and
B. notify DPI Water in writing within sixty (60) days of decommissioning that the work has been decommissioned.

Monitoring and recording

MW0481-00001 A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.

MW0482-00001 Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.

Reporting

MW0051-00001 Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by:
A. email: water.enquiries@dpi.nsw.gov.au,
or
B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

MK0485-00001 Within sixty (60) days of completing construction of the water supply work authorised by this approval, the approval holder must provide a completed Form A for that work to DPI Water.

Other Conditions

Take of water

DK0316-00128 The approval holder must not take water from the approved work at a rate that exceeds 3.0 L/second.

Water management works

DK1363-00001	The approval holder must not construct or install works used for the purpose of conveying, distributing or storing water from the works authorised by this approval, that obstruct the reasonable passage of floodwaters flowing in, to, or from a river or lake.
DK1202-00001	The approval holder must allow DPI Water or any person authorised by it, full and free access to the approved works, either during or after construction, for the purpose of carrying out inspection or test of the approved works and its fittings and must carry out any work or alterations deemed necessary by the department for the protection or proper maintenance of the approved works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.

Land to which the converted entitlement previously related.

Lot/DP	Description
Lot 1, DP 228308	Work Location
Lot 1, DP 228308	Land Benefited
Lot 2, DP 228308	Land Benefited
Lot 2, DP 312327	Land Benefited

Disclaimer: The NSW Office of Water does not warrant the data is current nor does it warrant that the data or the data capturing processes are free from corruption or error.

Privacy: The information provided is limited to meet the requirements of section 57 of the *Privacy and Personal Information Act 1998*.

Exporting and printing: Search results show a maximum of 50 rows per page. Search results can only be printed page by page.

More information: Should you require further information or technical assistance, please submit your request to water.enquiries@dpi.nsw.gov.au or contact 1800 353 104.

Dam Licences

Information about a water licence or approval

Use this tool to search for information about water licences and approvals issued under the Water Act 1912 or Water Management Act 2000.

Select the type of licence or approval and enter the licence or approval number:

- Water access licence (WAL): a WAL number starts with the letters 'WAL' followed by several numbers; a WAL also has a reference number that starts with a two digit number, followed by 'AL' and then several numbers.
- 1912 water licence: a water licence number starts with a two digit number, followed by a two letter code and then several numbers. Note: a PT reference number cannot be entered.
- Approval: an approval number starts with a two digit number, followed by a two letter code (WA, UA, CA or FW) and then several numbers.

Search for information about either a:

(•) Water access licence (WAL) issu ed under the Water Management Act 2000

Water Access Licence (WAL) Number WAL 26163

A WAL number starts with the letters 'WAL' followed by several numbers

Can't find your WAL number? Do you have a reference number? A reference number starts with a two digit number, followed by 'AL' and then several numbers. Use the following tool to find your WAL by entering your reference number. Enter the reference number to find the WAL number.

Notes:

The search results will list the conditions imposed on the water access licence. Any approved water supply work/s nominated on the water access licence are identified by the approval number/s for the work/s.

The information about a water access licence provided in the search results is a summary and may not always be up to date. If you require full and up to date details about a particular water access licence (including current holders, share and extraction component details, encumbrances and notations) you should search the Water Access Licence Register administered by Land and Property Information.

( ) Water Act 1912 Licences and Authorities

( ) Approval issued under the Water Management Act 2000

Find out if a Water Act 1912 licence has been converted

( ) Water licence conversion status

« Previous Search Print Export

Search Results

Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)

Unregulated River	Current	Hawkesbury And Lower Nepean Rivers Water Source	Continuing	Lower Hawkesbury River Management Zone	264.00

Extraction Times or Rates

Subject to conditions water may be taken at any time or rate

Nominated Work Approval(s)

10CA104888

- Conditions

Plan Conditions

Water sharing plan	Greater Metropolitan Region Unregulated River Water Sources
	Take of water
MW0112-00001	The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is: A. a volume equal to 100 % of the share component of the licence, or B. 1 ML/unit share of the share component of the licence.
MW0036-00002	The volume of water taken in any three (3) consecutive water years from 1 July 2012 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.
MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.
MW0670-00001	Water must only be taken if there is visible flow in the water source at the location where water is to be taken. This restriction does not apply if water is to be taken: A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.
MW0013-00002	A. Water must not be taken from the Lower Hawkesbury River Management Zone of Hawkesbury and Lower Nepean Rivers Water Source when flows are in the Very Low Flow Class. B. This restriction will only apply when the system that confirms when water can be taken is available on the relevant licensor website. C. the relevant licensor will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative. This restriction does not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.
MW0004-00002	From 1 July 2012, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or

	B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the second year in those 3 consecutive water years, plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.
	Monitoring and recording
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.
	Reporting
MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

Department of Primary Industries Water

Statement of Approval

Water Management Act 2000

Approval details

Approval number	10CA104888
Status	CURRENT*
Approval kind	Water Supply Works Water Use
Water sharing plan	GREATER METROPOLITAN REGION UNREGULATED RIVER WATER SOURCES
Date of effect	01/Jul/2011
Expiry date	16/Feb/2026
Approval holder(s)	Schedule 1
Water supply works	Schedule 2
Water use	Schedule 3
Conditions	Schedule 4

Contact for service of documents

Name	Martin, Leonard Stanley
Address	16 Bay Rd ARCADIA NSW 2159

* **Note: An approval has effect for such period as is specified in the approval, or if the period is extended under section 105, that extended period. If an application for extension of an approval is lodged before the approval expires, the term of the expiring approval is extended until either the date of the final decision on the application, or a date fixed by the Minister for the approval, whichever is the later date. An approval which has expired can be the subject of an application to extend it but it needs to be accompanied by a statutory declaration of the reasons for the delay in making the application. If the Minister accepts these reasons the term of the approval is taken to have been extended, and the application may be dealt with, as if the application had been made before the approval expired.**

  It is an offence under the Water Management Act 2000 to breach a term or condition of the approval or to construct and use works to which the approval does not relate. It is also an offence to use works the subject of an approval if the approval has expired, been surrendered or cancelled.

Schedule 1 - Approval holders

The holders of this approval are:

Approval holder(s)	ACN (if applicable)
Leonard Stanley Martin	
Maroota Super Fund Pty Ltd	

Important notice - change of landholder or contact

Please advise the Office in the event of any of the following, as soon as practicable:

- If there is a change in the ownership or occupation of the land benefited by this approval (see Schedule 2). Under the Water Management Act 2000, an approval is typically held by the owner or lawful occupier of the benefited land. Consequently, a change in occupation may cause a change in your legal obligations as an approval holder.*
- If there is a change to the contact person. You will be required to lodge a written statement signed by all the holders.*
- If there is a change to the mailing address for the nominated contact person. This should be done by the contact person in writing.

** An updated Statement of Approval will be issued free of charge*

Schedule 2 - Water supply works

Part A: Authorised water supply works

Subject to the conditions of this approval, in relation to each numbered work in the table, the holders of this approval are authorised to construct and use a water supply work of the type shown at the location specified:

Work 1

Specified work	BYWASH DAM x 2
Specified location	2//228308 Whole Lot
Management zone (if applicable)	LOWER HAWKESBURY RIVER MANAGEMENT ZONE
Water source	HAWKESBURY AND LOWER NEPEAN RIVERS WATER SOURCE
Water sharing plan	GREATER METROPOLITAN REGION UNREGULATED RIVER WATER SOURCES

Work 2

Specified work	65MM CENTRIFUGAL PUMP x 2
Specified location	2//228308 Whole Lot
Management zone (if applicable)	LOWER HAWKESBURY RIVER MANAGEMENT ZONE
Water source	HAWKESBURY AND LOWER NEPEAN RIVERS WATER SOURCE
Water sharing plan	GREATER METROPOLITAN REGION UNREGULATED RIVER WATER SOURCES

Schedule 3 - Water Use

Subject to the conditions of this approval, the holder(s) of this approval is authorised to use water for the following purpose(s) and location(s):

Purpose 1

Specified purpose IRRIGATION

Specified location
1//228308
2//228308

Schedule 4 - Conditions

The approval is subject to the following conditions:

Plan conditions

Water sharing plan ***Greater Metropolitan Region Unregulated River Water Sources***

Take of water

MW0655-00001 Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.

Water management works

MW0491-00001 When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.

The work is to be decommissioned, unless the approval holder receives notice from the Minister not to do so.

Within sixty (60) days of decommissioning, the approval holder must notify DPI Water in writing that the work has been decommissioned.

Monitoring and recording

MW0481-00001 A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.

MW2338-00001 The completed logbook must be retained for five (5) years from the last date recorded in the logbook.

MW0482-00001 Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.

Reporting

MW0051-00001 Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by:
A. email: water.enquiries@dpi.nsw.gov.au,
or
B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other conditions

Water management works

DS2349-00001 The approval holder must make all reasonable efforts not to allow any used water to discharge, by any means including surface or subsurface drains or pipes, into or onto:
- any adjoining public or crown road;
- any other person's land;
- any Crown land;
- any river, creek or watercourse or aquifer.

DK0888-00001 Any water supply work authorised by this approval used for the purpose of conveying, diverting or storing water must be constructed or installed to allow free passage of floodwaters flowing into or from a river or lake.

DK0871-00001 The water supply work authorised by this approval must be constructed and maintained in a way that will:
A. ensure the work's safe construction and operation, and
B. prevent the possibility of damage being caused by the work, or resulting from the work, to any public or private interest.

DK0878-00001 A. The construction, installation or use of the water supply work authorised by this approval must not cause or increase erosion to the channel or bank of the watercourse.
B. If erosion is observed, the area must be stabilised with grass cover, stone pitching or any other material that will prevent any further occurrence of erosion.

DK1217-00001 The location of the dam(s) as shown on a plan retained in the office of DPI Water shall not be altered.

DK0261-00571 When a flow is entering the storage of the dam, the pipe must be operated so as to maintain a flow in the watercourse downstream of the said dam equivalent to the flow entering the storage of the dam for the time being or the capacity of the said pipe, whichever is the lesser.

DK0243-00224 When a flow is entering the storage of the dam the pipe shall be so operated as to maintain a flow in the watercourse downstream of the said dam equivalent to the flow entering the storage of the dam for the time being or the capacity of the said pipe, which ever is the lesser.

Additional conditions

NS17761 The level of the crest of the bywash of the upstream dam on the Unnamed Watercourse shall be fixed at not higher than 6.90 m above the level of a bench mark established on a concrete weir below the upstream dam of the watercourse near the work and particulars of which are retained in the office of DPI Water.

NS17762 A pipe with a diameter of not less than 50 mm, fitted with a stop valve or other control device, shall be constructed through the dam to the satisfaction of DPI Water. The level of the invert of the said pipe shall be fixed at not higher than 0.05 m above the level of the established benchmark or, alternatively the licensee shall provide a 50 mm diameter pipe siphon or other approved device, for passing flows through the storage of the dam.

NS17763 The level of the crest of the bywash of the downstream dam on the unnamed watercourse shall be fixed at not higher than 0.88 m below the level of a bench mark established on the bank of the watercourse near the work and particulars of which are retained in the office of DPI Water.

NS17764 (a) a concrete rock weir shall be constructed on the unnamed watercourse upstream of the dam to the satisfaction of DPI Water. The level of the crest of the said weir shall be fixed at no lower than the level of the established benchmark.

(b) the holder of the license shall install a bypass channel or pipeline with a diameter of not less than 150 mm to the satisfaction of DPI Water in respect of location, type and construction, so as to pass flows from the weir above into the unnamed watercourse downstream from the dam.

(c) the holder of the license shall install through the weir two 150 mm diameter pipes to the satisfaction of DPI Water. One of the said pipes shall discharge into the diversion channel or pipeline and the other shall discharge into the course of the unnamed watercourse upstream of the dam.

Glossary

cease to take - Cease to take conditions means any condition on this approval, or on the access licence under which water is proposed to be taken, that prohibits the taking of water in a particular circumstance.

logbook - A logbook is a document, electronic or hard copy, that records specific required information.

metered water supply work - A metered water supply work is a water supply work fitted with a data logger and a water meter that complies with Australian Standard AS 4747: Meters for non-urban water supply.

water meter - A water meter is a device that measures the volume of water that is extracted over a known period of time. Examples of a water meter may include a mechanical meter, electromagnetic meter, channel meter with mobile phone, or an authorised meter equivalent.

General Notes

All conditions on an approval require compliance. An appeal to the Land and Environment Court against a decision to impose certain conditions on an approval can be made within 28 days after the date the decision is made. Conditions identified with the first letter "**D**" are those that can be appealed during the appeal period.

The words in this approval have the same meaning as in the *Water Management Act 2000*

Note: The words in this approval have the same meaning as in the WMA

END OF STATEMENT

Nursery Bore Licence

BOX 1W
(AI845103)

NEW SOUTH WALES

CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000

WAL TITLE REFERENCE	
WAL24157	
EDITION	DATE OF ISSUE
1	1/9/2014
CERTIFICATE AUTHENTICATION CODE	
24DC-MV-FR4X	

This certificate is issued under s87B of the Water Management Act, 2000.

ANY ATTEMPT TO ALTER THIS CERTIFICATE COULD RESULT IN HEAVY FINES OR IMPRISONMENT (S.141 REAL PROPERTY ACT).

WARNING NOTE: INFORMATION ON THIS REGISTER IS NOT GUARANTEED

TENURE TYPE: CONTINUING

HOLDER(S)

LEONARD STANLEY MARTIN (DW AG357440)

ENCUMBRANCES
---
1. TERM TRANSFER: NIL

ACCESS LICENCE DETAILS

CATEGORY: AQUIFER

SHARE COMPONENT:
SHARE - 6 UNITS
WATER SOURCE - MAROOTA TERTIARY SANDS GROUNDWATER SOURCE
WATER SHARING PLAN - GREATER METROPOLITAN REGION GROUNDWATER SOURCES

EXTRACTION COMPONENT:
TIMES/RATES/CIRCUMSTANCES - SUBJECT TO THE CONDITIONS OF THE WATER ACCESS LICENCE
EXTRACTION FROM - AQUIFER
EXTRACTION ZONE - WHOLE WATER SOURCE

NOMINATED WORKS:
WORK APPROVAL NUMBER(S) - 10CA114819
INTERSTATE TAGGING ZONE - NIL

CONDITIONS

LICENCE CONDITIONS FORM A PART OF THIS LICENCE AND AFFECT THE SHARE AND EXTRACTION COMPONENTS. CONDITION STATEMENTS ARE AVAILABLE FROM THE NSW OFFICE OF WATER (NOW).

NOTES

A WATER LICENCE INFORMATION SHEET IS AVAILABLE FROM THE NSW OFFICE OF WATER (NOW) AND SHOULD BE REFERRED TO IN INTERPRETING THIS LICENCE.
NOW WEBSITE WWW.WATER.NSW.GOV.AU, PHONE 1800 353 104, EMAIL INFORMATION@WATER.NSW.GOV.AU
NOW REFERENCE NUMBER: 10AL114818
PREVIOUS WATER ACT LICENCE NUMBER(S): 10PT901431, 10BL157595.

**** END OF CERTIFICATE ****

Information about a water licence or approval

Use this tool to search for information about water licences and approvals issued under the Water Act 1912 or Water Management Act 2000.

Select the type of licence or approval and enter the licence or approval number:

- Water access licence (WAL): a WAL number starts with the letters 'WAL' followed by several numbers; a WAL also has a reference number that starts with a two digit number, followed by 'AL' and then several numbers.
- 1912 water licence: a water licence number starts with a two digit number, followed by a two letter code and then several numbers. Note: a PT reference number cannot be entered.
- Approval: an approval number starts with a two digit number, followed by a two letter code (WA, UA, CA or FW) and then several numbers.

Search for information about either a:

- ○ Water access licence (WAL) issued under the Water Management Act 2000
- ○ Approval issued under the Water Management Act 2000

Find out if a Water Act 1912 licence has been converted

- ◉ Water licence conversion status

Water Licence Number [10 ▼] [BL ▼] [157595]

Notes:

Water Act 1912 licences and authorities are being converted to water access licences and approvals under the Water Management Act 2000 as water sharing plans commence (see licence conversion).

If a Water Act 1912 licence has been converted, the search results will display the water access licences and approvals that have been created. Water access licences are registered in the Water Access Licence Register administered by Land and Property Information. Those water access licences that do not display a WAL number in the search results are still to have their licence details confirmed and completed.

Due to privacy laws very little information on Water Act 1912 licence and authorities can be made freely available. Full information for a particular licence or authority can be obtained if required for conveyancing by applying to the NSW Office of Water. See legal searches for water related interests.

« Previous Search Print Export

Search Results

Access licenses created for '10BL157595'

WAL No.	Water Source	Status
24157	Maroota Tertiary Sands Groundwater Source	Current

Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)
Aquifer	Current	Maroota Tertiary Sands Groundwater Source	Continuing		6.00

Extraction Times or Rates

Subject to conditions water may be taken at any time or rate

Nominated Work Approval(s)

10CA114819

- Conditions

Plan Conditions

Water sharing plan: Greater Metropolitan Region Groundwater Sources

Take of water

MW0929-00001 From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then:
A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river.
B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website.
C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.

MW0604-00001 Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.

MW0605-00001 Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.

MW0603-00001 The total volume of water taken under this access licence in any water year must not exceed a volume equal to:
A. the sum of water in the account from the available water determination for the current year, plus
B. the net amount of water assigned to or from the account under a water allocation assignment, plus
C. any water re-credited by the Minister to the account.

Monitoring and recording

MW2338-00001 The completed logbook must be retained for five (5) years from the last date recorded in the logbook.

MW2336-00001 The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.

MW0606-00001	The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.

Reporting

MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

Approvals created for '10BL157595'

Approval No.	Water Source	Status
10CA114819	Maroota Tertiary Sands Groundwater Source	Current

Kind of Approval	Issue Date	Expiry Date	Approval Number	Status	Water Source
Water Supply Works And Water Use	01-JUL-2011	14-JUN-2025	10CA114819	Current	Maroota Tertiary Sands Groundwater Source

Work Type	Description	No of Works	Location (Lot/DP)
Extraction Works Gw	Bore	1	Lot 2, DP 228308

Use Purpose(s)	Location(s)
Industrial	Lot 2, DP 228308
Irrigation	Lot 2, DP 228308

Water Access Licences nominating these works

Reference Number	WAL Number
10AL114818	24157

- Conditions

Plan Conditions

Water sharing plan	Greater Metropolitan Region Groundwater Sources

Take of water

MW0655-00001	Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.

Water management works

MW0097-00001	If contaminated water is found above the production aquifer during the construction of the water supply work authorised by this approval, the licensed driller must: A. notify DPI Water in writing within 48 hours of becoming aware of the contaminated water, and B. adhere to the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time.
MW0487-00001	The water supply work authorised by this approval must be constructed within three (3) years from the date this approval is granted.
MW0044-00001	When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned. The work is to be decommissioned, unless the approval holder receives notice from the Minister not to do so. When decommissioning the work the approval holder must: A. comply with the minimum requirements for decommissioning bores prescribed in the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time, and B. notify DPI Water in writing within sixty (60) days of decommissioning that the work has been decommissioned.

Monitoring and recording

MW0481-00001	A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.
MW0482-00001	Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.

Reporting

MW0051-00001	Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.
MK0485-00001	Within sixty (60) days of completing construction of the water supply work authorised by this approval, the approval holder must provide a completed Form A for that work to DPI Water.

Other Conditions

Water management works

DK1363-00001	The approval holder must not construct or install works used for the purpose of conveying, distributing or storing water from the works authorised by this approval, that obstruct the reasonable passage of floodwaters flowing in, to, or from a river or lake.
DK1202-00001	The approval holder must allow DPI Water or any person authorised by it, full and free access to the approved works, either during or after construction, for the purpose of carrying out inspection or test of the approved works and its fittings and must carry out any work or alterations deemed necessary by the department for the protection or proper maintenance of the approved works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.

Land to which the converted entitlement previously related.

Lot/DP	Description
Lot 2, DP 228308	Work Location
Lot 2, DP 228308	Land Benefited

Disclaimer: The NSW Office of Water does not warrant the data is current nor does it warrant that the data or the data capturing processes are free from corruption or error.

Privacy: The information provided is limited to meet the requirements of section 57 of the Privacy and Personal Information Act 1998.

Exporting and printing: Search results show a maximum of 50 rows per page. Search results can only be printed page by page.

More information: Should you require further information or technical assistance, please submit your request to water.enquiries@dpi.nsw.gov.au or contact 1800 353 104.

Appendix E VENM / ENM Certificates

Created: 3/05/2023 11:38 AM

Hodgson Quarry Products Pty Ltd
PO BOX 355
GLENORIE NSW 2157
Office Phone : 02 4372 1649 - Fax : 02 4372
ABN: 19 098 975 047
Email: info@hodgsonquarryproducts.com.au

Activity Slip [Employee Detail]

April 2023

Date Activity	Job No.	Units Notes	Hours
Outside Materials Outsourced	***None**		
Down Under Demolition & Excavations Pty Ltd			
28/04/2023 VEMN - OUTSOURCED MATERIALS SEE ATTACHED		25.02 02058	25.02
Down Under Demolition & Excavations Pty Ltd Total:			25.02
Road & Rail Excavations Pty Ltd			
11/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	28.68 02051 RNR119	28.68
11/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	28.22 02052 RNR119	28.22
12/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	30.34 02053 RNR119	30.34
12/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	29.50 02054 RNR119	29.50
17/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	31.76 02055 RNR119	31.76
17/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	29.80 02056 RNR119	29.80
27/04/2023 EMN - OUTSOURCED MATERIALS	RNR119	28.40 02057 RNR119	28.40
Road & Rail Excavations Pty Ltd Total:			206.70
Outside Materials Outsourced Total:			231.72
Grand Total:			231.72

REFER RG399-WAC-1-3 / 80 + 5000 T = 5762
-1-2 / 100 + 1000 T = 207 -
5955

Rapid Geo

P: 0403 145 566
E: info@rapidgeo.com.au
W: www.rapidgeo.com.au
A: PO Box 531 Milsons Point, NSW 1565

Road and Rail Excavations Pty Ltd
2/17 Mount Erin Road,
Campbelltown NSW 2560

19 January 2023

WASTE CLASSIFICATION REPORT

Summary of waste classification report

Report Number	RG399-WAC-1-3
Project Name	Electrical Cable Installation Project
Site Storage Address	19a Grand Avenue, Camelia 2142
Site Source Address	Alfred St North, Neutral Bay NSW 2089
Classified Waste	SP1 - with approximately 80 tonnes
Waste Matrix and Description	SP1 – Mix of Crushed Sandstone and Sand, orange / red, dry, loose.
Sample IDs	SP1-1 to SP1-3 (3 soil samples in total)
Waste Classification	***Excavated Natural Material (VENM)***

1. INTRODUCTION

Road and Rail Excavations Pty Ltd (the client) has requested Rapid Geo Pty Ltd (Rapid Geo) to assess one (1) stockpiled soil materials (SP1) excavated as part of the Electrical Cable Installation Project, located in a section of Alfred St North, Neutral Bay NSW 2089. The stockpiled soil materials SP1 is currently stored at 19a Grand Avenue, Camelia 2142 (refer to **Project Figures**, **Attachment 1).**

The objective of this investigation was to assess contamination characteristics of soil materials (as observed during fieldwork activities) to facilitate offsite disposal. The scope of works proposed and completed by Rapid Geo included:

- Visual inspection of the stockpiled soil materials (SP1) and targeted test pits.
- Soil sample collection, as per sampling density provided in the EPA NSW *Excavated Natural Order* (2014), for waste classification purposes.
- Submission of soil samples for analysis to determine contaminants of potential concern at a NATA accredited laboratory.
- Evaluation of analyte concentrations in accordance with assessment criteria outlined in the relevant guideline for off-site disposal.
- Preparation of waste classification report detailing the observations of the site inspection, results of analysis undertaken and classification of the soil materials.

The following investigation/classification has been undertaken with reference to the relevant sections of the NSW EPA *Excavated Natural Materials Order* (2014).

Rapid Geo

P: 0403 145 566
E: info@rapidgeo.com.au
W: www.rapidgeo.com.au
A: PO Box 531 Milsons Point, NSW 1565

Road and Rail Excavations Pty Ltd
2/17 Mount Erin Road,
Campbelltown NSW 2560

18 January 2023

WASTE CLASSIFICATION REPORT

Summary of waste classification report

Report Number	RG399-WAC-1-2
Project Name	Electrical Cable Installation Project
Site Storage Address	19a Grand Avenue, Camelia 2142
Site Source Address	(TPS) 2 Factory Street North Paramatta NSW 2151
Classified Waste	SP1 - with approximately 100 tonnes
Waste Matrix and Description	SP1 – Mix of Crushed Sandstone and Sand, orange / red, dry, loose.
Sample IDs	SP1-1 to SP1-3 (3 soil samples in total)
Waste Classification	***Excavated Natural Material (ENM)***

1. INTRODUCTION

Road and Rail Excavations Pty Ltd (the client) has requested Rapid Geo Pty Ltd (Rapid Geo) to assess one (1) stockpiled soil materials (SP1) excavated as part of the Electrical Cable Installation Project, located at 2 Factory Street North Paramatta NSW 2151. The stockpiled soil materials SP1 is currently stored at 19a Grand Avenue, Camelia 2142 (refer to **Project Figures, Attachment 1).**

The objective of this investigation was to assess contamination characteristics of soil materials (as observed during fieldwork activities) to facilitate offsite disposal. The scope of works proposed and completed by Rapid Geo included:

- Visual inspection of the stockpiled soil materials (SP1) and targeted test pits.
- Soil sample collection, as per sampling density provided in the EPA NSW *Excavated Natural Order* (2014), for waste classification purposes.
- Submission of soil samples for analysis to determine contaminants of potential concern at a NATA accredited laboratory.
- Evaluation of analyte concentrations in accordance with assessment criteria outlined in the relevant guideline for off-site disposal.
- Preparation of waste classification report detailing the observations of the site inspection, results of analysis undertaken and classification of the soil materials.

The following investigation/classification has been undertaken with reference to the relevant sections of the NSW EPA *Excavated Natural Materials Order* (2014) and the 'Acid Sulfate Soils Assessment Guidelines' (NSW Acid Sulfate Soils Management Advisory Committee, 1998).

Rapid Geo

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Road and Rail Excavations Pty Ltd
2/17 Mount Erin Road,
Campbelltown NSW 2560

18 January 2023

WASTE CLASSIFICATION REPORT

Summary of waste classification report

Report Number	RG399-WAC-1-2
Project Name	Electrical Cable Installation Project
Site Storage Address	19a Grand Avenue, Camelia 2142
Site Source Address	(TPS) 2 Factory Street North Paramatta NSW 2151
Classified Waste	SP1 - with approximately 1,000 tonnes
Waste Matrix and Description	SP1 – Mix of Crushed Sandstone and Sand, orange / red, dry, loose.
Sample IDs	SP1-1 to SP1-3 (3 soil samples in total)
Waste Classification	***Excavated Natural Material (ENM)***

1. INTRODUCTION

Road and Rail Excavations Pty Ltd (the client) has requested Rapid Geo Pty Ltd (Rapid Geo) to assess one (1) stockpiled soil materials (SP1) excavated as part of the Electrical Cable Installation Project, located at 2 Factory Street North Paramatta NSW 2151. The stockpiled soil materials SP1 is currently stored at 19a Grand Avenue, Camelia 2142 (refer to **Project Figures, Attachment 1).**

The objective of this investigation was to assess contamination characteristics of soil materials (as observed during fieldwork activities) to facilitate offsite disposal. The scope of works proposed and completed by Rapid Geo included:

- Visual inspection of the stockpiled soil materials (SP1) and targeted test pits.
- Soil sample collection, as per sampling density provided in the EPA NSW *Excavated Natural Order* (2014), for waste classification purposes.
- Submission of soil samples for analysis to determine contaminants of potential concern at a NATA accredited laboratory.
- Evaluation of analyte concentrations in accordance with assessment criteria outlined in the relevant guideline for off-site disposal.
- Preparation of waste classification report detailing the observations of the site inspection, results of analysis undertaken and classification of the soil materials.

The following investigation/classification has been undertaken with reference to the relevant sections of the NSW EPA *Excavated Natural Materials Order* (2014) and the 'Acid Sulfate Soils Assessment Guidelines' (NSW Acid Sulfate Soils Management Advisory Committee, 1998).

Rapid Geo

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Road and Rail Excavations Pty Ltd
2/17 Mount Erin Road,
Campbelltown NSW 2560

19 January 2023

WASTE CLASSIFICATION REPORT

Summary of waste classification report

Report Number	RG399-WAC-1-3
Project Name	Electrical Cable Installation Project
Site Storage Address	19a Grand Avenue, Camelia 2142
Site Source Address	Alfred St North, Neutral Bay NSW 2089
Classified Waste	SP1 - with approximately 5,000 tonnes
Waste Matrix and Description	SP1 – Mix of Crushed Sandstone and Sand, orange / red, dry, loose.
Sample IDs	SP1-1 to SP1-3 (3 soil samples in total)
Waste Classification	***Excavated Natural Material (VENM)***

1. INTRODUCTION

Road and Rail Excavations Pty Ltd (the client) has requested Rapid Geo Pty Ltd (Rapid Geo) to assess one (1) stockpiled soil materials (SP1) excavated as part of the Electrical Cable Installation Project, located in a section of Alfred St North, Neutral Bay NSW 2089. The stockpiled soil materials SP1 is currently stored at 19a Grand Avenue, Camelia 2142 (refer to **Project Figures, Attachment 1).**

The objective of this investigation was to assess contamination characteristics of soil materials (as observed during fieldwork activities) to facilitate offsite disposal. The scope of works proposed and completed by Rapid Geo included:

- Visual inspection of the stockpiled soil materials (SP1) and targeted test pits.
- Soil sample collection, as per sampling density provided in the EPA NSW *Excavated Natural Order* (2014), for waste classification purposes.
- Submission of soil samples for analysis to determine contaminants of potential concern at a NATA accredited laboratory.
- Evaluation of analyte concentrations in accordance with assessment criteria outlined in the relevant guideline for off-site disposal.
- Preparation of waste classification report detailing the observations of the site inspection, results of analysis undertaken and classification of the soil materials.

The following investigation/classification has been undertaken with reference to the relevant sections of the NSW EPA *Excavated Natural Materials Order* (2014).

Certification:
Virgin excavated natural material

NSW EPA

1. I *[full name]* Geoff Webb Excavations
of *[organisation and address]* East Kurrajong

certify that the waste as set out in section 2 of this notice is Virgin Excavated Natural Material (VENM) as defined in Schedule 1 of the *Protection of the Environment Operations Act 1997*.

This certification is made on behalf of the waste generator *[fill out if applicable]*

being *[full name]*

of *[organisation and address]* Dawnunder Demolition P/L

2. The waste was generated at:
Street address: 34 Cudgeon St Belgowlah Heights 2058 25-02

Title reference (Lot/DP, etc.):

The amount of waste (by volume or weight) is:

3. I have made the determination that the waste is VENM because:

- [x] I have assessed the historical and current land use of the site at which the waste was generated.
- [x] The waste is not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities.
- [x] The waste does not contain any sulfidic ores or soils.
- [x] The waste does not contain any other waste.
- [x] The waste does not contain asbestos in any form.

Note: that all sections of this form must be completed including all boxes checked in Section 3 above and signed below for any material to be certified as VENM.

Signature(s) .....

Name(s) (printed)

Date 28/4/23

Warning: There are significant penalties under s.144AA of the *Protection of the Environment Operations Act 1997* for a person who supplies (whether knowingly or not) information that is false or misleading in a material respect about waste.

Hodgson Quarry Products Pty Ltd
PO BOX 355
GLENORIE NSW 2157
Office Phone : 02 4372 1649 - Fax : 02 4372 1569

Activity Log - Detail

January 2023 To December 2023

VENM & EMN Loads

Date	Activity	Units	Notes
16/01/2023	EMN - LOADS NET TONNAGE	31.3	02010 RNR119
16/01/2023	EMN - LOADS NET TONNAGE	32.64	02011 RNR119
19/01/2023	VEMN - LOADS NET TONNAGE	28.9	02012 RNR119
2/02/2023	VEMN - LOADS NET TONNAGE	29.9	02013 RNR119
2/02/2023	VEMN - LOADS NET TONNAGE	30.2	02014 RNR119
3/02/2023	VEMN - LOADS NET TONNAGE	31	02015 RNR119
3/02/2023	VEMN - LOADS NET TONNAGE	29.8	02016 RNR119
6/02/2023	VEMN - LOADS NET TONNAGE	28.6	02017 RNR119
7/02/2023	VEMN - LOADS NET TONNAGE	29.06	02018 RNR119
16/02/2023	VEMN - LOADS NET TONNAGE	26.3	02019 RNR119 (YRD13)
16/02/2023	VEMN - LOADS NET TONNAGE	31.1	02020 RNR119 (YRD13)
16/02/2023	VEMN - LOADS NET TONNAGE	26.64	02021 RNR119 (YRD13)
20/02/2023	VEMN - LOADS NET TONNAGE	29.04	02022 RNR119
20/02/2023	VEMN - LOADS NET TONNAGE	28.54	02023 RNR119
21/02/2023	VEMN - LOADS NET TONNAGE	30.56	02024 RNR119
21/02/2023	VEMN - LOADS NET TONNAGE	28.08	02025 RNR119
21/02/2023	VEMN - LOADS NET TONNAGE	28.86	02026 RNR119
28/02/2023	VEMN - LOADS NET TONNAGE	29.18	02027 RNR119
2/03/2023	EMN - LOADS NET TONNAGE	32.1	02028 RNR119
06/03/2023	EMN - LOADS NET TONNAGE	29.34	02029 RNR119
6/03/2023	EMN - LOADS NET TONNAGE	28.72	02030 RNR119
7/03/2023	EMN - LOADS NET TONNAGE	28.08	02031 RNR119
7/03/2023	EMN - LOADS NET TONNAGE	29.6	02032 RNR119
13/03/2023	VEMN - LOADS NET TONNAGE	30.4	02033 RNR119
13/03/2023	EMN - LOADS NET TONNAGE	28.74	02034 RNR119
14/03/2023	EMN - LOADS NET TONNAGE	28.56	02035 RNR119
16/03/2023	VEMN - LOADS NET TONNAGE	30.7	02036 RNR119
16/3/2023	VEMN - LOADS NET TONNAGE	29.66	02037 RNR119
17/03/2023	VEMN - LOADS NET TONNAGE	30.14	02038 RNR119
17/03/2023	VEMN - LOADS NET TONNAGE	30.92	02039 RNR119
20/03/2023	EMN - LOADS NET TONNAGE	30.62	02040 RNR119
20/03/2023	EMN - LOADS NET TONNAGE	29.48	02041 RNR119
21/03/2023	EMN - LOADS NET TONNAGE	30.1	02042 RNR119
22/03/2023	EMN - LOADS NET TONNAGE	28.62	02043 RNR119
23/03/2023	VEMN - LOADS NET TONNAGE	24.69	02044
24/03/2023	VEMN - LOADS NET TONNAGE	23.44	02045
27/03/2023	VEMN - LOADS NET TONNAGE	21.4	02046
28/03/2023	VEMN - LOADS NET TONNAGE	24.54	02047
30/03/2023	VEMN - LOADS NET TONNAGE	31.24	02048 RNR119
30/03/2023	VEMN - LOADS NET TONNAGE	23.6	02049
04/04/2023	EMN - LOADS NET TONNAGE	28.26	02050 RNR119
11/04/2023	EMN - LOADS NET TONNAGE	28.68	02051 RNR119
11/04/2023	EMN - LOADS NET TONNAGE	28.22	02052 RNR119
12/04/2023	EMN - LOADS NET TONNAGE	30.34	02053 RNR119

12/04/2023	EMN - LOADS NET TONNAGE	29.5	02054 RNR119
17/04/2023	EMN - LOADS NET TONNAGE	31.76	02055 RNR119
17/04/2023	EMN - LOADS NET TONNAGE	29.8	02056 RNR119
27/04/2023	EMN - LOADS NET TONNAGE	28.4	02057 RNR119
28/04/2023	VEMN - LOADS NET TONNAGE	25.02	02058
8/05/2023	EMN - LOADS NET TONNAGE	33.54	02059 RNR119
8/05/2023	EMN - LOADS NET TONNAGE	26.18	02060 RNR119
9/05/2023	EMN - LOADS NET TONNAGE	27.98	02061 RNR119
10/05/2023	EMN - LOADS NET TONNAGE	29	02062 RNR119
10/05/2023	EMN - LOADS NET TONNAGE	28.7	02063 RNR119
11/05/2023	EMN - LOADS NET TONNAGE	27.64	02064 RNR119
11/05/2023	EMN - LOADS NET TONNAGE	29.96	02065 RNR119
12/05/2023	EMN - LOADS NET TONNAGE	30.1	02066 RNR119
15/05/2023	EMN - LOADS NET TONNAGE	27.8	02067 RNR119
15/05/2023	EMN - LOADS NET TONNAGE	28.54	02068 RNR119
16/05/2023	EMN - LOADS NET TONNAGE	32.64	02069 RNR119
17/05/2023	EMN - LOADS NET TONNAGE	28.26	02070 RNR119
17/05/2023	EMN - LOADS NET TONNAGE	27.94	02071 RNR119
18/05/2023	EMN - LOADS NET TONNAGE	29.42	02072 RNR119
18/05/2023	EMN - LOADS NET TONNAGE	28.04	02073 RNR119
18/05/2023	EMN - LOADS NET TONNAGE	29.44	02074 RNR119
20/05/2023	EMN - LOADS NET TONNAGE	27.88	02075 RNR119
24/05/2023	EMN - LOADS NET TONNAGE	30.52	02076 RNR119
24/05/2023	VEMN - LOADS NET TONNAGE	24.08	02077
24/05/2023	EMN - LOADS NET TONNAGE	31.38	02078 RNR119
25/05/2023	EMN - LOADS NET TONNAGE	30.54	02079 RNR119
29/05/2023	EMN - LOADS NET TONNAGE	28.74	02080 RNR119
29/05/2023	EMN - LOADS NET TONNAGE	29.66	02081 RNR119
30/05/2023	EMN - LOADS NET TONNAGE	30.24	02082 RNR119
15/06/2023	EMN - LOADS NET TONNAGE	28.04	02083 RNR119
16/06/2023	EMN - LOADS NET TONNAGE	29.86	02084 RNR119
16/06/2023	EMN - LOADS NET TONNAGE	22	02085 RNR105
16/06/2023	EMN - LOADS NET TONNAGE	33.02	02086 RNR119
16/06/2023	EMN - LOADS NET TONNAGE	29.32	02087 RNR119
22/06/2023	EMN - LOADS NET TONNAGE	21.8	02088 RNR105
22/06/2023	EMN - LOADS NET TONNAGE	23.01	02089 RNR105
22/06/2023	EMN - LOADS NET TONNAGE	21.02	02090 RNR105
29/06/2023	EMN - LOADS NET TONNAGE	10.5	02091 FC237/M0199
29/06/2023	EMN - LOADS NET TONNAGE	19.06	02092 FC237/M0199
29/06/2023	EMN - LOADS NET TONNAGE	11.48	02093 FC237/M1099
29/06/2023	EMN - LOADS NET TONNAGE	14.98	02094 FC237/M0199
29/06/2023	EMN - LOADS NET TONNAGE	11.04	02095 FC237/M0199
30/06/2023	EMN - LOADS NET TONNAGE	12.2	02096 FC237/M0199
30/06/2023	EMN - LOADS NET TONNAGE	12.4	02097 FC237/M0199
30/06/2023	EMN - LOADS NET TONNAGE	12.44	02098 FC237/M0199
30/06/2023	EMN - LOADS NET TONNAGE	20.82	02099 RNR105
30/06/2023	EMN - LOADS NET TONNAGE	11.59	02100 FC237/M0199
30/06/2023	EMN - LOADS NET TONNAGE	21.98	02101 RNR105
30/06/2023	EMN - LOADS NET TONNAGE	11.91	02102 FC237/M1099
30/06/2023	EMN - LOADS NET TONNAGE	6.18	02103 FC237/M0199
1/07/2023	EMN - LOADS NET TONNAGE	29.94	02104 RNR135
3/07/2023	VEMN - LOADS NET TONNAGE	26.92	02105 RNR135
3/07/2023	VEMN - LOADS NET TONNAGE	28.52	02106 RNR135
3/07/2023	VEMN - LOADS NET TONNAGE	26.14	02107 RNR135

5/07/2023	VEMN - LOADS NET TONNAGE	30.96	02108 RNR119
12/07/2023	EMN - LOADS NET TONNAGE	20.22	02109 RNR135
12/07/2023	VEMN - LOADS NET TONNAGE	30.24	02110 RNR135
29/07/2023	EMN - LOADS NET TONNAGE	28.82	02111 RNR135
29/07/2023	EMN - LOADS NET TONNAGE	19.2	02112 RNR105
29/07/2023	EMN - LOADS NET TONNAGE	29.82	02113 RNR135
29/07/2023	EMN - LOADS NET TONNAGE	21.96	02114 RNR105
31/07/2023	EMN - LOADS NET TONNAGE	22.48	02115 RNR105
31/07/2023	EMN - LOADS NET TONNAGE	23.3	02116 RNR105
31/07/2023	EMN - LOADS NET TONNAGE	21.66	02117 RNR105
31/07/2023	EMN - LOADS NET TONNAGE	24.5	02118 RNR105
2/08/2023	VEMN - LOADS NET TONNAGE	25.9	02119
3/08/2023	EMN - LOADS NET TONNAGE	28.9	02120
3/08/2023	EMN - LOADS NET TONNAGE	30.46	02121
3/08/2023	EMN - LOADS NET TONNAGE	32.46	02122
4/08/2023	EMN - LOADS NET TONNAGE	28.66	02123
4/08/2023	EMN - LOADS NET TONNAGE	29.54	02124
22/08/2023	EMN - LOADS NET TONNAGE	22	02125
22/08/2023	EMN - LOADS NET TONNAGE	22.1	02126
22/08/2023	EMN - LOADS NET TONNAGE	22.4	02127
24/08/2023	EMN - LOADS NET TONNAGE	10.4	02128
24/08/2023	VEMN - LOADS NET TONNAGE	19.78	02129
25/08/2023	VEMN - LOADS NET TONNAGE	19.02	02130
28/08/2023	VEMN - LOADS NET TONNAGE	28.12	02131
28/08/2023	VEMN - LOADS NET TONNAGE	23.9	02132
28/08/2023	VEMN - LOADS NET TONNAGE	26.32	02133
28/08/2023	VEMN - LOADS NET TONNAGE	22.54	02134
1/09/2023	EMN - LOADS NET TONNAGE	23.06	02135
1/09/2023	EMN - LOADS NET TONNAGE	31.1	02136
1/09/2023	EMN - LOADS NET TONNAGE	29.9	02137
2/09/2023	EMN - LOADS NET TONNAGE	29.48	02138 YRDR50
2/09/2023	EMN - LOADS NET TONNAGE	22.44	02139 YRDR50
2/09/2023	EMN - LOADS NET TONNAGE	29.98	02140 YRDR50
2/09/2023	EMN - LOADS NET TONNAGE	23.92	02141 YRDR50
4/09/2023	VEMN - LOADS NET TONNAGE	29.6	02142 YRDR50
5/09/2023	VEMN - LOADS NET TONNAGE	26.14	02143 YRDR50
5/09/2023	VEMN - LOADS NET TONNAGE	29.34	02144 YRDR50
5/09/2023	VEMN - LOADS NET TONNAGE	20.1	02145 YRDR50
5/09/2023	VEMN - LOADS NET TONNAGE	32.3	02146 YRDR50
5/09/2023	VEMN - LOADS NET TONNAGE	23.1	02147 YRDR50
6/09/2023	VEMN - LOADS NET TONNAGE	33.84	02148 YRDR50
6/09/2023	VEMN - LOADS NET TONNAGE	29.44	02149 YRDR50
6/09/2023	VEMN - LOADS NET TONNAGE	31.88	02150 YRDR50
7/09/2023	VEMN - LOADS NET TONNAGE	28.9	02151 YRDR50
8/09/2023	VEMN - LOADS NET TONNAGE	30.2	02152 YRDR50
11/09/2023	VEMN - LOADS NET TONNAGE	27.58	02153 YRDR50
12/09/2023	VEMN - LOADS NET TONNAGE	23.12	02154
14/09/2023	VEMN - LOADS NET TONNAGE	11.9	02155
13/09/2023	VEMN - LOADS NET TONNAGE	29.62	02156 YARD23
14/09/2023	VEMN - LOADS NET TONNAGE	10.5	02157
15/09/2023	VEMN - LOADS NET TONNAGE	8.23	02158
15/09/2023	VEMN - LOADS NET TONNAGE	11.06	02159
16/09/2023	EMN - LOADS NET TONNAGE	28.52	02160 YARD23
16/09/2023	VEMN - LOADS NET TONNAGE	31.56	02161 YARD23

18/09/2023	VEMN - LOADS NET TONNAGE	10.64	02162
18/09/2023	VEMN - LOADS NET TONNAGE	10.08	02163
18/09/2023	VEMN - LOADS NET TONNAGE	13.12	02164
22/09/2023	EMN - LOADS NET TONNAGE	28.9	02165
21/09/2023	EMN - LOADS NET TONNAGE	21.74	02166 YRD23
26/09/2023	VEMN - LOADS NET TONNAGE	18	02167 CAMICIA D17
26/09/2023	DUPLICATE DOCKET - PO	0	DUPLICATE DOCKET - 02168
26/09/2023	VEMN - LOADS NET TONNAGE	13.32	02169
26/09/2023	VEMN - LOADS NET TONNAGE	8.16	02170
26/09/2023	VEMN - LOADS NET TONNAGE	11.6	02171
27/09/2023	VEMN - LOADS NET TONNAGE	19.34	02172
28/09/2023	EMN - LOADS NET TONNAGE	37.56	02173 - Rego PFF005
28/09/2023	EMN - LOADS NET TONNAGE	35.96	02174 - Rego X005SQG
28/09/2023	EMN - LOADS NET TONNAGE	37.24	02175 - Rego X005QG - METS
28/09/2023	EMN - LOADS NET TONNAGE	34.24	02176 - Rego PFF005 - METS
28/09/2023	EMN - LOADS NET TONNAGE	41.78	02177 - Rego X005QG - METS
28/09/2023	EMN - LOADS NET TONNAGE	36.38	02178 - Rego PFF005 - METS
29/09/2023	EMN - LOADS NET TONNAGE	36.6	02179 - Rego PFF005 - METS
29/09/2023	EMN - LOADS NET TONNAGE	36.42	02180 - Rego PFF005 - METS
29/09/2023	EMN - LOADS NET TONNAGE	35.84	02181 - Rego X005QG - METS
29/09/2023	EMN - LOADS NET TONNAGE	20.2	02182 CAMELIA 17
29/09/2023	EMN - LOADS NET TONNAGE	36.08	02183 - Rego PFF005 - METS
29/09/2023	EMN - LOADS NET TONNAGE	20.96	02184 CAMELIA 17
29/09/2023	EMN - LOADS NET TONNAGE	37.7	02185 - Rego PFF005 - METS
3/10/2023	EMN - LOADS NET TONNAGE	37.06	02186 - METS PFF005
3/10/2023	EMN - LOADS NET TONNAGE	36.9	02187 - METS PFF005
3/10/2023	EMN - LOADS NET TONNAGE	37.14	02188 - METS PFF005
3/10/2023	EMN - LOADS NET TONNAGE	37.5	02189 - METS PFF005
4/10/2023	EMN - LOADS NET TONNAGE	37.3	02190 - METS PFF005
4/10/2023	EMN - LOADS NET TONNAGE	38.08	02191 - METS PFF005
4/10/2023	EMN - LOADS NET TONNAGE	34.1	02192 - METS PFF005
4/10/2023	EMN - LOADS NET TONNAGE	25.98	02193 RNR135
4/10/2023	EMN - LOADS NET TONNAGE	35.9	02194 - METS PFF005
5/10/2023	EMN - LOADS NET TONNAGE	30.74	02195 -METS X015QC
5/10/2023	EMN - LOADS NET TONNAGE	35.2	02196 - METS PPF005
5/10/2023	EMN - LOADS NET TONNAGE	20.04	02197 RNR105
5/10/2023	EMN - LOADS NET TONNAGE	37.2	02198 - METS PPF005
5/10/2023	EMN - LOADS NET TONNAGE	34.46	02199 - METS XO05QG
5/10/2023	EMN - LOADS NET TONNAGE	20.55	02200 RNR105
5/10/2023	EMN - LOADS NET TONNAGE	38.2	02201 - METS PFF005
6/10/2023	EMN - LOADS NET TONNAGE	36.2	02202 - METS PFF005
6/10/2023	EMN - LOADS NET TONNAGE	38.62	02203 - METS LJH620
6/10/2023	EMN - LOADS NET TONNAGE	35.4	02204 - METS PFF005
6/10/2023	EMN - LOADS NET TONNAGE	39.9	02205 - METS LJH620
6/10/2023	EMN - LOADS NET TONNAGE	36	02206 - METS PFF005
6/10/2023	EMN - LOADS NET TONNAGE	38	02207 - METS LJH620
7/10/2023	EMN - LOADS NET TONNAGE	36.1	02208 - METS PFF005
7/10/2023	EMN - LOADS NET TONNAGE	37.3	02209 - METS PFF005
9/10/2023	EMN - LOADS NET TONNAGE	38.82	02210 - METS PFF005
9/10/2023	EMN - LOADS NET TONNAGE	27.2	02211 RNR135
9/10/2023	EMN - LOADS NET TONNAGE	32.8	02212 - METS PFF005
9/10/2023	EMN - LOADS NET TONNAGE	25.9	02213 RNR135
9/10/2023	EMN - LOADS NET TONNAGE	28.68	02214 - METS XO05SQT
9/10/2023	EMN - LOADS NET TONNAGE	26.56	02215 RNR135

10/10/2023	EMN - LOADS NET TONNAGE	38.6	02216 - METS PFF005
10/10/2023	EMN - LOADS NET TONNAGE	25.56	02217 -YRD553
10/10/2023	EMN - LOADS NET TONNAGE	37.8	02218 - METS PFF005
10/10/2023	EMN - LOADS NET TONNAGE	24.62	02219 RNR135
10/10/2023	EMN - LOADS NET TONNAGE	38	02220 - METS PFF005
10/10/2023	EMN - LOADS NET TONNAGE	27.74	02221 RNR135
11/10/2023	EMN - LOADS NET TONNAGE	37.42	02222 -METS PFF005
11/10/2023	EMN - LOADS NET TONNAGE	24.98	02223 RNR135
11/10/2023	EMN - LOADS NET TONNAGE	38.7	02224 - METS PFF005
11/10/2023	EMN - LOADS NET TONNAGE	27.94	02225 RNR135
11/10/2023	EMN - LOADS NET TONNAGE	38.36	02226 - METS PFF005
11/10/2023	EMN - LOADS NET TONNAGE	29.2	02227 RNR135
12/10/2023	EMN - LOADS NET TONNAGE	47.5	02228 - METS PPF005
12/10/2023	EMN - LOADS NET TONNAGE	37.62	02229 - METS PPF005
12/10/2023	EMN - LOADS NET TONNAGE	32.46	02230 - METS XO05QC
13/10/2023	EMN - LOADS NET TONNAGE	38.3	02231 - METS PFF005
13/10/2023	EMN - LOADS NET TONNAGE	38.36	02232 - METS PFF005
13/10/2023	EMN - LOADS NET TONNAGE	38.14	02233 - METS PFF005
13/10/2023	EMN - LOADS NET TONNAGE	24.18	02234 RNR135
16/10/2023	EMN - LOADS NET TONNAGE	36.7	02235 -METS PFF005
16/10/2023	EMN - LOADS NET TONNAGE	26.96	02236 RNR135
16/10/2023	EMN - LOADS NET TONNAGE	36.62	02237 - METS PFF005
16/10/2023	EMN - LOADS NET TONNAGE	26	02238 RNR135
16/10/2023	EMN - LOADS NET TONNAGE	27.78	02239 RNR135
17/10/2023	EMN - LOADS NET TONNAGE	33.86	02240 - METS PFF005
17/10/2023	EMN - LOADS NET TONNAGE	28.06	02241 RNR135
17/10/2023	EMN - LOADS NET TONNAGE	35.96	02242 - METS PFF005
17/10/2023	EMN - LOADS NET TONNAGE	39.9	02243 - METS PPF005
17/10/2023	EMN - LOADS NET TONNAGE	28.5	02244 RNR135
17/10/2023	EMN - LOADS NET TONNAGE	30.7	02245 -METS XO05QC
17/10/2023	EMN - LOADS NET TONNAGE	24.94	02246 - METS PPF005
18/10/2023	EMN - LOADS NET TONNAGE	27.92	02247 RNR135
18/10/2023	EMN - LOADS NET TONNAGE	36.52	02248 - METS PFF005
18/10/2023	EMN - LOADS NET TONNAGE	30.56	02249 RNR119
18/10/2023	EMN - LOADS NET TONNAGE	28.9	02250 RNR135
18/10/2023	EMN - LOADS NET TONNAGE	26.92	02251 - METS XO05QG
19/10/2023	EMN - LOADS NET TONNAGE	36.9	02252 - METS PPF005
19/10/2023	EMN - LOADS NET TONNAGE	34.2	02253 - METS PPF005
19/10/2023	EMN - LOADS NET TONNAGE	34.5	02254 - METS PPF005
20/10/2023	EMN - LOADS NET TONNAGE	38.4	02255 - METS PPF005
20/10/2023	EMN - LOADS NET TONNAGE	36.32	02256 - METS PPF005
20/10/2023	DOCKET CANCELLED	0	DOCKET CANCELLED 02257
20/10/2023	EMN - LOADS NET TONNAGE	39.12	02258 RNR119
24/10/2023	EMN - LOADS NET TONNAGE	17.52	02259 - METS CQ21KQ
24/10/2023	EMN - LOADS NET TONNAGE	28.59	02260 - METS XO05QG
24/10/2023	EMN - LOADS NET TONNAGE	16.84	02261 - METS X036HL
24/10/2023	EMN - LOADS NET TONNAGE	15.04	02262 - METS CQ21KQ
24/10/2023	EMN - LOADS NET TONNAGE	16.58	02263 - METS X036HL
25/10/2023	EMN - LOADS NET TONNAGE	30.46	02264 RNR119
26/10/2023	EMN - LOADS NET TONNAGE	35	02265 - METS XO05QG
27/10/2023	EMN - LOADS NET TONNAGE	37.4	02266 - METS XO05QG
27/10/2023	EMN - LOADS NET TONNAGE	29.68	02267 RNR119
27/10/2023	EMN - LOADS NET TONNAGE	33.38	02268 - METS XO05QG
30/10/2023	EMN - LOADS NET TONNAGE	30.78	02269 RNR119

31/10/2023	EMN - LOADS NET TONNAGE	28.94	02270 RNR119
1/11/2023	EMN - LOADS NET TONNAGE	33.68	02271 - WISEMANS FERRY XN45WJ
1/11/2023	EMN - LOADS NET TONNAGE	29.2	02272 - WISEMANS FERRY X012GX
1/11/2023	EMN - LOADS NET TONNAGE	34.18	02273 - WISEMANS FERRY XN66NZ
1/11/2023	EMN - LOADS NET TONNAGE	26.4	02274 - WISEMANS FERRY CK67RG
1/11/2023	EMN - LOADS NET TONNAGE	34	02275 - WISEMANS FERRY X020DB
1/11/2023	EMN - LOADS NET TONNAGE	32.64	02276 - WISEMANS FERRY XN45WJ
1/11/2023	EMN - LOADS NET TONNAGE	34.84	02277 - WISEMANS FERRY X012GX
1/11/2023	EMN - LOADS NET TONNAGE	27.2	02278 - WISEMANS FERRY CK67RG
1/11/2023	EMN - LOADS NET TONNAGE	31.14	02279 - WISEMANS FERRY XN66NZ
1/11/2023	EMN - LOADS NET TONNAGE	29.4	02280 - WISEMANS FERRY XN45WJ
1/11/2023	EMN - LOADS NET TONNAGE	30.1	02281 - WISEMANS FERRY X012GX
1/11/2023	EMN - LOADS NET TONNAGE	35.88	02282 - WISEMANS FERRY XN66NZ
1/11/2023	EMN - LOADS NET TONNAGE	28.9	02283 - WISEMANS FERRY CK67RG
1/11/2023	EMN - LOADS NET TONNAGE	29.62	02284 - WISEMANS FERRY XN45WJ
1/11/2023	EMN - LOADS NET TONNAGE	32.8	02285 - WISEMANS FERRY X012GX
1/11/2023	EMN - LOADS NET TONNAGE	29.46	02286 RNR119
1/11/2023	EMN - LOADS NET TONNAGE	30.74	02287 - WISEMANS FERRY XN31PP
1/11/2023	EMN - LOADS NET TONNAGE	31.9	02288 - WISEMANS FERRY XN66NZ
1/11/2023	EMN - LOADS NET TONNAGE	27.08	02289 - WISEMANS FERRY CK67RG
1/11/2023	EMN - LOADS NET TONNAGE	32.16	02290 - WISEMANS FERRY X033HL
1/11/2023	EMN - LOADS NET TONNAGE	34.2	02291 - WISEMANS FERRY XN45WJ
1/11/2023	EMN - LOADS NET TONNAGE	33.3	02292 - WISEMANS FERRY X012GX
1/11/2023	EMN - LOADS NET TONNAGE	34.08	02293 - WISEMANS FERRY X035UC
1/11/2023	EMN - LOADS NET TONNAGE	28.34	02294 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	30.94	02295 - WISEMANS FERRY XN45WJ
2/11/2023	EMN - LOADS NET TONNAGE	31.6	02296 - WISEMANS FERRY X035UC
2/11/2023	EMN - LOADS NET TONNAGE	32.68	02297 - WISEMANS FERRY XN66NZ
2/11/2023	EMN - LOADS NET TONNAGE	37.82	02298 - METS PFF005
2/11/2023	EMN - LOADS NET TONNAGE	26.86	02299 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	28.8	02300 - WISEMANS FERRY XN45WJ
2/11/2023	EMN - LOADS NET TONNAGE	32.68	02301 - WISEMANS FERRY X035VC
2/11/2023	EMN - LOADS NET TONNAGE	30.38	02302 - WISEMANS FERRY XN31PP
2/11/2023	EMN - LOADS NET TONNAGE	26.78	02303 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	32.54	02304 - WISEMANS FERRY XN66NZ
2/11/2023	EMN - LOADS NET TONNAGE	32.4	02305 - WISEMANS FERRY XN45WJ
2/11/2023	EMN - LOADS NET TONNAGE	33.1	02306 - WISEMANS FERRY X035UC
2/11/2023	EMN - LOADS NET TONNAGE	36.6	02307 - WISEMANS FERRY X033HL
2/11/2023	EMN - LOADS NET TONNAGE	34.12	02308 - WISEMANS FERRY XN31PP
2/11/2023	EMN - LOADS NET TONNAGE	32.58	02309 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	30.18	02310 - WISEMANS FERRY XN66NZ
2/11/2023	DOCKET CANCELLED	0	DOCKET CANCELLED 02311
2/11/2023	EMN - LOADS NET TONNAGE	38.94	02312 - METS PFF005
2/11/2023	EMN - LOADS NET TONNAGE	31.62	02313 - WISEMANS FERRY X012UX
2/11/2023	EMN - LOADS NET TONNAGE	30.82	02314 - WISEMANS FERRY X020DB
2/11/2023	EMN - LOADS NET TONNAGE	32.8	02315 - WISEMANS FERRY XN45WJ
2/11/2023	EMN - LOADS NET TONNAGE	32.2	02316 - WISEMANS FERRY X035UC
2/11/2023	EMN - LOADS NET TONNAGE	29.3	02317- WISEMANS FERRY XN31PP
2/11/2023	EMN - LOADS NET TONNAGE	32.36	02318 - WISEMANS FERRY X033HL
2/11/2023	EMN - LOADS NET TONNAGE	32.66	02319 - WISEMANS FERRY XN66NZ
2/11/2023	EMN - LOADS NET TONNAGE	29.04	02320 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	31.08	02321 - WISEMANS FERRY X012GX
2/11/2023	EMN - LOADS NET TONNAGE	31.8	02322 - WISEMANS FERRY X020DB
2/11/2023	EMN - LOADS NET TONNAGE	28.1	02323 - WISEMANS FERRY XN45WJ

2/11/2023	EMN - LOADS NET TONNAGE	37.5	02324 - WISEMANS FERRY X035UC
2/11/2023	EMN - LOADS NET TONNAGE	38.46	02325 - METS PPF005
2/11/2023	EMN - LOADS NET TONNAGE	30.5	02326 RNR119
2/11/2023	EMN - LOADS NET TONNAGE	32.24	02327 - WISEMANS FERRY XN66NZ
2/11/2023	EMN - LOADS NET TONNAGE	32.02	02328 - WISEMANS FERRY X033HL
2/11/2023	EMN - LOADS NET TONNAGE	31.1	02329 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	31.62	02330 - WISEMANS FERRY XN55UX
2/11/2023	EMN - LOADS NET TONNAGE	30.82	02331 - WISEMANS FERRY X020DB
2/11/2023	EMN - LOADS NET TONNAGE	34.5	02332 - WISEMANS FERRY OX12GX
2/11/2023	EMN - LOADS NET TONNAGE	30.86	02333 - WISEMANS FERRY X035UC
2/11/2023	EMN - LOADS NET TONNAGE	27.8	02334 - WISEMANS FERRY CK67RG
2/11/2023	EMN - LOADS NET TONNAGE	33.3	02335 - WISEMANS FERRY XN55UX
3/11/2023	EMN - LOADS NET TONNAGE	32.7	02336 - WISEMANS FERRY XN55UX
3/11/2023	EMN - LOADS NET TONNAGE	31.6	02337 - WISEMANS FERRY XN45WJ
3/11/2023	EMN - LOADS NET TONNAGE	32.78	02338 - WISEMANS FERRY XN66NZ
3/11/2023	EMN - LOADS NET TONNAGE	35.58	02339 - WISEMANS FERRY X035UC
3/11/2023	EMN - LOADS NET TONNAGE	33.48	02340 - WISEMANS FERRY X012GX
3/11/2023	EMN - LOADS NET TONNAGE	38.58	02341 - METS PFF005
3/11/2023	EMN - LOADS NET TONNAGE	27.58	02342 - WISEMANS FERRY CK67RG
3/11/2023	EMN - LOADS NET TONNAGE	32.18	02343 - WISEMANS FERRY XN55UX
3/11/2023	EMN - LOADS NET TONNAGE	29.6	02344 - WISEMANS FERRY XN45WJ
3/11/2023	EMN - LOADS NET TONNAGE	32.4	02345 - WISEMANS FERRY XN31PP
3/11/2023	EMN - LOADS NET TONNAGE	35.56	02346 - WISEMANS FERRY X035UC
3/11/2023	EMN - LOADS NET TONNAGE	31.2	02347 - WISEMANS FERRY CK67RG
3/11/2023	EMN - LOADS NET TONNAGE	33.7	02348 - WISEMANS FERRY XN55UX
3/11/2023	EMN - LOADS NET TONNAGE	37.7	02349 - METS PPF005
3/11/2023	EMN - LOADS NET TONNAGE	32.38	02350 - WISEMANS FERRY XN45WJ
3/11/2023	EMN - LOADS NET TONNAGE	32.74	02351 - WISEMANS FERRY XN31PP
3/11/2023	EMN - LOADS NET TONNAGE	31.82	02352 - WISEMANS FERRY X035UC
3/11/2023	EMN - LOADS NET TONNAGE	33.3	02353 - WISEMANS FERRY X012GX
3/11/2023	EMN - LOADS NET TONNAGE	27.78	02354 - WISEMANS FERRY CK67RG
3/11/2023	EMN - LOADS NET TONNAGE	30.8	02355 - WISEMANS FERRY XN45WJ
3/11/2023	EMN - LOADS NET TONNAGE	30.8	02356 - WISEMANS FERRY XN55UX
3/11/2023	EMN - LOADS NET TONNAGE	34.46	02357 - WISEMANS FERRY X035UC
3/11/2023	EMN - LOADS NET TONNAGE	33.28	02358 - WISEMANS FERRY XN31PP
3/11/2023	EMN - LOADS NET TONNAGE	29.16	02359 - WISEMANS FERRY X033HL
3/11/2023	EMN - LOADS NET TONNAGE	36.1	02360 - WISEMANS FERRY XN66NZ
3/11/2023	EMN - LOADS NET TONNAGE	34.6	02361 - WISEMANS FERRY XN45WJ
3/11/2023	EMN - LOADS NET TONNAGE	31.48	02362 - WISEMANS FERRY CK67RG
3/11/2023	EMN - LOADS NET TONNAGE	32.5	02363 - WISEMANS FERRY X012GX
3/11/2023	EMN - LOADS NET TONNAGE	39.04	02364 - WISEMANS FERRY XN55UX
3/11/2023	EMN - LOADS NET TONNAGE	33.76	02365 - WISEMANS FERRY X035UC
3/11/2023	EMN - LOADS NET TONNAGE	34.12	02366 - WISEMANS FERRY XN31PP
3/11/2023	EMN - LOADS NET TONNAGE	34	02367 - WISEMANS FERRY X033HL
6/11/2023	EMN - LOADS NET TONNAGE	37.3	02368 - METS PFF005
6/11/2023	EMN - LOADS NET TONNAGE	36.38	02369 - WISEMANS FERRY X012GX
6/11/2023	EMN - LOADS NET TONNAGE	29.3	02370 - WISEMANS FERRY XN45WJ
6/11/2023	EMN - LOADS NET TONNAGE	34.28	02371 - WISEMANS FERRY X020DB
6/11/2023	EMN - LOADS NET TONNAGE	33.1	02372 - WISEMANS FERRY X012GX
6/11/2023	EMN - LOADS NET TONNAGE	10.8	02373 - WISEMANS FERRY X039MH
6/11/2023	EMN - LOADS NET TONNAGE	37.92	02374 - METS PPF105
6/11/2023	EMN - LOADS NET TONNAGE	34	02375 - WISEMANS FERRY XN45WJ
6/11/2023	EMN - LOADS NET TONNAGE	35.26	02376 - WISEMANS FERRY XN66NZ
6/11/2023	EMN - LOADS NET TONNAGE	32.14	02377 - WISEMANS FERRY CK67RG

6/11/2023	EMN - LOADS NET TONNAGE	34.94	02378 - METS XO05QG
6/11/2023	EMN - LOADS NET TONNAGE	35.14	02379 - WISEMANS FERRY XN66NZ
6/11/2023	EMN - LOADS NET TONNAGE	29.94	02380 - WISEMANS FERRY X020DB
7/11/2023	EMN - LOADS NET TONNAGE	34.4	02381 - WISEMANS FERRY X020DB
7/11/2023	EMN - LOADS NET TONNAGE	45.02	02382 - WISEMANS FERRY X035UC
7/11/2023	EMN - LOADS NET TONNAGE	39.82	02383 - METS PFF105
7/11/2023	EMN - LOADS NET TONNAGE	33.74	02384 - WISEMANS FERRY XN31PP
7/11/2023	EMN - LOADS NET TONNAGE	36.96	02385 - WISEMANS FERRY X020DB
7/11/2023	EMN - LOADS NET TONNAGE	33.44	02386 - WISEMANS FERRY XN31PP
7/11/2023	EMN - LOADS NET TONNAGE	33.78	02387 - WISEMANS FERRY CK67RG
7/11/2023	EMN - LOADS NET TONNAGE	33.3	02388 - WISEMANS FERRY X012GX
7/11/2023	EMN - LOADS NET TONNAGE	32.88	02389 - WISEMANS FERRY X035UC
7/11/2023	EMN - LOADS NET TONNAGE	37.46	02390 - METS PPF105
7/11/2023	EMN - LOADS NET TONNAGE	33.44	02391 - WISEMANS FERRY X020DB
7/11/2023	EMN - LOADS NET TONNAGE	33.76	02392 - WISEMANS FERRY XN66NZ
7/11/2023	EMN - LOADS NET TONNAGE	34.2	02393 - WISEMANS FERRY XM31PP
7/11/2023	EMN - LOADS NET TONNAGE	36.94	02394 - WISEMANS FERRY X020DB
7/11/2023	EMN - LOADS NET TONNAGE	33.02	02395 - WISEMANS FERRY X012GX
8/11/2023	EMN - LOADS NET TONNAGE	37.24	02396 - METS PPF105
8/11/2023	EMN - LOADS NET TONNAGE	33.1	02397 - WISEMANS FERRY X012GX
8/11/2023	EMN - LOADS NET TONNAGE	34.46	02398 - WISEMANS FERRY XN31PP
8/11/2023	EMN - LOADS NET TONNAGE	32.48	02399 - WISEMANS FERRY XN66NZ
8/11/2023	EMN - LOADS NET TONNAGE	33.66	02400 - WISEMANS FERRY X012GX
8/11/2023	EMN - LOADS NET TONNAGE	37.48	02401 - WISEMANS FERRY X020DB
8/11/2023	EMN - LOADS NET TONNAGE	36.94	02402 - WISEMANS FERRY CK67RG
8/11/2023	EMN - LOADS NET TONNAGE	31.65	02403 - WISEMANS FERRY XN31PP
8/11/2023	EMN - LOADS NET TONNAGE	32.4	02404 - WISEMANS FERRY XN66NZ
8/11/2023	EMN - LOADS NET TONNAGE	34.72	02405 - WISEMANS FERRY XN55UX
8/11/2023	EMN - LOADS NET TONNAGE	30.22	02406 - WISEMANS FERRY XN31PP
8/11/2023	EMN - LOADS NET TONNAGE	35.3	02407 - WISEMANS FERRY X020DB
8/11/2023	EMN - LOADS NET TONNAGE	32.58	02408 - WISEMANS FERRY XN55UX
8/11/2023	EMN - LOADS NET TONNAGE	25.4	02409 - WISEMANS FERRY X012GX
9/11/2023	EMN - LOADS NET TONNAGE	38	02410 - WISEMANS FERRY XN45WJ
9/11/2023	EMN - LOADS NET TONNAGE	30.56	02411 - WISEMANS FERRY CK67RG
9/11/2023	EMN - LOADS NET TONNAGE	33.36	02412 - WISEMANS FERRY XN66NZ
9/11/2023	EMN - LOADS NET TONNAGE	33.12	02413 - WISEMANS FERRY X035UC
9/11/2023	EMN - LOADS NET TONNAGE	31.2	02414 - WISEMANS FERRY XN45WJ
9/11/2023	EMN - LOADS NET TONNAGE	34.22	02415 - WISEMANS FERRY X020DB
9/11/2023	EMN - LOADS NET TONNAGE	31.7	02416 - WISEMANS FERRY XN45WJ
9/11/2023	EMN - LOADS NET TONNAGE	38.4	02417 - WISEMANS FERRY X035UC
9/11/2023	EMN - LOADS NET TONNAGE	34.3	02418 - WISEMANS FERRY X020DV
9/11/2023	EMN - LOADS NET TONNAGE	29.54	02419 - WISEMANS FERRY XW31WP
9/11/2023	EMN - LOADS NET TONNAGE	33.54	02420 - WISEMANS FERRY X033HL
9/11/2023	EMN - LOADS NET TONNAGE	37.5	02421 - METS PFF005
9/11/2023	EMN - LOADS NET TONNAGE	31.28	02422 - WISEMANS FERRY CK67RG
9/11/2023	EMN - LOADS NET TONNAGE	37.04	02423 - WISEMANS FERRY X012GX
9/11/2023	EMN - LOADS NET TONNAGE	31.1	02424 - WISEMANS FERRY XN45WJ
9/11/2023	EMN - LOADS NET TONNAGE	33.66	02425 - WISEMANS FERRY X035UC
9/11/2023	EMN - LOADS NET TONNAGE	27.8	02426 - WISEMANS FERRY XN45WJ
9/11/2023	EMN - LOADS NET TONNAGE	37.5	02427 - METS PFF005
10/11/2023	EMN - LOADS NET TONNAGE	25.74	02428 - WISEMANS FERRY CUL008
10/11/2023	EMN - LOADS NET TONNAGE	40.92	02429 - METS PFF005
10/11/2023	EMN - LOADS NET TONNAGE	37.36	02430 - WISEMANS FERRY X020DB
10/11/2023	EMN - LOADS NET TONNAGE	28.7	02431 - WISEMANS FERRY XN45WJ

10/11/2023	EMN - LOADS NET TONNAGE	31.54	02432 - WISEMANS FERRY X035UC
10/11/2023	EMN - LOADS NET TONNAGE	29.68	02433 - WISEMANS FERRY XN31PP
10/11/2023	EMN - LOADS NET TONNAGE	29.4	02434 - WISEMANS FERRY X012GX
10/11/2023	EMN - LOADS NET TONNAGE	27.4	02435 - WISEMANS FERRY XN45WJ
10/11/2023	EMN - LOADS NET TONNAGE	34.14	02436 - WISEMANS FERRY X020DB
10/11/2023	EMN - LOADS NET TONNAGE	32.42	02437 - WISEMANS FERRY XN66NZ
10/11/2023	EMN - LOADS NET TONNAGE	34.2	02438 - WISEMANS FERRY XN31PP
10/11/2023	EMN - LOADS NET TONNAGE	31.68	02439 - WISEMANS FERRY X035UC
10/11/2023	EMN - LOADS NET TONNAGE	34.02	02440 - WISEMANS FERRY X012GY
10/11/2023	EMN - LOADS NET TONNAGE	32.1	02441 - WISEMANS FERRY XN45WJ
10/11/2023	EMN - LOADS NET TONNAGE	32.94	02442 - WISEMANS FERRY X033HL
10/11/2023	EMN - LOADS NET TONNAGE	37.32	02443 - METS PFF005
10/11/2023	EMN - LOADS NET TONNAGE	35.4	02444 - WISEMANS FERRY X020DB
10/11/2023	EMN - LOADS NET TONNAGE	31.76	02445 - WISEMANS FERRY XN66NZ
10/11/2023	EMN - LOADS NET TONNAGE	31.74	02446 - WISEMANS FERRY XN31PP
10/11/2023	EMN - LOADS NET TONNAGE	34.28	02447 - WISEMANS FERRY X035UC
10/11/2023	EMN - LOADS NET TONNAGE	29.8	02448 - WISEMANS FERRY X012GX
10/11/2023	EMN - LOADS NET TONNAGE	36.64	02449 - WISEMANS FERRY X033HL
10/11/2023	EMN - LOADS NET TONNAGE	37.52	02450 - WISEMANS FERRY X035UC
10/11/2023	EMN - LOADS NET TONNAGE	32.54	02451 - WISEMANS FERRY X012GX
10/11/2023	EMN - LOADS NET TONNAGE	36.42	02452 - WISEMANS FERRY X033HL
13/11/2023	EMN - LOADS NET TONNAGE	38.32	02453 - METS PPF005
13/11/2023	EMN - LOADS NET TONNAGE	38.72	02454 - WISEMANS FERRY X035UC
13/11/2023	EMN - LOADS NET TONNAGE	30.78	02455 - WISEMANS FERRY CK67RG
13/11/2023	EMN - LOADS NET TONNAGE	33.34	02456 - WISEMANS FERRY X091PK
13/11/2023	EMN - LOADS NET TONNAGE	34.52	02457 - WISEMANS FERRY XN55UX
13/11/2023	EMN - LOADS NET TONNAGE	30.16	02458 - WISEMANS FERRY XN31PP
13/11/2023	EMN - LOADS NET TONNAGE	30.8	02459 - WISEMANS FERRY X012GX
13/11/2023	EMN - LOADS NET TONNAGE	33.98	02460 - WISEMANS FERRY XN66NZ
13/11/2023	EMN - LOADS NET TONNAGE	34.8	02461 - WISEMANS FERRY X020DB
13/11/2023	EMN - LOADS NET TONNAGE	35.74	02462 - WISEMANS FERRY X035UC
13/11/2023	EMN - LOADS NET TONNAGE	33	02463 - WISEMANS FERRY CK67RG
13/11/2023	EMN - LOADS NET TONNAGE	34.2	02464 - WISEMANS FERRY X091PK
13/11/2023	EMN - LOADS NET TONNAGE	35.12	02465 - WISEMANS FERRY XN66NZ
13/11/2023	EMN - LOADS NET TONNAGE	29.66	02466 RNR119
13/11/2023	EMN - LOADS NET TONNAGE	29.44	02467 - WISEMANS FERRY XN31WP
13/11/2023	EMN - LOADS NET TONNAGE	34.04	02468 - WISEMANS FERRY X012GX
13/11/2023	EMN - LOADS NET TONNAGE	33.86	02469 - WISEMANS FERRY X020DB
13/11/2023	EMN - LOADS NET TONNAGE	34.92	02470 - WISEMANS FERRY X091PK
13/11/2023	EMN - LOADS NET TONNAGE	31.2	02471 - WISEMANS FERRY CK67RG
13/11/2023	EMN - LOADS NET TONNAGE	34.04	02472 - WISEMANS FERRY XN31PP
13/11/2023	EMN - LOADS NET TONNAGE	30.2	02473 - WISEMANS FERRY XN66NZ
13/11/2023	EMN - LOADS NET TONNAGE	28.68	02474 - WISEMANS FERRY X012GX
13/11/2023	EMN - LOADS NET TONNAGE	33.74	02475 - WISEMANS FERRY X020DB
13/11/2023	EMN - LOADS NET TONNAGE	30.9	02476 - WISEMANS FERRY CK67RG
13/11/2023	EMN - LOADS NET TONNAGE	31.32	02477 - WISEMANS FERRY XN31PP
13/11/2023	EMN - LOADS NET TONNAGE	32.04	02478 - WISEMANS FERRY XN66NZ
13/11/2023	EMN - LOADS NET TONNAGE	31.76	02479 - WISEMANS FERRY X012GX
13/11/2023	EMN - LOADS NET TONNAGE	40.82	02480 - WISEMANS FERRY X035UC
13/11/2023	EMN - LOADS NET TONNAGE	32.14	02481 - WISEMANS FERRY CK67RG
13/11/2023	EMN - LOADS NET TONNAGE	34.86	02482 - WISEMANS FERRY X020DB
13/11/2023	EMN - LOADS NET TONNAGE	30.84	02483 - WISEMANS FERRY X091PK
13/11/2023	EMN - LOADS NET TONNAGE	34.16	02484 - WISEMANS FERRY X066NZ
13/11/2023	EMN - LOADS NET TONNAGE	38.44	02485 - WISEMANS FERRY XN55UX

13/11/2023	EMN - LOADS NET TONNAGE	30.64	02486 - WISEMANS FERRY XN31PP
13/11/2023	EMN - LOADS NET TONNAGE	34.72	02487 - WISEMANS FERRY X012GX
13/11/2023	EMN - LOADS NET TONNAGE	29.8	02488 - WISEMANS FERRY X091PK
13/11/2023	EMN - LOADS NET TONNAGE	35.52	02489 - WISEMANS FERRY X035UC
14/11/2023	EMN - LOADS NET TONNAGE	35.7	02490 - WISEMANS FERRY X012GX
14/11/2023	EMN - LOADS NET TONNAGE	34.48	02491 - WISEMANS FERRY OX12GX
14/11/2023	EMN - LOADS NET TONNAGE	29.64	02492 - WISEMANS FERRY XN55US
14/11/2023	EMN - LOADS NET TONNAGE	32	02493 - WISEMANS FERRY XN45WJ
14/11/2023	EMN - LOADS NET TONNAGE	26.96	02494 - WISEMANS FERRY X020DB
14/11/2023	EMN - LOADS NET TONNAGE	31.06	02495 - WISEMANS FERRY CK67RG
14/11/2023	EMN - LOADS NET TONNAGE	33.4	02496 - WISEMANS FERRY XN55UX
14/11/2023	EMN - LOADS NET TONNAGE	11.86	02497 - WISEMANS FERRY X039MH
14/11/2023	EMN - LOADS NET TONNAGE	33.4	02498 - WISEMANS FERRY XN45WJ
14/11/2023	EMN - LOADS NET TONNAGE	31.22	02499 - WISEMANS FERRY XN66NZ
14/11/2023	EMN - LOADS NET TONNAGE	27.06	02500 - WISEMANS FERRY XN31PP
14/11/2023	EMN - LOADS NET TONNAGE	38.42	02501 - WISEMANS FERRY No rego on Docket (locky)
14/11/2023	EMN - LOADS NET TONNAGE	32.12	02502 - WISEMANS FERRY XN55UX
14/11/2023	EMN - LOADS NET TONNAGE	12.26	02503 - WISEMANS FERRY X039MH
14/11/2023	EMN - LOADS NET TONNAGE	37.26	02504 - WISEMANS FERRY X033HKL
14/11/2023	EMN - LOADS NET TONNAGE	31.1	02505 - WISEMANS FERRY X045WJ
14/11/2023	EMN - LOADS NET TONNAGE	36	02506 - WISEMANS FERRY XN66NZ
14/11/2023	EMN - LOADS NET TONNAGE	32.12	02507 - WISEMANS FERRY XN31PP
14/11/2023	EMN - LOADS NET TONNAGE	39.36	02508 - WISEMANS FERRY No rego on Docket (locky)
14/11/2023	EMN - LOADS NET TONNAGE	33.48	02509 - WISEMANS FERRY XN55US
14/11/2023	EMN - LOADS NET TONNAGE	32.06	02510 - WISEMANS FERRY CK67RG
14/11/2023	EMN - LOADS NET TONNAGE	12.42	02511 - WISEMANS FERRY XO39MH
14/11/2023	EMN - LOADS NET TONNAGE	34.38	02512 - WISEMANS FERRY XN31PP
14/11/2023	EMN - LOADS NET TONNAGE	39	02513 - WISEMANS FERRY OX33HL
14/11/2023	EMN - LOADS NET TONNAGE	37.32	02514 - WISEMANS FERRY XN66NZ
14/11/2023	EMN - LOADS NET TONNAGE	37.74	02515 - WISEMANS FERRY XO12GX
14/11/2023	EMN - LOADS NET TONNAGE	12.04	02516 - WISEMANS FERRY XO39MH
14/11/2023	EMN - LOADS NET TONNAGE	28.3	02517 - WISEMANS FERRY CK67RG
14/11/2023	EMN - LOADS NET TONNAGE	29.02	02518 - WISEMANS FERRY X012GX
15/11/2023	EMN - LOADS NET TONNAGE	28.8	02519 - WISEMANS FERRY XN45WJ
15/11/2023	EMN - LOADS NET TONNAGE	26.96	02520 - WISEMANS FERRY X033HL
15/11/2023	EMN - LOADS NET TONNAGE	28.26	02521 - WISEMANS FERRY XN31PP
15/11/2023	EMN - LOADS NET TONNAGE	28.9	02522 - WISEMANS FERRY XN45WJ
15/11/2023	EMN - LOADS NET TONNAGE	28.4	02523 - WISEMANS FERRY X033HL
15/11/2023	EMN - LOADS NET TONNAGE	29.96	02524 - WISEMANS FERRY XN31PP
15/11/2023	EMN - LOADS NET TONNAGE	28.62	02525 - WISEMANS FERRY XO33HL
15/11/2023	EMN - LOADS NET TONNAGE	32.08	02526 - WISEMANS FERRY XN55UX
15/11/2023	EMN - LOADS NET TONNAGE	29.88	02527 - WISEMANS FERRY X012GX
15/11/2023	EMN - LOADS NET TONNAGE	29.62	02528 - WISEMANS FERRY CK67RG
15/11/2023	EMN - LOADS NET TONNAGE	28.1	02529 - WISEMANS FERRY SN45WJ
15/11/2023	EMN - LOADS NET TONNAGE	32.12	02530 - WISEMANS FERRY XN31PP
15/11/2023	EMN - LOADS NET TONNAGE	30.18	02531 - WISEMANS FERRY X033HL
15/11/2023	EMN - LOADS NET TONNAGE	30.8	02532 - WISEMANS FERRY SJ45WJ
15/11/2023	EMN - LOADS NET TONNAGE	28.32	02533 - WISEMANS FERRY XN66NZ
15/11/2023	EMN - LOADS NET TONNAGE	37.42	02534 - METS PFF005
15/11/2023	EMN - LOADS NET TONNAGE	30.06	02535
15/11/2023	EMN - LOADS NET TONNAGE	39.1	02536 - WISEMANS FERRY X033HL
16/11/2023	EMN - LOADS NET TONNAGE	26.72	02537 - METS X005QG
16/11/2023	EMN - LOADS NET TONNAGE	27.82	02538 - METS XO05QG
16/11/2023	EMN - LOADS NET TONNAGE	23.54	02539 - METS XO05QG

16/11/2023	EMN - LOADS NET TONNAGE	37.96	02540 - METS PFF005
17/11/2023	EMN - LOADS NET TONNAGE	23.92	02541 - METS XO05QG
20/11/2023	EMN - LOADS NET TONNAGE	14	02542 - METS XO36HL
20/11/2023	EMN - LOADS NET TONNAGE	16.3	02543 - METS X036IB
20/11/2023	EMN - LOADS NET TONNAGE	34.44	02544 - WISEMANS FERRY X020DM
20/11/2023	EMN - LOADS NET TONNAGE	14.8	02545 - METS X036HL
20/11/2023	EMN - LOADS NET TONNAGE	38.22	02546 - WISEMANS FERRY XN55UX
20/11/2023	EMN - LOADS NET TONNAGE	16.62	02547 - METS X036IB
20/11/2023	EMN - LOADS NET TONNAGE	32.52	02548 - WISEMANS FERRY XN66NZ
20/11/2023	EMN - LOADS NET TONNAGE	46.18	02549 - WISEMANS FERRY XO35UC
20/11/2023	EMN - LOADS NET TONNAGE	31.52	02550 - WISEMANS FERRY CK67RG
20/11/2023	EMN - LOADS NET TONNAGE	38.06	02551 - WISEMANS FERRY X020DB
20/11/2023	EMN - LOADS NET TONNAGE	32.94	02552 - WISEMANS FERRY XN55UX
20/11/2023	EMN - LOADS NET TONNAGE	31.8	02553 - WISEMANS FERRY XN45WJ
20/11/2023	EMN - LOADS NET TONNAGE	32.86	02554 - WISEMANS FERRY XN66NZ
20/11/2023	EMN - LOADS NET TONNAGE	14.88	02555 - METS XO36HL
20/11/2023	EMN - LOADS NET TONNAGE	26.04	02556 - WISEMANS FERRY CR66RG
20/11/2023	EMN - LOADS NET TONNAGE	44.12	02557 - WISEMANS FERRY XO35UC
20/11/2023	EMN - LOADS NET TONNAGE	17.56	02558 - METS XO36IB
20/11/2023	EMN - LOADS NET TONNAGE	27.88	02559 - WISEMANS FERRY X020DB
20/11/2023	EMN - LOADS NET TONNAGE	33.24	02560 - WISEMANS FERRY XN55UX
20/11/2023	EMN - LOADS NET TONNAGE	32.12	02561 - WISEMANS FERRY XN66NZ
20/11/2023	EMN - LOADS NET TONNAGE	35.86	02562 - WISEMANS FERRY CK66RG
20/11/2023	EMN - LOADS NET TONNAGE	15.68	02563 - METS X036HL
20/11/2023	EMN - LOADS NET TONNAGE	29.14	02564 - WISEMANS FERRY X012GX
20/11/2023	EMN - LOADS NET TONNAGE	34.66	02565 - WISEMANS FERRY X020DB
21/11/2023	EMN - LOADS NET TONNAGE	22.94	02566 - METS XO36IB
21/11/2023	EMN - LOADS NET TONNAGE	33.58	02567 - WISEMANS FERRY XO12GX
21/11/2023	EMN - LOADS NET TONNAGE	34.3	02568 - WISEMANS FERRY XN45WJ
21/11/2023	EMN - LOADS NET TONNAGE	31.74	02569 - WISEMANS FERRY CK67RG
21/11/2023	EMN - LOADS NET TONNAGE	37.22	02570 - WISEMANS FERRY X020DB
21/11/2023	EMN - LOADS NET TONNAGE	36.1	02571 - WISEMANS FERRY XN55UX
21/11/2023	EMN - LOADS NET TONNAGE	37.12	02572 - WISEMANS FERRY XN31PP
21/11/2023	EMN - LOADS NET TONNAGE	35.76	02573 - WISEMANS FERRY XO12GX
21/11/2023	EMN - LOADS NET TONNAGE	30.26	02574 - WISEMANS FERRY XN45WJ
21/11/2023	EMN - LOADS NET TONNAGE	28.9	02575 - WISEMANS FERRY CK67RG
21/11/2023	EMN - LOADS NET TONNAGE	32.62	02576 - WISEMANS FERRY X020DB
21/11/2023	EMN - LOADS NET TONNAGE	32.76	02577 - WISEMANS FERRY XN55UX
21/11/2023	EMN - LOADS NET TONNAGE	32.38	02578 - WISEMANS FERRY XN31PP
21/11/2023	EMN - LOADS NET TONNAGE	14.82	02579 - WISEMANS FERRY XN66NZ
21/11/2023	EMN - LOADS NET TONNAGE	28.74	02580 - WISEMANS FERRY XO12GX
21/11/2023	EMN - LOADS NET TONNAGE	32.06	02581 - WISEMANS FERRY XN45WJ
21/11/2023	EMN - LOADS NET TONNAGE	41.12	02582 - WISEMANS FERRY CK67RG
21/11/2023	EMN - LOADS NET TONNAGE	30.72	02583 - WISEMANS FERRY XN31PP
21/11/2023	EMN - LOADS NET TONNAGE	34.46	02584 - WISEMANS FERRY XO20DB
21/11/2023	EMN - LOADS NET TONNAGE	37.2	02585 - WISEMANS FERRY XN55UX
21/11/2023	EMN - LOADS NET TONNAGE	31.02	02586 - WISEMANS FERRY XO12GX
21/11/2023	EMN - LOADS NET TONNAGE	30.82	02587 - WISEMANS FERRY XN45WJ
21/11/2023	EMN - LOADS NET TONNAGE	13.54	02588 - WISEMANS FERRY XN66NZ
21/11/2023	EMN - LOADS NET TONNAGE	29.66	02589 - WISEMANS FERRY CK67RG
21/11/2023	EMN - LOADS NET TONNAGE	34.58	02590 - WISEMANS FERRY XN31PP
21/11/2023	EMN - LOADS NET TONNAGE	35.76	02591 - WISEMANS FERRY XO20DB
21/11/2023	EMN - LOADS NET TONNAGE	33.32	02592 - WISEMANS FERRY XN45WJ
21/11/2023	EMN - LOADS NET TONNAGE	32.68	02593 - WISEMANS FERRY XO12GX

21/11/2023	EMN - LOADS NET TONNAGE	15.78	02594 - WISEMANS FERRY XN66NZ
21/11/2023	EMN - LOADS NET TONNAGE	30.66	02595 - WISEMANS FERRY CK67RG
21/11/2023	EMN - LOADS NET TONNAGE	36.36	02596 - WISEMANS FERRY CK67RG
21/11/2023	EMN - LOADS NET TONNAGE	35.28	02597 - WISEMANS FERRY XO20DB
21/11/2023	EMN - LOADS NET TONNAGE	28.68	02598 - WISEMANS FERRY XO12GX
21/11/2023	EMN - LOADS NET TONNAGE	29.94	02599 - WISEMANS FERRY CK67RG
22/11/2023	EMN - LOADS NET TONNAGE	33.28	02600 - WISEMANS FERRY XN55UX
22/11/2023	EMN - LOADS NET TONNAGE	34.6	02601 - WISEMANS FERRY XO12GX
22/11/2023	EMN - LOADS NET TONNAGE	38.04	02602 - WISEMANS FERRY XN55UX
22/11/2023	EMN - LOADS NET TONNAGE	31.74	02603 - WISEMANS FERRY XN45WJ
22/11/2023	EMN - LOADS NET TONNAGE	36.74	02604 - WISEMANS FERRY XO20DB
22/11/2023	EMN - LOADS NET TONNAGE	31.94	02605 - WISEMANS FERRY CK67RG
22/11/2023	EMN - LOADS NET TONNAGE	31.28	02606 - WISEMANS FERRY XO12GX
22/11/2023	EMN - LOADS NET TONNAGE	32.12	02607 - WISEMANS FERRY XO20DB
22/11/2023	EMN - LOADS NET TONNAGE	29	02608 - WISEMANS FERRY CK67RG
22/11/2023	EMN - LOADS NET TONNAGE	35.16	02609 - WISEMANS FERRY XO30HL
22/11/2023	EMN - LOADS NET TONNAGE	28.94	02610 - WISEMANS FERRY XN66NZ
22/11/2023	EMN - LOADS NET TONNAGE	37.4	02611 - WISEMANS FERRY XN55UX
22/11/2023	EMN - LOADS NET TONNAGE	34.74	02612 - WISEMANS FERRY XN12GX
22/11/2023	EMN - LOADS NET TONNAGE	29.36	02613 - WISEMANS FERRY XN45WJ
22/11/2023	EMN - LOADS NET TONNAGE	37.76	02614 - WISEMANS FERRY XO20DB
22/11/2023	EMN - LOADS NET TONNAGE	28.7	02615 - WISEMANS FERRY CK67RG
22/11/2023	EMN - LOADS NET TONNAGE	30.32	02616 - WISEMANS FERRY XN66NZ
22/11/2023	EMN - LOADS NET TONNAGE	33.32	02617 - WISEMANS FERRY XN55UX
22/11/2023	EMN - LOADS NET TONNAGE	32.74	02618 - WISEMANS FERRY XN55UX
22/11/2023	EMN - LOADS NET TONNAGE	39.12	02619 - WISEMANS FERRY XN33HL
22/11/2023	EMN - LOADS NET TONNAGE	29.72	02620 - WISEMANS FERRY CK67RG
22/11/2023	EMN - LOADS NET TONNAGE	34.82	02621 - WISEMANS FERRY XN12GX
22/11/2023	EMN - LOADS NET TONNAGE	36.5	02622 - WISEMANS FERRY XO20DB
23/11/2023	EMN - LOADS NET TONNAGE	32.46	02623 - WISEMANS FERRY XN55UX
23/11/2023	EMN - LOADS NET TONNAGE	36.4	02624 - METS PFF005
23/11/2023	EMN - LOADS NET TONNAGE	39.24	02625 - METS PFF005
23/11/2023	EMN - LOADS NET TONNAGE	37.26	02626 - METS PFF005
24/11/2023	EMN - LOADS NET TONNAGE	36.98	02627 - METS PFF005
24/11/2023	EMN - LOADS NET TONNAGE	37.84	02628 - METS PFF005
24/11/2023	EMN - LOADS NET TONNAGE	37.8	02629 - METS PFF005
25/11/2023	EMN - LOADS NET TONNAGE	34.52	02630 - METS PFF005
25/11/2023	EMN - LOADS NET TONNAGE	31.02	02631 - METS PFF005
25/11/2023	EMN - LOADS NET TONNAGE	37.7	02632 - METS PFF005
27/11/2023	EMN - LOADS NET TONNAGE	34.72	02633 - METS PFF005
27/11/2023	EMN - LOADS NET TONNAGE	37.48	02634 - METS PFF005
27/11/2023	EMN - LOADS NET TONNAGE	37.64	02635 - METS PFF005
28/11/2023	EMN - LOADS NET TONNAGE	38.94	02636 - METS PFF005
28/11/2023	EMN - LOADS NET TONNAGE	38.68	02637 - METS PFF005
28/11/2023	EMN - LOADS NET TONNAGE	36.2	02638 - METS PFF005
29/11/2023	EMN - LOADS NET TONNAGE	36.76	02639 - METS PFF005
29/11/2023	EMN - LOADS NET TONNAGE	36.12	02640 - METS XO005QG
29/11/2023	EMN - LOADS NET TONNAGE	38.82	02641 - METS PFF005
29/11/2023	EMN - LOADS NET TONNAGE	31.76	02642 - METS XO05QG
29/11/2023	EMN - LOADS NET TONNAGE	36.06	02643 - METS PFF005
30/11/2023	EMN - LOADS NET TONNAGE	35.5	02644 - METS XO05QG
30/11/2023	EMN - LOADS NET TONNAGE	29.64	02645 - METS XO5QG
30/11/2023	EMN - LOADS NET TONNAGE	28.72	02646 - METS XO05QG
30/11/2023	EMN - LOADS NET TONNAGE	37.94	02647 - METS PFF005

30/11/2023	EMN - LOADS NET TONNAGE	37.18	02648 - METS PFF005
1/12/2023	EMN - LOADS NET TONNAGE	36.04	02649 - METS PFF005
1/12/2023	EMN - LOADS NET TONNAGE	37.18	02650 - METS PFF005
4/12/2023	EMN - LOADS NET TONNAGE	36.38	02651 - METS PFF005
4/12/2023	EMN - LOADS NET TONNAGE	35.42	02652 - METS PFF005
4/12/2023	EMN - LOADS NET TONNAGE	37.96	02653 - METS PFF005
6/12/2023	EMN - LOADS NET TONNAGE	31.42	02654 - METS XO05QG
7/12/2023	EMN - LOADS NET TONNAGE	34.7	02655 - METS PFF0005
7/12/2023	EMN - LOADS NET TONNAGE	33.52	02656 - METS XO05QG
8/12/2023	EMN - LOADS NET TONNAGE	36.7	02657 - METS PFF005
12/12/2023	EMN - LOADS NET TONNAGE	33.64	02658 - METS XO05QG
11/12/2023	EMN - LOADS NET TONNAGE	38.42	02659 - METS PFF005
12/12/2023	VEMN - LOADS NET TONNAGE	25.5	02660 - AW73AQ
12/12/2023	EMN - LOADS NET TONNAGE	29.38	02661 - METS XO05QG
12/12/2023	VEMN - LOADS NET TONNAGE	24.24	02662 - AW73AQ
13/12/2023	EMN - LOADS NET TONNAGE	31.56	02663 - WISEMANS FERRY CK67RG
13/12/2023	EMN - LOADS NET TONNAGE	29.88	02664 - WISEMANS FERRY XO20DB
13/12/2023	EMN - LOADS NET TONNAGE	32.92	02665 - WISEMANS FERRY XN66NZ
13/12/2023	EMN - LOADS NET TONNAGE	30.26	02666 - WISEMANS FERRY CK67RG
13/12/2023	EMN - LOADS NET TONNAGE	36.04	02667 - WISEMANS FERRY XN55UX
13/12/2023	EMN - LOADS NET TONNAGE	38.26	02668 - METS PFF005
13/12/2023	EMN - LOADS NET TONNAGE	33.04	02669 - WISEMANS FERRY XO20DB
13/12/2023	EMN - LOADS NET TONNAGE	33.98	02670 - WISEMANS FERRY XN66NZ
13/12/2023	EMN - LOADS NET TONNAGE	36.28	02671 - METS PFF005
14/12/2023	EMN - LOADS NET TONNAGE	35.6	02672 - METS PFF005
14/12/2023	EMN - LOADS NET TONNAGE	36.6	02673 - METS PFF005
14/12/2023	EMN - LOADS NET TONNAGE	34.08	02674 - METS XO05QG
14/12/2023	EMN - LOADS NET TONNAGE	36.76	02675 - METS PFF005
15/12/2023	EMN - LOADS NET TONNAGE	37.7	02676 - KINGSGROVE PFF005
15/12/2023	EMN - LOADS NET TONNAGE	29.92	02677 - XN62RM
15/12/2023	EMN - LOADS NET TONNAGE	31.08	02678 - XN74NK
15/12/2023	EMN - LOADS NET TONNAGE	32.2	02679 -XN53PU
15/12/2023	EMN - LOADS NET TONNAGE	32.84	02680 - XN55AX
15/12/2023	EMN - LOADS NET TONNAGE	34.98	02681 - XN53AX
15/12/2023	EMN - LOADS NET TONNAGE	32.86	02682 - XN14LE
15/12/2023	EMN - LOADS NET TONNAGE	29.76	02683 - CQ63PO
15/12/2023	EMN - LOADS NET TONNAGE	33.08	02684 - X050JX
15/12/2023	EMN - LOADS NET TONNAGE	32.64	02685 - XN36ZR
15/12/2023	EMN - LOADS NET TONNAGE	29.02	02686 - CK33KE
15/12/2023	EMN - LOADS NET TONNAGE	31.2	02687 - CQ63PO
15/12/2023	EMN - LOADS NET TONNAGE	31.8	02688 - XN62RM
15/12/2023	EMN - LOADS NET TONNAGE	31.44	02689 - XN53PU
15/12/2023	EMN - LOADS NET TONNAGE	38.34	02690 - KINGSGROVE PFF005
15/12/2023	EMN - LOADS NET TONNAGE	31.12	02691 - XN55AX
15/12/2023	EMN - LOADS NET TONNAGE	31.9	02692 - XN74NK
15/12/2023	EMN - LOADS NET TONNAGE	34.02	02693 - XN53AX
15/12/2023	EMN - LOADS NET TONNAGE	33.18	02694 - XN14LE
15/12/2023	EMN - LOADS NET TONNAGE	33.26	02695 - XO50JX
15/12/2023	EMN - LOADS NET TONNAGE	29.6	02696 - CK33KE
15/12/2023	EMN - LOADS NET TONNAGE	31.9	02697 - XN86ZR
	DOCKET MISSED IN BOOK	0	DOCKET MISSED 02698
15/12/2023	EMN - LOADS NET TONNAGE	30.98	02699 - XN62RM
15/12/2023	EMN - LOADS NET TONNAGE	35.86	02700 - METS - PFF005
15/12/2023	EMN - LOADS NET TONNAGE	34.42	02701 - XN53PU

15/12/2023	EMN - LOADS NET TONNAGE	31.7	02702 - XN74NK
16/12/2023	EMN - LOADS NET TONNAGE	32.22	02703 - METS - PFF005
16/12/2023	EMN - LOADS NET TONNAGE	35.68	02704 - METS - PFF005
16/12/2023	EMN - LOADS NET TONNAGE	35.46	02705 - METS - PFF005
16/12/2023	EMN - LOADS NET TONNAGE	30.36	02706 - METS - XO05QC
16/12/2023	EMN - LOADS NET TONNAGE	35.3	02707 - METS - PFF005
18/12/2023	EMN - LOADS NET TONNAGE	37	02708 - METS - PFF005
18/12/2023	EMN - LOADS NET TONNAGE	38.6	02709 - METS - PFF005
19/12/2023	EMN - LOADS NET TONNAGE	36.2	02710 - METS -PFF005
19/12/2023	EMN - LOADS NET TONNAGE	23.24	02711 - KINGSGROVE XO98OX
19/12/2023	EMN - LOADS NET TONNAGE	37.06	02712 - METS -PFF005
19/12/2023	EMN - LOADS NET TONNAGE	14.18	02713 - METS - XO11WG
19/12/2023	EMN - LOADS NET TONNAGE	39.9	02714 - METS - PFF005
19/12/2023	EMN - LOADS NET TONNAGE	20.72	02715 - METS - XO11WG
19/12/2023	EMN - LOADS NET TONNAGE	25.08	02716 - METS - PFF005
20/12/2023	EMN - LOADS NET TONNAGE	26.98	02717 - KINGSGROVE OX98OX
20/12/2023	EMN - LOADS NET TONNAGE	36.36	02718 - METS PFF005
20/12/2023	EMN - LOADS NET TONNAGE	30.92	02719 - METS - XO05QG
20/12/2023	EMN - LOADS NET TONNAGE	37.88	02720 - METS - PFF005
20/12/2023	EMN - LOADS NET TONNAGE	29.36	02721 - METS - XO05QG
20/12/2023	EMN - LOADS NET TONNAGE	38.44	02722 - METS - PFF005
20/12/2023	EMN - LOADS NET TONNAGE	38.36	02723 - METS - PFF005
21/12/2023	EMN - LOADS NET TONNAGE	36.84	02724 - METS - PFF005
21/12/2023	EMN - LOADS NET TONNAGE	33.8	02725 - METS - XO05QG
21/12/2023	EMN - LOADS NET TONNAGE	38.5	02726 - METS - PFF005
21/12/2023	EMN - LOADS NET TONNAGE	32.58	02727 - METS - XO05QG
21/12/2023	EMN - LOADS NET TONNAGE	37.6	02728 - METS - PFF005
21/12/2023	EMN - LOADS NET TONNAGE	31.78	02729 - METS - XO05QG
22/12/2023	EMN - LOADS NET TONNAGE	30.44	02730 - METS - XO05QG
22/12/2023	EMN - LOADS NET TONNAGE	38.62	02731 - METS - PFF005
22/12/2023	EMN - LOADS NET TONNAGE	28.5	02732 - KINGSGROVE - XN24MX
	TOTAL TONNES:	**22,233.62**	

Appendix F Complaints Register

Hodgsons Quarries Complaints Register

Date published: 14/03/2023

Date Received	Site Complaint Regarding	Pollution Complaint Catgeory					
		Air	Water	Noise	Waste	Traffic	Other
Jan-11	Nil received						
Feb-11	Nil received						
Mar-11	Nil received						
Apr-11	Nil received						
May-11	Nil received						
Jun-11	Nil received						
Jul-11	Nil received						
Aug-11	Nil received						
Sep-11	Nil received						
Oct-11	Nil received						
Nov-11	Nil received						
Dec-11	Nil received						
Jan-12	Nil received						
Feb-12	Nil received						
Mar-12	Nil received						
Apr-12	Nil received						
May-12	Nil received						
Jun-12	Nil received						
Jul-12	Nil received						
Aug-12	Nil received						
Sep-12	Nil received						
Oct-12	Nil received						
Nov-12	Nil received						
Dec-12	Nil received						
Jan-13	Nil received						
Feb-13	Nil received						
Mar-13	Nil received						
Apr-13	Nil received						
May-13	Nil received						
Jun-13	Nil received						
Jul-13	Nil received						
Aug-13	Nil received						
Sep-13	Nil received						
Oct-13	Nil received						
Nov-13	Nil received						
Dec-13	Nil received						
Jan-14	Nil received						
Feb-14	Nil received						
Mar-14	Nil received						
Apr-14	Nil received						
May-14	Nil received						
Jun-14	Nil received						
Jul-14	Nil received						
Aug-14	Nil received						
Sep-14	Nil received						
Oct-14	Nil received						
Nov-14	Nil received						
Dec-14	Nil received						
Jan-15	Nil received						
Feb-15	Nil received						
Mar-15	Nil received						
Apr-15	Nil received						
May-15	Nil received						
Jun-15	Nil received						
Jul-15	Nil received						
Aug-15	Nil received						

Hodgsons Quarries Complaints Register

Date published: 14/03/2023

Date Received	Site Complaint Regarding	Pollution Complaint Catgeory					
		Air	Water	Noise	Waste	Traffic	Other
Sep-15	Nil received						
Oct-15	Nil received						
Nov-15	Nil received						
Dec-15	Nil received						
Jan-16	Nil received						
Feb-16	Nil received						
Mar-16	Nil received						
Apr-16	Nil received						
May-16	Nil received						
Jun-16	Nil received						
Jul-16	Nil received						
Aug-16	Nil received						
Sep-16	Nil received						
Oct-16	Nil received						
Nov-16	Nil received						
Dec-16	Nil received						
Jan-17	Nil received						
Feb-17	Nil received						
Mar-17	Nil received						
Apr-17	Nil received						
May-17	Nil received						
Jun-17	Nil received						
Jul-17	Nil received						
Aug-17	Nil received						
Sep-17	Nil received						
Oct-17	Nil received						
Nov-17	Nil received						
Dec-17	Nil received						
Jan-18	Nil received						
Feb-18	Nil received						
Mar-18	Nil received						
Apr-18	Nil received						
May-18	Nil received						
Jun-18	Nil received						
Jul-18	Nil received						
Aug-18	Nil received						
Sep-18	Nil received						
Oct-18	Nil received						
Nov-18	Nil received						
Dec-18	Nil received						
Jan-19	Nil received						
Feb-19	Nil received						
Mar-19	Nil received						
Apr-19	Nil received						
May-19	Nil received						
Jun-19	Nil received						
Jul-19	Nil received						
Aug-19	Nil received						
Sep-19	Nil received						
Oct-19	Nil received						
Nov-19	Nil received						
Dec-19	Nil received						
Jan-20	Nil received						
Feb-20	Nil received						
Mar-20	Nil received						
Apr-20	Nil received						

Hodgsons Quarries Complaints Register

Date published: 14/03/2023

Date Received	Site Complaint Regarding	Pollution Complaint Catgeory					
		Air	Water	Noise	Waste	Traffic	Other
May-20	Nil received						
Jun-20	Nil received						
Jul-20	Nil received						
Aug-20	Nil received						
Sep-20	Nil received						
Oct-20	Nil received						
Nov-20	Nil received						
Dec-20	Nil received						
Jan-21	Nil received						
Feb-21	Nil received						
Mar-21	Nil received						
Apr-21	Nil received						
May-21	Nil received						
Jun-21	Nil received						
Jul-21	Nil received						
Aug-21	Nil received						
Sep-21	Nil received						
Oct-21	Nil received						
Nov-21	Nil received						
Dec-21	Nil received						
Jan-22	Nil received						
Feb-22	Nil received						
Mar-22	Nil received						
Apr-22	Nil received						
May-22	Nil received						
Jun-22	Nil received						
Jul-22	Nil received						
Aug-22	Nil received						
Sep-22	Nil received						
Oct-22	Nil received						
Nov-22	Nil received						
Dec-22	Nil received						
Jan-23	Nil received						
Feb-23	Nil received						

Appendix G Weather Data Summaries

JANUARY 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	26.3	17.4	21.6	17.2	18.4	0.056	3.347	0.0	991.1	1015.5	4.8	129	5.0	33.8	164	0.0	0	14.7	143	01
02	28.7	16.8	22.5	16.8	18.2	0.172	4.296	0.0	987.7	1012.1	4.5	125	4.8	30.6	153	0.0	0	15.1	124	02
03	30.7	17.7	23.3	17.5	18.9	0.034	5.049	2.6	981.9	1006.1	3.7	134	4.0	32.2	152	0.0	0	13.7	127	03
04	26.6	17.1	20.7	18.1	18.8	0.049	2.404	1.2	980.4	1004.6	2.3	168	3.5	33.8	134	0.0	0	11.6	140	04
05	20.3	14.7	16.8	13.1	14.3	1.721	0.182	3.2	985.6	1009.9	5.8	227	6.2	37.0	223	0.0	0	13.5	210	05
06	17.1	13.8	15.1	12.9	13.7	3.200	0.000	25.8	988.5	1012.8	3.7	264	4.7	35.4	277	0.0	0	12.4	234	06
07	20.7	14.3	16.7	14.3	15.0	1.988	0.351	3.6	990.2	1014.6	3.3	224	3.6	27.4	213	0.0	0	9.8	201	07
08	26.3	15.2	19.1	13.5	15.1	1.155	1.916	0.0	989.6	1014.0	1.1	204	3.0	25.7	134	0.0	0	13.4	158	08
09	29.7	13.5	20.8	15.0	16.5	1.154	3.595	0.0	988.6	1013.0	2.1	140	2.6	29.0	176	17.0	140	12.7	130	09
10	27.2	14.1	20.4	15.3	16.7	0.889	2.921	0.0	990.0	1014.4	2.4	180	3.7	30.6	208	17.2	137	12.8	138	10
11	24.8	17.8	20.8	15.8	17.2	0.040	2.475	0.0	990.9	1015.3	2.2	134	2.5	19.3	147	11.3	154	8.2	137	11
12	27.6	18.3	21.7	16.7	18.1	0.000	3.413	0.0	991.8	1016.3	3.4	135	3.5	30.6	156	5.2	123	14.2	143	12
13	26.6	16.6	21.5	17.1	18.3	0.243	3.454	0.0	994.1	1018.6	3.4	128	3.8	29.0	143	15.6	147	12.6	145	13
14	27.0	17.3	21.9	16.9	18.2	0.082	3.693	0.0	993.7	1018.2	4.9	122	5.2	32.2	140	9.1	85	14.9	123	14
15	32.9	15.9	23.8	17.3	18.9	0.318	5.775	0.0	992.4	1016.9	2.1	139	3.0	29.0	172	0.0	0	13.0	147	15
16	27.4	18.9	22.9	17.3	18.7	0.000	4.541	0.0	996.9	1021.5	4.7	139	4.8	29.0	165	18.2	141	13.3	154	16
17	27.3	17.9	21.9	17.3	18.5	0.015	3.597	0.0	994.8	1019.3	3.1	136	3.6	30.6	161	0.0	0	14.2	148	17
18	34.6	16.4	24.3	17.9	19.2	0.200	6.122	24.2	986.7	1011.1	1.6	116	3.7	38.6	217	19.1	251	15.2	243	18
19	20.4	15.6	17.7	16.0	16.5	1.119	0.468	6.6	986.9	1011.2	1.9	224	2.4	27.4	182	12.8	237	9.5	211	19
20	19.8	15.3	17.3	13.9	15.0	1.190	0.156	0.0	992.0	1016.4	2.8	211	3.1	24.1	242	13.8	208	11.0	214	20
21	25.5	14.9	19.1	14.4	15.8	0.919	1.691	0.0	992.1	1016.5	2.0	157	3.3	29.0	139	6.6	293	12.1	152	21
22	19.6	15.7	17.2	15.7	16.2	1.236	0.140	21.4	991.2	1015.6	0.4	252	0.6	16.1	316	0.0	0	3.1	321	22
23	26.2	15.3	19.2	16.0	16.9	0.984	1.854	0.0	988.9	1013.3	0.8	139	2.2	20.9	143	10.7	144	7.6	141	23
24	29.4	17.0	21.8	17.6	18.7	0.121	3.630	0.2	987.7	1012.0	1.9	122	3.2	24.1	159	13.3	133	11.2	139	24
25	28.9	15.9	22.0	17.6	18.7	0.554	4.192	0.0	988.5	1012.8	2.5	138	3.3	25.7	132	14.4	149	10.2	133	25
26	35.8	17.9	24.2	18.5	19.7	0.016	5.924	7.2	988.6	1013.0	0.8	142	1.6	24.1	157	12.8	141	9.4	141	26
27	28.3	19.6	22.8	19.6	20.4	0.000	4.513	10.4	990.8	1015.2	1.0	200	2.4	27.4	169	11.9	147	8.4	150	27
28	33.4	20.5	25.6	21.3	22.2	0.000	7.277	0.2	988.8	1013.2	2.7	118	3.4	32.2	150	0.0	0	13.6	149	28
29	34.3	20.2	23.7	21.1	21.7	0.000	5.391	78.2	989.0	1013.3	0.7	339	2.3	57.9	335	0.0	0	28.1	325	29
30	23.8	19.1	21.0	19.6	20.0	0.000	2.655	25.0	985.6	1009.9	0.6	45	2.2	24.1	207	11.2	38	6.8	237	30
31	27.8	18.4	22.0	17.7	18.8	0.000	3.659	0.2	981.0	1005.2	2.8	249	3.7	24.1	232	15.3	270	10.9	303	31
	26.9	16.8	21.0	16.7	17.8	0.727	3.289		989.2	1013.6	2.6	167	3.4	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 5
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 15
Precipitation ≥ 2.0 mm: 11
Greatest 24 — hr precipitation: 33.0 Date: 29-30
Monthly Total Precipitation: 210.0

		DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM: 1023.0	16	22:23
	MINIMUM: 1002.0	4	17:29

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	17.455	17.455
	COOLING:	98.679	248.153

JANUARY 2023
Maroota, NSW AUS

FEBRUARY 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	29.1	17.2	22.4	17.2	18.6	0.053	4.157	0.0	979.2	1003.4	2.0	158	3.3	27.4	150	15.5	142	12.6	131	01
02	32.6	18.9	25.4	16.8	18.7	0.000	7.040	0.0	974.1	998.2	3.7	29	4.1	35.4	30	0.9	118	19.1	6	02
03	29.5	18.8	23.4	13.3	15.9	0.000	5.047	0.0	972.1	996.1	4.3	6	6.7	38.6	27	24.3	16	19.8	17	03
04	26.1	15.7	21.0	7.6	11.3	0.368	3.017	0.0	981.6	1005.8	9.0	330	9.2	43.5	11	9.8	320	21.4	318	04
05	30.1	13.9	21.6	11.6	14.3	0.554	3.785	0.0	990.4	1014.8	1.4	141	3.1	27.4	167	0.0	0	13.5	144	05
06	30.4	16.7	22.5	17.8	19.0	0.193	4.403	0.0	992.7	1017.1	3.3	125	3.7	33.8	144	0.0	0	15.6	149	06
07	28.6	19.4	23.2	18.5	19.7	0.000	4.889	0.0	991.4	1015.8	3.0	138	3.1	29.0	156	18.2	150	14.2	144	07
08	27.3	18.3	22.5	17.3	18.7	0.000	4.119	0.0	990.7	1015.1	4.4	133	4.6	32.2	130	18.9	132	14.8	138	08
09	26.2	17.5	20.5	17.2	18.1	0.088	2.251	8.0	987.9	1012.3	0.4	90	1.4	35.4	203	14.0	206	9.4	210	09
10	31.8	16.3	22.3	17.7	18.7	0.508	4.429	0.2	984.0	1008.3	1.0	102	1.9	20.9	171	13.2	142	10.6	141	10
11	37.1	17.2	26.3	17.6	19.3	0.085	8.086	0.0	980.7	1004.9	3.0	32	3.4	30.6	338	10.5	4	14.6	12	11
12	28.9	19.8	23.7	17.2	18.8	0.000	5.402	0.0	980.9	1005.1	3.7	222	4.3	33.8	234	0.0	0	16.1	213	12
13	23.0	18.6	20.4	16.7	17.7	0.000	2.076	0.6	986.4	1010.7	1.9	178	2.2	24.1	165	11.1	207	8.7	194	13
14	22.2	17.6	19.0	16.2	17.1	0.145	0.798	0.6	988.7	1013.1	1.2	253	1.9	19.3	313	12.4	336	7.4	314	14
15	25.7	16.5	20.5	16.2	17.4	0.442	2.646	1.8	992.2	1016.6	2.5	127	3.4	27.4	160	13.8	132	11.3	147	15
16	31.0	14.5	22.4	15.9	17.5	0.800	4.824	0.0	992.7	1017.1	2.8	126	3.1	25.7	148	14.6	124	10.8	123	16
17	32.9	16.8	23.5	17.7	19.0	0.209	5.390	0.0	991.7	1016.1	3.0	130	3.1	27.4	131	15.8	145	12.3	147	17
18	37.2	17.7	24.6	18.4	19.7	0.021	6.276	21.2	989.7	1014.0	1.3	109	3.3	51.5	247	0.3	125	21.2	228	18
19	27.8	18.0	22.3	18.6	19.6	0.025	3.980	0.0	994.4	1018.9	1.1	170	1.8	19.3	190	0.0	0	6.8	143	19
20	32.1	20.7	24.7	20.2	21.2	0.000	6.385	0.0	995.4	1019.9	2.4	127	2.7	25.7	143	9.8	124	12.5	149	20
21	30.3	18.7	22.6	19.2	20.0	0.000	4.311	72.2	997.6	1022.2	1.6	204	2.9	30.6	178	14.1	168	10.8	199	21
22	19.9	17.1	18.3	15.7	16.5	0.273	0.236	47.2	1000.8	1025.4	4.2	219	4.4	37.0	230	18.8	233	13.2	218	22
23	22.4	15.3	18.1	15.0	16.0	0.973	0.712	1.4	999.3	1023.9	2.7	148	3.3	32.2	166	15.1	135	12.1	154	23
24	24.6	15.3	19.5	14.8	16.1	0.866	2.019	0.0	996.8	1021.3	2.2	146	3.1	27.4	142	6.4	294	11.7	134	24
25	28.1	14.4	20.5	15.3	16.7	0.859	2.982	0.0	993.1	1017.5	2.0	101	2.7	24.1	157	0.0	0	10.6	128	25
26	33.7	15.3	24.0	16.6	18.2	0.712	6.381	0.0	987.9	1012.2	1.9	74	2.3	22.5	5	0.0	0	8.3	24	26
27	28.4	19.5	22.3	18.6	19.6	0.000	3.999	1.8	988.1	1012.5	1.9	164	2.4	29.0	169	14.7	144	12.0	178	27
28	26.9	18.6	21.9	18.7	19.5	0.000	3.528	0.2	987.3	1011.6	2.3	130	2.7	25.7	148	1.8	262	11.0	134	28
	28.7	17.3	22.1	16.6	18.0	0.399	4.042		988.8	1013.2	2.7	139	3.4	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 5
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 11
Precipitation ≥ 2.0 mm: 4
Greatest 24 — hr precipitation: 119.4 Date: 21-22
Monthly Total Precipitation: 155.2

			DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM:	1026.8	22	10:01
	MINIMUM:	992.4	3	03:41

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	7.173	24.628
	COOLING:	113.171	361.323

FEBRUARY 2023
Maroota, NSW AUS

MARCH 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

DAVIS

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	29.2	18.7	22.8	17.4	18.7	0.000	4.457	0.0	984.4	1008.7	2.5	233	4.0	33.8	171	18.8	202	13.5	200	01
02	26.8	17.8	21.4	17.0	18.2	0.036	3.112	0.0	988.8	1013.1	2.4	133	2.7	22.5	146	14.9	153	11.4	151	02
03	26.8	16.9	20.9	17.4	18.4	0.195	2.777	1.6	991.7	1016.1	1.4	155	2.2	33.8	136	17.0	150	12.7	157	03
04	25.5	17.9	20.7	17.1	18.1	0.024	2.383	0.2	992.3	1016.8	1.3	158	2.0	22.5	169	4.6	274	8.7	185	04
05	30.1	15.3	22.4	17.0	18.3	0.657	4.693	0.0	987.3	1011.7	3.1	99	3.2	25.7	123	0.0	0	10.8	119	05
06	37.8	19.2	28.4	15.7	18.2	0.000	10.029	0.0	980.8	1005.0	6.4	18	7.1	46.7	336	29.3	360	23.6	16	06
07	34.6	19.8	25.9	16.1	18.3	0.000	7.587	0.0	981.5	1005.7	1.7	353	3.9	35.4	350	22.3	348	18.3	349	07
08	31.9	18.3	24.3	8.9	12.6	0.000	5.925	0.0	981.6	1005.9	3.8	337	4.2	35.4	288	0.0	0	16.2	357	08
09	28.9	13.6	20.9	10.9	13.7	0.454	3.059	0.0	986.2	1010.5	2.4	345	4.6	29.0	134	0.0	0	14.5	151	09
10	26.9	15.2	20.4	14.8	16.4	0.784	2.816	0.0	991.2	1015.6	2.2	151	4.1	27.4	181	0.0	0	12.7	144	10
11	33.6	15.7	23.5	17.0	18.5	0.464	5.658	0.0	988.3	1012.6	2.1	60	3.1	22.5	34	0.0	0	10.9	17	11
12	26.2	19.7	21.9	18.2	19.2	0.000	3.616	0.6	987.2	1011.5	3.2	196	3.6	29.0	205	0.0	0	11.5	207	12
13	21.2	17.5	19.1	16.5	17.3	0.108	0.892	2.4	992.1	1016.5	1.5	196	2.2	22.5	221	0.0	0	7.9	160	13
14	22.7	16.7	19.4	17.6	18.1	0.427	1.476	3.0	992.8	1017.3	0.3	167	1.7	22.5	159	14.1	123	10.2	119	14
15	30.2	18.3	22.4	18.4	19.4	0.001	4.113	0.0	989.0	1013.4	0.8	313	2.2	17.7	351	3.9	4	7.4	341	15
16	35.5	18.6	26.6	15.6	17.8	0.000	8.264	0.0	986.4	1010.7	5.3	355	6.0	38.6	333	0.0	0	19.5	330	16
17	32.9	20.3	25.3	14.7	17.2	0.000	6.938	0.0	990.6	1015.0	0.4	232	4.9	35.4	155	17.4	146	14.9	143	17
18	33.2	17.0	23.7	19.0	20.1	0.123	5.446	0.0	994.4	1018.8	1.7	107	2.2	25.7	148	0.0	0	7.8	146	18
19	39.8	18.1	26.9	18.6	20.2	0.005	8.588	0.0	993.6	1018.0	0.6	111	2.3	20.9	147	0.0	0	9.3	130	19
20	22.4	16.9	20.2	17.8	18.6	0.149	2.047	0.2	999.8	1024.4	2.7	211	3.1	35.4	174	14.8	190	11.1	189	20
21	21.7	16.2	18.0	15.0	15.9	0.881	0.529	1.0	1003.5	1028.2	1.4	179	1.9	24.1	165	8.0	183	5.5	146	21
22	25.4	15.2	19.5	16.6	17.4	0.737	1.923	0.2	997.9	1022.4	0.3	301	0.7	17.7	130	8.3	127	3.4	318	22
23	29.9	18.3	21.1	18.2	19.0	0.002	2.813	5.4	993.2	1017.6	0.8	341	2.3	22.5	18	14.3	350	8.9	358	23
24	26.6	16.6	19.9	17.4	18.1	0.307	1.908	0.0	992.9	1017.4	0.4	175	2.1	22.5	167	10.2	150	8.6	144	24
25	21.3	17.4	18.7	17.4	17.8	0.111	0.494	11.4	994.1	1018.6	0.2	198	0.4	12.9	147	4.3	267	3.4	250	25
26	23.3	16.4	19.2	17.1	17.7	0.534	1.445	0.0	992.9	1017.3	0.3	97	1.1	12.9	261	6.7	284	4.8	277	26
27	22.9	16.7	19.5	18.1	18.5	0.281	1.455	11.0	989.1	1013.5	0.7	38	0.8	16.1	16	9.7	20	5.3	25	27
28	23.5	17.8	19.6	17.9	18.4	0.056	1.273	16.2	989.5	1013.9	0.5	12	0.8	17.7	328	10.2	344	5.6	308	28
29	26.4	16.3	21.0	16.5	17.7	0.083	2.732	3.8	982.5	1006.7	4.6	7	5.9	32.2	326	20.2	339	16.7	339	29
30	23.5	15.0	18.4	10.4	12.9	1.132	1.241	0.0	983.1	1007.4	6.3	335	6.5	33.8	305	9.1	311	13.7	336	30
31	25.0	12.1	17.9	10.1	12.5	1.925	1.455	0.0	987.2	1011.5	2.2	326	3.2	22.5	292	13.5	317	10.5	325	31
	27.9	17.1	21.6	16.1	17.5	0.395	3.585		989.9	1014.3	2.1	191	3.1	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 7
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 13
Precipitation ≥ 2.0 mm: 7
Greatest 24 — hr precipitation: 19.8 Date: 28-29
Monthly Total Precipitation: 57.0

SEA LEVEL PRESSURE: >		DATE	TIME
MAXIMUM:	1030.3	21	10:12
MINIMUM:	1002.3	29	16:21

DEGREEE DAYS: >	MONTHLY TOTAL	SEASON TO DATE TOTAL
HEATING:	9.475	34.104
COOLING:	111.146	472.470

MARCH 2023
Maroota, NSW AUS

APRIL 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	20.3	11.2	15.5	11.6	12.9	2.906	0.082	0.6	990.7	1015.1	1.2	253	1.8	27.4	233	4.5	314	8.9	212	01
02	18.4	13.3	15.0	13.4	14.0	3.424	0.000	13.4	994.5	1019.0	0.8	220	1.2	14.5	258	1.5	236	4.6	259	02
03	23.1	14.3	16.6	14.8	15.4	1.992	0.304	8.6	996.4	1020.9	0.3	283	0.7	22.5	128	6.0	266	5.8	111	03
04	23.7	13.7	17.6	14.9	15.7	1.767	1.046	0.2	994.9	1019.3	1.5	261	2.1	17.7	253	9.8	210	6.9	275	04
05	23.7	13.6	17.5	14.5	15.4	1.729	0.936	0.0	991.9	1016.3	1.0	249	1.5	20.9	275	9.8	272	6.8	259	05
06	21.4	14.4	17.2	14.5	15.4	1.729	0.586	0.0	989.8	1014.2	0.5	267	1.2	14.5	283	6.9	283	4.3	279	06
07	24.6	13.3	17.4	14.6	15.4	2.133	1.192	1.0	980.2	1004.4	1.8	43	2.2	27.4	43	0.0	0	9.1	40	07
08	22.3	14.2	18.4	10.8	13.1	1.024	1.086	0.0	977.1	1001.3	11.1	333	11.5	43.5	301	0.0	0	24.2	323	08
09	20.2	13.0	16.1	7.0	10.1	2.409	0.186	0.0	981.6	1005.8	10.0	332	10.2	43.5	297	0.0	0	20.0	324	09
10	19.7	8.4	14.2	5.4	8.5	4.222	0.109	0.0	984.7	1009.0	4.2	331	4.5	27.4	333	0.0	0	9.3	319	10
11	21.4	8.0	14.3	8.5	10.6	4.328	0.314	0.0	987.1	1011.4	1.8	325	2.1	27.4	298	16.5	330	11.9	327	11
12	20.0	10.7	15.4	11.3	12.7	3.126	0.171	3.0	983.9	1008.2	2.0	24	2.4	24.1	24	13.8	9	11.7	14	12
13	21.8	11.8	16.0	13.2	14.1	2.666	0.312	3.6	985.4	1009.7	1.4	277	1.9	24.1	275	10.6	212	8.4	322	13
14	20.2	13.5	16.0	14.0	14.6	2.440	0.080	3.8	988.7	1013.1	1.5	277	2.0	22.5	273	11.7	264	7.0	261	14
15	25.6	10.5	18.1	13.1	14.5	2.075	1.847	0.2	984.7	1009.0	1.7	67	2.1	19.3	63	6.3	346	5.5	65	15
16	24.9	12.6	19.3	11.8	14.1	0.704	1.705	0.0	983.2	1007.5	3.9	355	5.3	41.8	345	0.0	0	24.7	355	16
17	22.1	9.6	15.2	10.3	12.0	3.561	0.383	0.0	997.3	1021.9	0.1	187	1.9	20.9	163	0.0	0	7.0	136	17
18	21.2	10.9	15.7	12.0	13.2	2.946	0.362	0.0	999.4	1023.9	0.4	146	1.0	19.3	165	9.9	140	6.1	141	18
19	24.3	11.1	17.0	13.0	14.2	2.587	1.285	0.0	994.7	1019.1	0.3	74	0.7	16.1	342	6.6	6	4.3	292	19
20	16.7	14.1	15.3	13.9	14.4	3.055	0.000	14.2	998.9	1023.4	1.2	259	1.2	19.3	271	8.3	242	4.8	261	20
21	21.1	11.9	15.8	11.8	13.1	2.844	0.336	0.0	1003.4	1028.1	1.6	239	2.1	20.9	213	12.3	210	8.4	201	21
22	18.7	11.9	14.9	12.6	13.5	3.475	0.014	0.2	1005.5	1030.2	0.7	269	0.8	14.5	250	3.7	253	3.5	271	22
23	21.7	13.5	16.9	14.5	15.3	2.003	0.548	6.0	1007.1	1031.8	1.2	244	2.0	19.3	182	0.0	0	6.8	185	23
24	22.2	14.7	17.3	14.7	15.5	1.623	0.574	1.4	1007.8	1032.5	0.7	184	2.0	17.7	183	10.1	197	6.3	140	24
25	24.3	13.4	17.4	13.7	14.9	1.980	1.065	0.2	1004.3	1029.0	0.7	98	0.8	14.5	142	0.0	0	4.7	133	25
26	21.3	11.7	16.1	13.2	14.2	2.716	0.436	0.0	1002.7	1027.3	0.0	201	0.5	12.9	289	0.0	0	4.1	313	26
27	24.4	12.2	17.6	13.4	14.7	2.004	1.298	0.0	999.2	1023.8	0.9	59	1.1	16.1	360	8.1	357	7.8	2	27
28	27.1	12.2	18.8	13.9	15.3	1.788	2.272	0.0	991.7	1016.1	1.4	59	1.5	17.7	5	11.0	20	6.0	24	28
29	19.1	13.3	16.2	13.8	14.6	2.186	0.027	25.4	986.2	1010.5	1.4	339	1.7	25.7	352	6.7	327	9.8	340	29
30	19.8	10.9	14.6	12.0	12.9	3.786	0.086	2.4	986.7	1011.0	2.3	323	2.7	20.9	346	0.0	0	8.5	325	30
	21.8	12.3	16.5	12.5	13.8	2.508	0.666		992.7	1017.1	1.9	219	2.4	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 0
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 16
Precipitation ≥ 2.0 mm: 9
Greatest 24 — hr precipitation: 16.0 Date: 2-3
Monthly Total Precipitation: 84.2

			DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM:	1034.2	24	09:28
	MINIMUM:	998.5	8	05:23

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	75.227	109.330
	COOLING:	18.641	491.111

APRIL 2023
Maroota, NSW AUS

MAY 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

DAVIS

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	19.6	9.0	13.3	9.0	10.5	5.045	0.014	1.0	989.5	1013.9	2.1	359	2.3	17.7	352	11.2	329	7.7	341	01
02	21.1	8.5	15.1	9.4	11.4	3.622	0.350	0.0	991.3	1015.7	3.6	347	3.7	24.1	301	14.9	310	10.6	337	02
03	21.9	12.1	17.1	8.9	11.6	2.029	0.820	0.0	990.9	1015.3	11.0	348	11.8	51.5	313	33.2	336	27.6	342	03
04	19.8	8.3	13.7	6.7	9.3	4.702	0.107	0.0	994.6	1019.1	2.0	326	2.3	17.7	307	9.8	331	7.5	330	04
05	21.2	7.1	13.7	8.7	10.4	5.009	0.391	0.0	993.4	1017.9	1.0	60	1.2	16.1	30	8.9	22	6.5	353	05
06	21.2	5.9	13.2	7.6	9.5	5.470	0.317	0.0	992.8	1017.2	0.3	351	0.3	12.9	347	0.2	55	3.9	335	06
07	14.5	6.4	9.8	5.5	7.3	8.499	0.000	4.6	990.7	1015.1	4.6	334	4.9	45.1	348	0.0	0	21.3	340	07
08	15.7	6.4	11.1	3.2	6.4	7.252	0.000	0.0	991.4	1015.8	8.2	334	8.5	43.5	314	20.0	316	16.4	324	08
09	18.1	5.6	11.8	5.6	8.0	6.530	0.000	0.0	997.0	1021.5	1.5	302	2.1	25.7	333	15.8	316	8.7	236	09
10	19.7	6.5	12.3	6.9	8.9	6.130	0.058	0.0	1001.7	1026.4	0.6	263	0.8	17.7	350	7.7	284	5.5	243	10
11	21.2	6.7	13.2	9.5	10.8	5.289	0.153	0.0	1004.2	1028.9	0.2	68	0.3	9.7	170	1.1	355	2.5	118	11
12	23.1	7.7	14.7	10.6	11.9	4.396	0.791	0.0	1004.3	1029.0	0.3	89	0.3	9.7	109	0.0	0	2.4	92	12
13	18.9	10.7	14.0	11.1	12.2	4.323	0.012	0.4	1005.9	1030.6	0.8	270	0.9	16.1	248	0.0	0	4.0	257	13
14	19.7	10.8	13.6	11.8	12.5	4.701	0.018	6.2	1004.0	1028.7	1.0	285	1.3	20.9	277	0.0	0	5.6	203	14
15	21.3	11.1	14.2	11.7	12.5	4.468	0.291	0.2	999.7	1024.3	0.2	309	0.2	9.7	264	4.4	238	2.7	312	15
16	20.2	9.9	13.7	10.0	11.3	4.763	0.159	0.0	995.0	1019.5	0.9	255	1.1	20.9	257	9.4	255	7.0	251	16
17	16.7	8.5	12.0	7.8	9.5	6.292	0.000	1.0	997.8	1022.4	2.1	236	2.2	27.4	225	4.4	218	7.1	225	17
18	16.8	6.4	10.7	7.1	8.6	7.617	0.000	0.2	995.3	1019.8	0.7	249	0.9	17.7	316	8.2	209	5.8	201	18
19	18.2	5.9	10.7	6.2	7.9	7.673	0.000	0.2	992.8	1017.2	0.8	344	0.9	16.1	326	9.0	335	6.0	330	19
20	17.3	3.8	10.8	4.8	7.2	7.582	0.000	0.0	991.4	1015.8	3.9	347	4.1	35.4	315	6.2	343	16.0	334	20
21	17.7	7.6	12.8	5.8	8.5	5.572	0.000	0.0	991.9	1016.4	9.1	335	9.3	45.1	304	0.0	0	24.7	339	21
22	19.9	4.6	10.9	4.7	7.1	7.519	0.071	0.0	1000.6	1025.2	0.6	40	0.7	14.5	352	6.5	19	6.7	17	22
23	20.9	3.8	10.5	4.9	7.0	7.980	0.118	0.0	1002.3	1027.0	0.2	312	0.2	11.3	284	4.9	285	3.2	300	23
24	21.6	3.8	11.0	5.8	7.7	7.617	0.308	0.0	1000.6	1025.2	0.3	23	0.3	9.7	5	5.8	2	4.1	7	24
25	20.0	7.4	14.6	4.7	8.1	3.925	0.172	0.0	993.9	1018.3	2.4	41	2.5	35.4	24	21.2	20	14.9	27	25
26	16.5	6.2	11.9	4.6	7.5	6.410	0.000	0.0	989.0	1013.4	1.0	261	1.6	37.0	236	13.2	222	9.8	218	26
27	17.9	3.1	9.6	3.8	6.1	8.775	0.000	0.0	992.7	1017.2	0.7	342	0.7	17.7	315	2.1	344	4.4	331	27
28	15.8	2.1	9.4	3.7	6.1	8.910	0.000	0.0	991.2	1015.6	2.4	3	2.5	20.9	313	0.0	0	8.1	330	28
29	19.3	7.3	13.2	6.4	8.9	5.231	0.068	0.0	993.0	1017.4	6.4	345	6.9	41.8	313	24.1	317	19.8	337	29
30	20.4	6.5	12.7	7.0	9.1	5.803	0.204	0.0	997.3	1021.8	2.7	356	2.8	17.7	294	10.5	311	7.1	346	30
31	20.0	6.9	14.1	8.8	10.7	4.376	0.133	0.0	994.7	1019.1	1.7	26	1.7	19.3	35	11.9	33	7.0	21	31
	19.2	7.0	12.6	7.2	9.2	5.920	0.228		995.8	1020.3	2.4	243	2.6	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 0
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 8
Precipitation ≥ 2.0 mm: 2
Greatest 24 — hr precipitation: 6.2 Date: 14-15
Monthly Total Precipitation: 13.8

			DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM:	1032.3	13	09:04
	MINIMUM:	1008.4	26	05:59

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	183.511	292.841
	COOLING:	4.556	495.667

MAY 2023
Maroota, NSW AUS

JUNE 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

DAVIS

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	21.1	12.8	16.3	10.9	12.7	2.318	0.268	0.6	994.1	1018.6	1.4	29	1.6	19.3	36	11.8	17	9.4	21	01
02	20.3	11.8	15.4	12.7	13.6	3.164	0.198	0.0	999.6	1024.2	0.4	18	1.4	16.1	121	7.2	22	4.8	282	02
03	24.6	12.7	16.5	13.2	14.2	2.776	0.944	0.0	1000.8	1025.4	0.2	49	0.5	14.5	186	5.7	6	3.7	12	03
04	15.9	13.2	14.5	11.5	12.6	3.816	0.000	1.2	1007.4	1032.1	0.2	190	0.3	11.3	172	4.9	205	2.5	210	04
05	16.4	11.1	13.0	10.5	11.5	5.297	0.000	0.6	1005.7	1030.4	0.1	139	0.1	11.3	169	4.5	153	2.8	142	05
06	18.4	10.7	13.1	11.3	12.0	5.227	0.000	0.0	1003.6	1028.2	0.0	346	0.0	4.8	279	1.7	48	0.7	276	06
07	20.0	8.0	13.4	10.9	11.8	5.013	0.113	0.0	1000.3	1024.9	0.3	99	0.3	9.7	101	0.0	0	2.6	80	07
08	16.1	9.3	12.6	10.0	11.0	5.716	0.000	0.4	991.6	1016.0	2.1	48	2.2	29.0	31	11.0	35	7.8	57	08
09	17.7	7.9	12.5	6.6	8.9	5.827	0.000	0.0	992.3	1016.8	3.9	351	4.1	29.0	300	17.8	354	14.1	350	09
10	17.8	5.1	10.2	5.3	7.2	8.097	0.000	0.0	997.8	1022.3	0.9	322	1.1	16.1	346	0.8	276	7.7	339	10
11	18.3	3.2	9.8	6.0	7.5	8.501	0.000	0.0	999.4	1024.0	0.2	68	0.2	6.4	42	0.0	0	2.0	39	11
12	19.5	4.6	11.8	8.2	9.5	6.615	0.043	0.0	995.5	1020.0	0.6	61	0.6	14.5	92	0.0	0	5.9	63	12
13	18.7	9.6	13.3	9.3	10.8	5.006	0.006	0.6	989.4	1013.8	1.5	47	1.6	24.1	42	13.5	309	9.1	45	13
14	17.1	6.1	12.0	4.8	7.6	6.293	0.000	0.0	989.6	1014.0	7.7	344	7.9	41.8	320	25.7	333	24.0	328	14
15	17.2	3.8	9.7	4.3	6.5	8.623	0.000	0.0	992.7	1017.1	1.7	344	1.9	20.9	325	0.0	0	7.8	331	15
16	19.1	3.9	10.1	5.2	7.2	8.245	0.028	0.0	996.4	1020.9	0.6	344	0.7	16.1	329	7.6	319	4.9	320	16
17	18.7	3.9	10.7	5.8	7.7	7.668	0.010	0.0	995.1	1019.6	0.6	60	0.6	12.9	94	0.0	0	4.6	60	17
18	17.9	6.2	11.6	4.3	7.2	6.714	0.000	0.0	990.9	1015.4	4.7	360	5.2	33.8	5	0.0	0	18.9	6	18
19	15.8	3.6	9.8	2.2	5.3	8.531	0.000	0.0	990.4	1014.8	5.2	9	5.6	37.0	360	25.0	4	18.8	9	19
20	14.2	3.0	8.6	1.0	4.3	9.714	0.000	0.0	995.4	1019.9	1.3	315	1.7	25.7	347	8.9	335	10.1	351	20
21	15.7	1.1	7.4	1.6	4.2	10.940	0.000	0.0	998.4	1022.9	0.6	322	0.7	14.5	321	7.7	304	4.6	339	21
22	13.1	4.1	8.7	5.7	7.0	9.636	0.000	5.4	993.0	1017.4	0.2	308	0.3	12.9	227	5.6	320	3.6	304	22
23	16.4	9.3	12.3	7.1	9.1	6.031	0.000	2.2	985.3	1009.6	7.2	356	7.5	46.7	340	28.8	5	23.4	349	23
24	18.0	8.4	12.4	4.5	7.5	5.943	0.000	0.0	988.4	1012.8	5.8	17	6.0	33.8	352	4.8	21	18.0	360	24
25	19.0	7.1	13.1	3.3	7.0	5.307	0.036	0.0	988.0	1012.3	5.9	4	6.8	48.3	347	0.0	0	25.0	339	25
26	17.3	6.4	12.4	2.9	6.6	5.975	0.000	0.0	990.2	1014.6	8.6	335	9.2	49.9	327	33.3	320	25.0	330	26
27	17.4	5.8	11.6	5.4	7.9	6.722	0.000	0.0	995.0	1019.5	1.5	9	1.5	14.5	347	7.6	316	5.2	9	27
28	11.5	8.8	9.8	6.8	8.1	8.494	0.000	1.6	991.0	1015.4	0.6	5	0.7	11.3	21	5.7	357	4.7	358	28
29	15.3	4.2	9.1	4.3	6.3	9.253	0.000	0.2	991.5	1015.9	0.7	329	0.8	12.9	296	0.0	0	3.4	317	29
30	17.7	5.1	10.2	4.1	6.6	8.117	0.000	0.0	993.2	1017.7	2.9	351	3.0	25.7	323	13.9	323	11.3	331	30
	17.5	7.0	11.7	6.7	8.6	6.653	0.183		994.7	1019.2	2.3	185	2.5	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 0
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 9
Precipitation ≥ 2.0 mm: 2
Greatest 24 — hr precipitation: 7.6 Date: 22-23
Monthly Total Precipitation: 12.8

		DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM: 1034.2	4	10:07
	MINIMUM: 1006.7	23	14:32

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	199.580	492.422
	COOLING:	1.648	497.314

JUNE 2023
Maroota, NSW AUS

JULY 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

DAVIS

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	17.1	5.3	10.6	4.9	7.2	7.689	0.000	0.0	996.4	1020.9	1.0	348	1.4	16.1	325	3.4	9	6.0	316	01
02	16.8	5.4	10.3	5.4	7.4	8.077	0.000	0.0	1005.0	1029.7	0.8	279	1.0	17.7	242	0.0	0	6.2	240	02
03	16.3	5.7	11.3	7.9	9.3	7.075	0.000	0.0	1003.9	1028.6	0.6	321	0.6	12.9	312	5.8	329	3.9	357	03
04	13.3	10.3	11.9	10.8	11.3	6.409	0.000	4.2	993.6	1018.0	0.0	13	0.0	6.4	343	2.0	343	0.9	342	04
05	20.0	11.3	14.7	11.4	12.5	3.775	0.109	0.2	988.1	1012.4	3.0	23	3.1	24.1	360	15.6	14	11.1	21	05
06	15.2	9.1	11.9	6.2	8.5	6.428	0.000	0.0	988.0	1012.3	5.7	5	6.0	38.6	338	24.3	3	21.9	8	06
07	16.4	8.4	11.9	5.2	7.8	6.472	0.000	0.0	987.6	1011.9	6.9	347	7.4	38.6	309	23.2	331	19.1	336	07
08	17.7	7.9	12.8	4.4	7.6	5.517	0.000	0.0	989.4	1013.8	10.9	4	11.8	51.5	350	18.5	19	22.8	336	08
09	16.4	8.6	12.9	5.5	8.3	5.469	0.000	0.0	993.0	1017.4	10.5	341	10.8	54.7	323	0.0	0	26.6	335	09
10	19.8	5.6	11.6	5.8	8.1	6.811	0.073	0.0	997.0	1021.6	1.6	355	1.8	19.3	338	11.7	323	8.2	352	10
11	18.5	3.1	9.3	4.2	6.2	9.015	0.001	0.0	1000.7	1025.3	1.3	337	1.5	22.5	327	12.8	314	9.4	330	11
12	19.1	3.4	10.7	6.2	7.9	7.646	0.028	0.0	1003.9	1028.5	0.8	46	1.0	14.5	40	7.8	348	5.8	356	12
13	20.9	4.9	12.5	6.2	8.5	6.135	0.345	0.0	1002.0	1026.6	1.9	28	1.9	19.3	34	11.1	14	7.6	20	13
14	21.2	10.7	15.5	7.3	10.1	3.227	0.428	0.0	998.8	1023.4	6.6	31	6.7	30.6	32	20.2	22	16.5	16	14
15	21.7	11.1	15.8	7.6	10.4	3.134	0.642	0.0	996.8	1021.3	4.2	11	4.6	38.6	352	14.1	35	21.0	356	15
16	16.1	11.1	13.1	9.5	10.9	5.223	0.000	0.2	1002.4	1027.1	0.1	310	0.1	6.4	273	0.0	0	1.3	281	16
17	16.9	9.8	12.8	11.2	11.8	5.509	0.000	1.6	1004.1	1028.7	0.0	14	0.1	6.4	343	0.0	0	0.9	343	17
18	20.8	7.6	13.1	8.2	9.9	5.438	0.195	0.0	997.6	1022.2	1.2	357	1.3	25.7	332	13.5	330	7.7	334	18
19	15.6	4.5	9.8	2.6	5.6	8.537	0.000	0.0	997.6	1022.1	0.8	290	1.1	22.5	286	8.7	243	5.8	213	19
20	18.6	1.2	9.8	1.8	4.9	8.540	0.004	0.0	993.7	1018.1	2.7	45	3.0	20.9	43	0.0	0	9.4	54	20
21	16.7	7.2	11.8	4.5	7.4	6.562	0.000	0.0	992.6	1017.1	1.9	354	2.2	17.7	327	11.6	306	6.5	13	21
22	16.1	3.1	9.1	3.7	6.0	9.207	0.000	0.0	996.7	1021.2	0.9	304	1.1	20.9	271	8.6	266	5.5	246	22
23	16.8	3.9	9.7	5.6	7.3	8.599	0.000	0.0	998.2	1022.8	0.9	234	1.2	19.3	234	0.0	0	6.6	251	23
24	16.6	8.6	11.1	8.6	9.6	7.198	0.000	4.2	1004.1	1028.8	0.4	265	0.5	17.7	13	7.3	350	4.7	248	24
25	19.2	5.8	10.9	7.7	8.9	7.436	0.028	0.0	1010.1	1034.9	0.1	335	0.3	14.5	252	6.1	250	2.8	317	25
26	20.3	5.1	11.6	7.7	9.1	6.858	0.174	0.0	1008.8	1033.6	0.8	53	0.9	19.3	29	7.0	63	5.8	56	26
27	20.1	5.3	12.4	7.7	9.4	6.083	0.173	0.0	1004.0	1028.7	0.8	81	0.9	11.3	136	5.9	93	4.5	56	27
28	23.0	10.1	16.1	8.2	10.9	2.834	0.641	0.0	997.5	1022.0	4.6	30	4.9	30.6	28	21.0	11	17.3	25	28
29	22.7	10.9	16.4	10.1	12.2	2.801	0.848	0.0	997.2	1021.7	1.0	37	1.1	14.5	344	7.0	22	6.0	22	29
30	22.8	9.0	16.3	10.1	12.1	3.144	1.138	0.0	995.3	1019.8	4.9	10	5.1	40.2	360	0.0	0	21.0	12	30
31	22.9	9.2	15.7	7.5	10.3	3.233	0.562	0.0	997.5	1022.0	1.9	6	2.1	17.7	329	11.2	329	7.8	339	31
	18.6	7.2	12.4	6.9	8.9	6.132	0.337		998.1	1022.7	2.5	168	2.8	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 0
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 5
Precipitation ≥ 2.0 mm: 2
Greatest 24 — hr precipitation: 4.2 Date: 3-4
Monthly Total Precipitation: 10.4

			DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM:	1036.8	25	22:04
	MINIMUM:	1008.8	7	04:38

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	190.085	682.507
	COOLING:	5.391	5.391

JULY 2023
Maroota, NSW AUS

AUGUST 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

DAVIS

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	20.3	6.6	13.0	5.7	8.4	5.506	0.192	0.0	1002.3	1026.9	0.5	300	1.1	17.7	294	9.5	283	5.0	306	01
02	16.8	9.0	12.4	8.9	10.2	5.973	0.000	0.8	1009.8	1034.6	0.2	151	0.3	12.9	151	5.5	141	3.3	137	02
03	21.2	6.2	13.3	9.3	10.7	5.355	0.358	0.0	1008.9	1033.6	1.0	83	1.1	14.5	35	8.3	65	5.6	62	03
04	23.3	8.2	15.0	8.3	10.6	4.344	0.971	0.0	1006.5	1031.2	1.0	53	1.0	19.3	38	0.0	0	7.3	41	04
05	17.3	10.5	14.0	8.5	10.6	4.340	0.000	0.0	1005.0	1029.7	0.1	24	0.2	9.7	261	3.8	10	2.9	11	05
06	14.3	10.2	12.1	10.0	10.8	6.280	0.000	0.2	1007.3	1032.0	0.1	288	0.1	6.4	260	0.0	0	1.0	268	06
07	15.3	8.5	11.7	8.5	9.8	6.624	0.000	0.0	1006.1	1030.8	0.2	253	0.2	12.9	346	0.0	0	2.4	251	07
08	19.3	9.4	12.7	9.2	10.5	5.668	0.009	0.0	1006.3	1031.0	0.2	234	0.4	12.9	246	6.0	250	3.4	267	08
09	19.9	6.2	12.7	7.9	9.6	5.777	0.127	0.0	1004.2	1028.8	1.2	53	1.3	19.3	38	10.2	47	6.9	55	09
10	22.3	9.8	15.1	5.5	8.8	3.960	0.688	0.0	996.4	1020.9	6.8	350	7.9	51.5	348	0.4	71	23.8	356	10
11	19.4	5.1	11.9	4.5	7.3	6.525	0.063	0.0	996.8	1021.3	0.3	12	0.8	16.1	317	6.9	347	4.4	354	11
12	22.4	5.8	13.2	5.3	8.1	5.565	0.421	0.0	993.5	1018.0	1.4	341	1.7	22.5	287	0.0	0	10.3	338	12
13	16.2	10.9	12.8	8.8	10.4	5.540	0.000	3.6	994.2	1018.6	0.0	106	0.1	9.7	173	0.0	0	1.3	344	13
14	15.9	9.9	11.8	10.4	10.9	6.572	0.000	16.2	992.1	1016.5	0.4	352	0.6	12.9	30	4.4	323	4.6	36	14
15	16.2	6.9	10.7	8.0	9.1	7.607	0.000	0.2	995.8	1020.3	0.6	218	0.9	16.1	273	7.4	267	4.4	269	15
16	18.3	7.2	11.3	7.9	9.2	7.055	0.000	0.0	996.2	1020.7	0.3	102	0.5	14.5	143	5.8	137	3.7	135	16
17	20.2	5.1	12.3	7.1	8.9	6.181	0.165	2.6	987.7	1012.0	0.3	130	0.4	12.9	155	5.2	142	3.6	136	17
18	15.9	9.1	12.2	6.7	8.8	6.121	0.000	3.6	981.5	1005.7	9.9	335	10.1	56.3	347	39.8	335	30.8	334	18
19	18.0	6.4	11.6	4.3	7.2	6.751	0.000	0.0	991.7	1016.1	6.5	335	6.8	40.2	355	16.4	318	18.4	343	19
20	21.7	7.2	13.9	7.2	9.5	4.871	0.420	0.0	997.5	1022.0	0.5	95	0.8	14.5	142	0.0	0	4.0	140	20
21	22.0	7.3	13.5	7.7	9.7	5.252	0.433	0.0	997.7	1022.2	0.4	50	0.5	17.7	342	8.3	352	4.0	6	21
22	24.4	7.3	15.5	8.4	10.6	4.071	1.242	0.0	994.5	1018.9	1.6	64	1.7	33.8	285	10.3	62	8.1	63	22
23	18.3	10.0	13.6	8.6	10.5	4.704	0.000	0.0	998.6	1023.2	1.5	290	2.2	33.8	315	16.9	322	10.5	331	23
24	17.1	8.2	12.7	8.3	10.0	5.644	0.000	0.0	1003.5	1028.1	0.5	171	0.7	12.9	194	1.4	317	6.3	199	24
25	22.2	6.3	12.8	7.2	9.1	5.947	0.420	0.0	1001.7	1026.3	0.2	182	0.7	17.7	303	7.5	304	4.3	294	25
26	20.4	7.9	13.4	9.5	10.9	5.177	0.212	0.0	1003.3	1028.0	0.6	150	0.9	20.9	144	0.0	0	5.8	153	26
27	21.6	7.6	13.7	9.8	11.1	4.859	0.259	0.0	1002.7	1027.4	1.0	124	1.1	16.1	143	0.0	0	6.1	143	27
28	20.8	7.7	14.0	9.8	11.2	4.606	0.314	0.0	1000.3	1024.9	1.0	118	1.2	17.7	154	0.0	0	7.1	140	28
29	24.3	7.8	15.3	10.0	11.6	3.999	0.971	0.0	994.7	1019.2	1.1	74	1.4	16.1	37	8.2	47	6.9	53	29
30	25.3	9.4	15.4	9.6	11.3	4.369	1.434	9.2	989.7	1014.1	1.2	48	2.0	40.2	219	17.4	238	14.5	245	30
31	20.6	9.7	13.7	10.6	11.7	4.694	0.065	0.0	991.1	1015.6	0.1	256	1.0	17.7	232	8.9	247	5.6	273	31
	19.7	8.0	13.1	8.1	9.9	5.482	0.461		998.6	1023.2	1.3	172	1.6	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 0
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 8
Precipitation ≥ 2.0 mm: 5
Greatest 24 — hr precipitation: 19.2 Date: 13-14
Monthly Total Precipitation: 36.4

			DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM:	1036.5	2	10:04
	MINIMUM:	1002.1	18	06:40

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	169.940	852.447
	COOLING:	8.765	14.156

AUGUST 2023
Maroota, NSW AUS

SEPTEMBER 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	18.3	7.6	12.1	7.3	9.1	6.190	0.000	0.0	995.0	1019.5	2.3	213	2.6	27.4	168	14.3	174	12.1	197	01
02	18.2	6.9	11.7	6.7	8.6	6.642	0.000	0.0	997.5	1022.0	0.7	260	1.4	20.9	252	0.3	335	7.4	311	02
03	20.3	8.2	13.4	8.7	10.4	5.078	0.153	0.0	995.9	1020.4	0.8	127	1.1	17.7	169	0.0	0	6.7	143	03
04	21.3	7.0	14.0	10.4	11.6	4.764	0.479	0.0	989.7	1014.1	1.6	129	1.7	19.3	169	0.0	0	8.7	153	04
05	23.3	11.8	17.0	5.3	8.9	2.508	1.224	0.0	988.2	1012.5	7.3	330	7.5	41.8	325	22.4	334	20.3	326	05
06	23.6	6.7	14.7	5.6	8.7	4.363	0.702	0.0	996.3	1020.8	2.1	110	2.7	25.7	164	13.1	141	11.0	144	06
07	28.3	6.6	18.2	10.2	12.4	3.531	3.413	0.0	992.7	1017.2	4.4	55	4.9	49.9	347	33.3	332	23.0	349	07
08	20.8	9.3	14.4	8.0	10.3	4.063	0.089	6.4	992.9	1017.3	5.7	2	7.9	53.1	24	24.3	55	23.4	326	08
09	18.7	6.7	11.4	2.6	6.0	6.975	0.003	0.0	1000.4	1025.0	1.1	311	2.8	20.9	245	0.0	0	8.0	288	09
10	18.5	4.0	11.1	3.2	6.3	7.278	0.000	0.0	1004.3	1028.9	0.7	314	1.4	16.1	265	0.0	0	5.1	305	10
11	20.8	5.1	12.3	6.5	8.7	6.160	0.108	0.0	1006.0	1030.7	0.1	134	1.1	14.5	299	0.0	0	5.6	139	11
12	20.4	5.8	13.3	8.0	9.9	5.319	0.262	0.0	1004.5	1029.2	0.2	128	0.9	14.5	351	7.7	257	5.4	141	12
13	24.1	6.9	14.6	8.4	10.4	4.670	0.938	0.0	1002.8	1027.5	0.2	81	1.4	20.9	148	9.7	319	7.1	137	13
14	26.8	7.7	17.0	8.1	10.8	3.444	2.061	0.0	1002.7	1027.4	0.7	115	1.4	14.5	257	3.3	302	6.1	332	14
15	30.4	9.6	19.0	7.3	10.5	2.493	3.197	0.0	999.6	1024.1	1.8	62	1.9	19.3	59	9.8	75	8.2	55	15
16	32.4	13.7	23.2	7.6	11.5	1.057	5.909	0.0	996.9	1021.4	3.3	24	3.7	29.0	340	19.3	322	15.1	355	16
17	31.6	15.3	23.9	5.2	9.9	0.151	5.734	0.0	997.1	1021.6	5.3	346	5.9	40.2	271	22.9	323	19.3	320	17
18	34.2	11.3	23.1	7.0	10.9	1.319	6.094	0.0	995.5	1020.0	2.4	34	2.6	33.8	360	22.6	14	15.7	5	18
19	32.3	16.7	24.8	6.9	11.2	0.033	6.521	0.0	991.3	1015.7	6.3	13	6.6	45.1	21	29.2	10	24.7	16	19
20	32.6	19.8	26.3	6.2	10.8	0.000	7.927	0.0	986.3	1010.6	9.5	19	10.2	48.3	331	32.8	7	27.6	3	20
21	23.3	12.4	16.6	8.9	11.3	2.462	0.749	0.0	993.2	1017.6	1.7	232	4.0	35.4	339	7.5	189	15.9	323	21
22	17.2	9.9	13.0	7.5	9.6	5.355	0.000	0.0	1003.7	1028.4	1.3	189	1.6	24.1	200	13.9	199	8.0	220	22
23	18.4	8.4	13.0	7.4	9.5	5.332	0.000	0.0	1004.2	1028.9	0.1	204	1.0	14.5	165	0.0	0	4.3	315	23
24	19.9	8.0	13.7	8.2	10.1	4.737	0.120	0.0	1002.3	1026.9	1.7	136	1.8	22.5	160	0.0	0	9.0	143	24
25	27.6	7.3	17.1	9.0	11.4	3.472	2.217	0.0	997.4	1022.0	0.9	100	1.5	20.9	164	10.8	147	8.1	146	25
26	23.4	10.9	16.5	11.5	13.2	2.704	0.892	8.2	996.0	1020.5	1.0	179	1.9	22.5	123	10.1	221	7.9	154	26
27	23.5	11.9	17.0	13.7	14.7	2.277	0.921	0.0	996.1	1020.6	1.0	145	1.2	22.5	158	11.1	149	8.2	149	27
28	20.6	13.9	15.9	13.7	14.5	2.615	0.188	21.2	1002.1	1026.7	0.1	152	0.4	11.3	215	3.4	226	4.2	211	28
29	30.3	11.2	19.2	12.1	13.9	2.292	3.141	0.0	999.3	1023.8	0.3	158	1.2	19.3	168	9.4	135	7.1	138	29
30	30.4	12.9	20.8	14.0	15.8	1.320	3.753	0.0	995.8	1020.3	1.8	119	2.0	22.5	148	0.0	0	9.5	128	30
	24.4	9.8	16.6	8.2	10.7	3.745	2.272		997.5	1022.1	2.2	147	2.9	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 4
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 3
Precipitation ≥ 2.0 mm: 3
Greatest 24 — hr precipitation: 8.6 Date: 27-28
Monthly Total Precipitation: 35.8

			DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM:	1032.5	11	09:30
	MINIMUM:	1006.3	5	03:59

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	108.603	961.050
	COOLING:	56.796	70.951

SEPTEMBER 2023
Maroota, NSW AUS

OCTOBER 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	34.7	16.7	25.7	10.4	13.8	0.159	7.219	0.0	989.1	1013.5	6.7	12	8.4	51.5	307	0.0	0	27.1	351	01
02	23.9	14.2	18.5	13.0	14.7	1.073	1.272	0.0	996.8	1021.4	1.9	140	2.4	24.1	234	0.0	0	9.8	136	02
03	34.1	15.2	25.0	11.2	14.2	0.513	7.134	0.0	991.5	1015.9	5.7	50	5.9	43.5	10	23.0	27	18.3	40	03
04	25.3	11.4	21.3	10.5	13.3	1.077	4.021	18.4	986.6	1010.9	6.7	46	7.4	46.7	340	25.6	36	18.3	43	04
05	19.9	11.6	15.1	4.3	8.0	3.409	0.145	0.0	991.6	1016.0	12.8	343	13.9	45.1	355	32.2	335	24.3	335	05
06	21.3	7.7	13.9	7.2	9.6	4.692	0.212	1.0	1000.6	1025.2	1.3	206	2.6	30.6	169	16.8	201	11.8	185	06
07	18.0	10.1	13.2	8.3	10.1	5.092	0.000	0.4	1006.0	1030.7	1.2	199	1.8	25.7	207	8.6	274	7.8	169	07
08	21.7	9.4	14.3	8.9	10.8	4.313	0.322	0.0	1005.6	1030.3	1.1	132	2.1	24.1	140	0.0	0	9.4	139	08
09	27.6	7.8	16.8	8.4	10.8	3.620	2.113	0.0	1000.0	1024.6	1.0	90	1.7	20.9	159	0.0	0	9.3	138	09
10	22.6	11.7	16.6	11.8	13.4	2.479	0.771	0.0	998.4	1022.9	1.4	177	3.1	29.0	162	0.0	0	11.0	140	10
11	26.9	13.1	18.7	13.0	14.6	1.587	1.994	0.0	998.9	1023.4	1.4	102	2.2	25.7	144	13.2	133	9.5	132	11
12	32.1	12.0	22.0	10.4	13.1	1.675	5.308	0.0	991.0	1015.4	7.7	0	8.8	54.7	302	32.1	358	27.6	317	12
13	24.8	11.4	17.4	5.5	9.3	2.305	1.402	0.0	992.7	1017.1	5.4	326	6.1	41.8	294	12.5	326	18.2	320	13
14	27.1	9.8	19.4	8.4	11.6	1.856	2.911	0.0	992.2	1016.6	6.5	342	6.9	43.5	303	0.0	0	22.3	330	14
15	28.9	11.3	19.4	8.6	11.7	1.587	2.702	0.0	991.5	1016.0	1.8	350	2.9	32.2	326	0.0	0	13.1	324	15
16	24.7	10.7	16.2	8.0	10.6	3.343	1.252	0.0	989.4	1013.8	6.3	322	6.8	64.4	287	38.2	324	30.6	325	16
17	17.3	9.2	12.6	7.1	9.3	5.772	0.000	0.2	1002.0	1026.6	2.5	232	2.6	29.0	165	14.3	221	9.4	231	17
18	20.7	10.8	14.2	10.3	11.6	4.247	0.159	0.4	1004.6	1029.2	0.8	161	1.1	19.3	142	8.9	152	6.2	152	18
19	22.3	11.8	16.1	10.5	12.3	2.764	0.578	0.0	999.4	1024.0	1.3	116	1.8	22.5	122	9.4	146	7.8	143	19
20	28.8	10.3	18.6	12.5	14.2	2.431	2.657	0.0	993.9	1018.3	2.3	134	2.6	33.8	136	15.8	146	12.6	142	20
21	28.1	13.2	19.4	15.3	16.4	1.624	2.676	0.0	990.3	1014.7	2.4	140	3.0	32.2	132	18.4	144	14.7	145	21
22	30.8	16.0	22.3	9.6	12.7	0.646	4.576	0.0	985.5	1009.8	6.4	340	6.7	51.5	344	32.1	336	24.8	342	22
23	29.0	10.9	19.6	7.8	11.2	1.589	2.807	0.0	988.8	1013.1	0.8	103	2.0	25.7	123	13.0	138	10.3	142	23
24	34.2	11.6	21.3	11.4	13.8	1.726	4.701	0.0	988.3	1012.6	1.7	85	2.4	25.7	27	11.2	338	10.8	66	24
25	26.0	15.7	20.6	10.8	13.6	0.290	2.598	0.0	987.8	1012.2	2.8	172	3.6	32.2	153	10.8	152	11.5	137	25
26	15.7	11.0	13.0	8.1	10.0	5.300	0.000	1.4	998.0	1022.5	3.8	215	3.9	37.0	217	6.5	233	11.2	214	26
27	17.7	9.1	12.4	8.6	10.1	5.932	0.000	2.6	1004.9	1029.6	3.5	222	3.6	38.6	246	16.8	242	13.5	219	27
28	19.3	8.7	13.8	8.6	10.4	4.598	0.040	0.0	1003.2	1027.9	1.1	151	1.9	25.7	156	0.0	0	8.5	133	28
29	28.0	7.9	17.7	9.0	11.4	3.220	2.550	0.0	994.9	1019.4	2.0	102	2.7	25.7	127	0.0	0	11.8	133	29
30	32.9	11.6	23.4	7.8	11.3	1.579	6.683	0.0	987.4	1011.7	5.8	19	6.7	41.8	360	26.0	4	21.6	2	30
31	28.5	13.9	22.5	6.0	10.2	0.639	4.819	0.0	988.2	1012.5	5.0	314	8.0	53.1	309	28.6	311	24.1	315	31
	25.6	11.5	18.1	9.4	11.9	2.617	2.727		994.8	1019.3	3.6	172	4.4	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 4
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 7
Precipitation ≥ 2.0 mm: 2
Greatest 24 — hr precipitation: 18.4 Date: 3-4
Monthly Total Precipitation: 24.4

		DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM: 1033.3	8	09:25
	MINIMUM: 1004.2	4	17:47

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	81.135	1042.185
	COOLING:	73.623	144.574

OCTOBER 2023
Maroota, NSW AUS

NOVEMBER 2023
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota

Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	22.0	11.3	16.3	10.0	12.1	2.448	0.377	0.0	996.0	1020.5	2.2	162	3.5	33.8	169	0.0	0	13.6	151	01
02	23.3	12.0	17.1	10.6	12.7	2.011	0.795	0.0	996.4	1020.9	1.5	157	2.2	30.6	150	13.9	135	10.1	151	02
03	24.7	13.8	18.4	12.8	14.5	1.337	1.389	0.0	994.6	1019.1	2.0	138	2.2	32.2	126	15.6	137	12.5	134	03
04	20.2	15.3	16.9	13.8	14.8	1.643	0.204	5.4	996.8	1021.3	0.9	218	1.1	14.5	177	0.0	0	6.1	206	04
05	17.3	14.1	15.4	12.9	13.7	2.983	0.000	20.2	1001.4	1026.0	1.3	172	1.4	27.4	176	0.0	0	8.4	160	05
06	20.1	12.3	16.3	11.5	13.1	2.355	0.317	0.0	1000.6	1025.2	1.4	137	2.2	20.9	130	12.0	156	8.0	134	06
07	25.0	10.7	17.9	12.6	14.2	2.291	1.829	0.0	996.8	1021.3	3.1	121	3.4	32.2	130	16.1	143	11.8	140	07
08	28.3	13.1	19.8	13.9	15.5	1.479	2.959	0.0	993.9	1018.3	1.6	114	2.1	25.7	164	14.4	129	11.6	128	08
09	29.1	14.6	18.6	14.7	15.8	1.690	1.932	28.0	991.8	1016.3	0.8	78	2.0	69.2	307	0.0	0	35.6	334	09
10	26.7	14.0	19.2	15.5	16.5	1.353	2.248	0.4	993.0	1017.5	2.4	137	2.6	27.4	144	0.0	0	13.7	146	10
11	33.9	15.2	23.3	17.2	18.5	0.760	5.678	0.0	992.8	1017.2	2.2	119	2.8	27.4	142	0.0	0	12.8	141	11
12	29.6	17.1	22.1	17.1	18.4	0.082	3.833	0.0	990.6	1015.0	3.0	154	3.6	32.2	157	0.0	0	14.0	136	12
13	21.9	16.4	18.6	13.7	15.2	0.502	0.732	0.0	993.4	1017.9	3.0	154	3.4	24.1	137	12.0	146	9.8	153	13
14	29.3	13.2	20.3	14.9	16.4	1.027	2.953	0.0	990.0	1014.4	2.0	138	2.3	25.7	149	14.8	146	11.2	134	14
15	28.2	17.6	21.1	16.6	17.8	0.141	2.880	0.0	987.8	1012.2	1.9	165	2.4	27.4	227	15.3	208	10.6	186	15
16	30.4	17.9	21.5	16.1	17.5	0.035	3.233	0.8	986.2	1010.5	1.4	160	2.4	32.2	211	17.4	153	13.3	154	16
17	22.4	13.9	16.9	12.2	13.7	2.019	0.549	12.4	992.9	1017.4	2.3	206	2.6	29.0	180	14.8	193	11.3	188	17
18	24.4	12.6	18.0	12.3	14.0	1.673	1.372	0.0	996.3	1020.8	3.1	113	3.4	32.2	146	2.5	102	14.1	136	18
19	29.7	12.5	20.4	13.6	15.4	1.448	3.467	0.0	995.2	1019.7	3.5	125	3.7	37.0	159	0.0	0	14.7	142	19
20	26.4	16.8	20.5	14.9	16.5	0.322	2.461	0.0	994.7	1019.2	1.7	53	2.2	30.6	31	15.4	30	12.7	34	20
21	26.9	16.2	19.9	15.7	16.9	0.429	2.017	0.0	994.7	1019.2	0.8	266	2.6	24.1	338	12.8	323	10.7	324	21
22	24.7	16.2	20.0	15.9	17.0	0.475	2.106	0.0	996.6	1021.2	1.7	161	2.1	27.4	151	0.1	36	12.2	155	22
23	23.6	16.3	18.9	16.1	16.9	0.450	1.043	2.0	998.2	1022.7	1.9	231	2.3	32.2	184	15.5	199	10.3	215	23
24	22.6	17.0	19.1	17.4	17.9	0.348	1.069	8.2	996.0	1020.5	0.3	137	0.3	11.3	136	3.9	135	2.3	131	24
25	20.3	17.1	18.6	17.6	17.9	0.336	0.557	14.0	990.0	1014.4	0.6	97	0.7	12.9	90	1.1	129	3.0	93	25
26	30.6	18.0	23.3	16.9	18.4	0.010	4.936	0.0	986.0	1010.3	4.1	3	4.9	33.8	339	0.0	0	17.0	357	26
27	27.1	17.6	21.5	16.8	18.0	0.056	3.179	0.0	988.2	1012.6	2.6	155	3.3	29.0	164	16.3	151	13.2	143	27
28	20.9	18.3	19.5	17.4	18.0	0.000	1.134	1.2	989.8	1014.1	2.5	129	2.6	22.5	117	10.6	146	7.2	139	28
29	28.3	15.9	20.4	17.6	18.3	0.519	2.556	67.4	980.9	1005.2	1.4	111	2.1	41.8	348	23.4	335	10.8	147	29
30	26.9	16.1	21.5	15.5	17.1	0.477	3.619	0.2	978.6	1002.7	5.8	339	6.2	40.2	313	24.0	322	19.0	324	30
	25.5	15.1	19.4	14.8	16.1	1.059	2.118		992.7	1017.1	2.1	148	2.6	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 1
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 12
Precipitation ≥ 2.0 mm: 8
Greatest 24 — hr precipitation: 68.2 Date: 28-29
Monthly Total Precipitation: 160.2

		DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM: 1028.4	5	21:54
	MINIMUM: 1000.3	29	15:42

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	30.700	1072.885
	COOLING:	61.423	205.997

NOVEMBER 2023
Maroota, NSW AUS

DECEMBER 2023
LOCAL CLIMATOLOGICAL DATA
DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
Hodgson Quarries - Maroota
Lat: -33.4650 Long: 151.0008 Elev (ground): 205 m Time Zone: Australia/Sydney

DAVIS

	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (hPa)		WIND SPEED = km/h DIR = DEGREES									
														WIND MAX						
														INSTANT		2 - MIN		ARCHIVE		
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	SPEED	DIR	SPEED	DIR	SPEED	DIR	Date
01	30.7	16.2	22.0	16.0	17.6	0.200	3.818	0.0	981.6	1005.8	1.1	124	2.5	29.0	111	14.7	139	11.2	143	01
02	26.4	17.9	20.7	16.9	18.0	0.038	2.388	3.0	984.8	1009.1	0.5	125	1.2	22.5	132	0.0	0	7.5	205	02
03	29.9	13.9	20.0	14.7	16.1	1.098	2.797	2.4	989.5	1013.8	1.6	192	3.2	30.6	138	0.0	0	12.1	149	03
04	25.9	15.7	19.2	15.2	16.3	0.861	1.737	0.4	994.2	1018.6	1.8	132	1.9	25.7	142	13.2	146	10.6	143	04
05	36.9	13.9	25.2	16.0	17.9	0.948	7.817	0.0	991.6	1016.0	1.7	98	2.1	22.5	132	10.5	131	9.7	139	05
06	27.9	17.9	23.7	16.3	18.2	0.008	5.333	0.0	992.8	1017.2	3.8	149	4.3	29.0	146	16.9	143	12.2	142	06
07	32.4	16.5	22.2	17.5	18.6	0.385	4.225	0.0	994.3	1018.7	2.0	150	2.3	33.8	178	0.0	0	12.0	131	07
08	38.1	19.2	28.0	18.5	20.4	0.000	9.624	0.0	991.9	1016.3	2.4	110	3.0	29.0	148	16.5	136	11.9	144	08
09	41.1	22.2	30.8	18.7	20.9	0.000	12.510	0.0	988.4	1012.8	2.0	30	6.2	43.5	352	0.0	0	24.4	356	09
10	27.3	19.2	21.7	19.1	19.8	0.000	3.335	0.8	994.1	1018.6	1.8	222	2.3	35.4	259	0.0	0	10.2	224	10
11	32.2	18.6	23.9	19.3	20.4	0.000	5.527	0.0	993.2	1017.6	1.8	181	2.4	25.7	167	12.1	152	10.6	150	11
12	28.3	19.3	23.3	18.3	19.5	0.000	5.008	0.0	994.8	1019.3	2.9	139	2.9	25.7	157	15.2	133	10.8	133	12
13	32.8	18.5	24.1	19.1	20.3	0.000	5.775	12.8	989.8	1014.2	2.0	112	3.3	83.7	352	41.2	337	20.5	325	13
14	37.2	21.1	28.5	17.2	19.3	0.000	10.153	0.0	982.8	1007.1	7.7	344	8.8	57.9	342	39.6	326	28.5	326	14
15	26.7	18.7	22.5	16.9	18.4	0.000	4.179	0.0	985.3	1009.6	2.5	140	2.9	37.0	146	18.7	150	13.7	148	15
16	34.3	17.2	25.3	12.4	15.1	0.115	7.112	0.0	982.9	1007.1	4.1	325	5.3	61.2	302	0.1	106	17.9	353	16
17	25.5	18.5	21.8	16.6	18.0	0.000	3.464	0.0	990.3	1014.7	3.3	143	3.5	35.4	167	0.0	0	15.1	148	17
18	29.8	18.6	23.0	19.2	20.2	0.000	4.650	0.0	989.7	1014.1	1.8	147	1.9	25.7	134	13.0	150	9.4	154	18
19	31.2	21.1	25.3	20.1	21.3	0.000	6.990	0.0	986.9	1011.3	1.2	85	2.3	32.2	76	15.3	54	11.3	56	19
20	21.1	14.9	17.3	16.1	16.5	1.547	0.509	49.0	990.4	1014.8	1.1	247	1.4	20.9	252	0.3	283	5.6	332	20
21	21.3	14.9	17.6	14.5	15.5	1.183	0.484	1.0	992.1	1016.6	2.9	225	3.2	33.8	227	17.3	221	13.2	206	21
22	24.3	15.7	19.3	12.9	14.8	0.769	1.686	0.0	992.0	1016.4	1.7	190	2.9	25.7	139	14.2	150	10.5	140	22
23	27.2	15.2	19.9	14.7	16.2	0.586	2.161	0.0	988.0	1012.4	1.3	122	2.4	25.7	138	0.0	0	11.1	145	23
24	24.1	17.1	19.5	16.9	17.7	0.238	1.453	2.2	983.5	1007.8	0.2	307	1.8	17.7	346	0.0	0	7.2	148	24
25	27.6	17.1	20.8	17.7	18.5	0.312	2.827	3.0	982.5	1006.7	1.1	140	2.1	27.4	119	0.0	0	10.1	140	25
26	29.1	15.8	21.2	18.2	19.0	0.151	2.968	68.8	983.2	1007.5	0.3	271	2.8	46.7	213	0.0	0	17.9	273	26
27	27.3	16.7	20.6	16.7	17.8	0.155	2.436	3.0	985.2	1009.5	0.6	216	1.2	22.5	179	0.0	0	8.9	243	27
28	32.3	17.6	23.4	16.1	17.8	0.046	5.071	0.0	986.5	1010.8	1.8	9	4.4	33.8	296	0.0	0	17.0	329	28
29	27.2	17.7	22.7	17.4	18.7	0.042	4.384	0.0	987.6	1012.0	1.7	356	2.3	27.4	5	0.0	0	12.3	356	29
30	29.1	18.6	22.4	15.2	17.1	0.000	4.047	0.0	987.0	1011.3	2.3	150	4.3	33.8	161	0.0	0	14.1	149	30
31	19.9	15.9	17.8	14.5	15.5	0.896	0.350	0.4	996.5	1021.0	0.8	185	0.9	20.9	129	0.0	0	5.0	205	31
	29.2	17.5	22.4	16.7	18.1	0.504	4.349		988.8	1013.2	2.0	173	3.0	< Monthly Avg						

NUMBER OF DAYS WITH: >
Maximum Temp ≥ 32.2: 9
Maximum Temp ≤ 0: 0
Minimum Temp ≤ 0: 0
Minimum Temp ≤ -17.7: 0
Precipitation ≥ 0.2 mm: 12
Precipitation ≥ 2.0 mm: 8
Greatest 24 — hr precipitation: 41.8 Date: 20-21
Monthly Total Precipitation: 146.8

		DATE	TIME
SEA LEVEL PRESSURE: >	MAXIMUM: 1023.7	1	00:00
	MINIMUM: 1003.0	14	17:41

		MONTHLY TOTAL	SEASON TO DATE TOTAL
DEGREEE DAYS: >	HEATING:	9.579	1082.464
	COOLING:	134.818	340.815

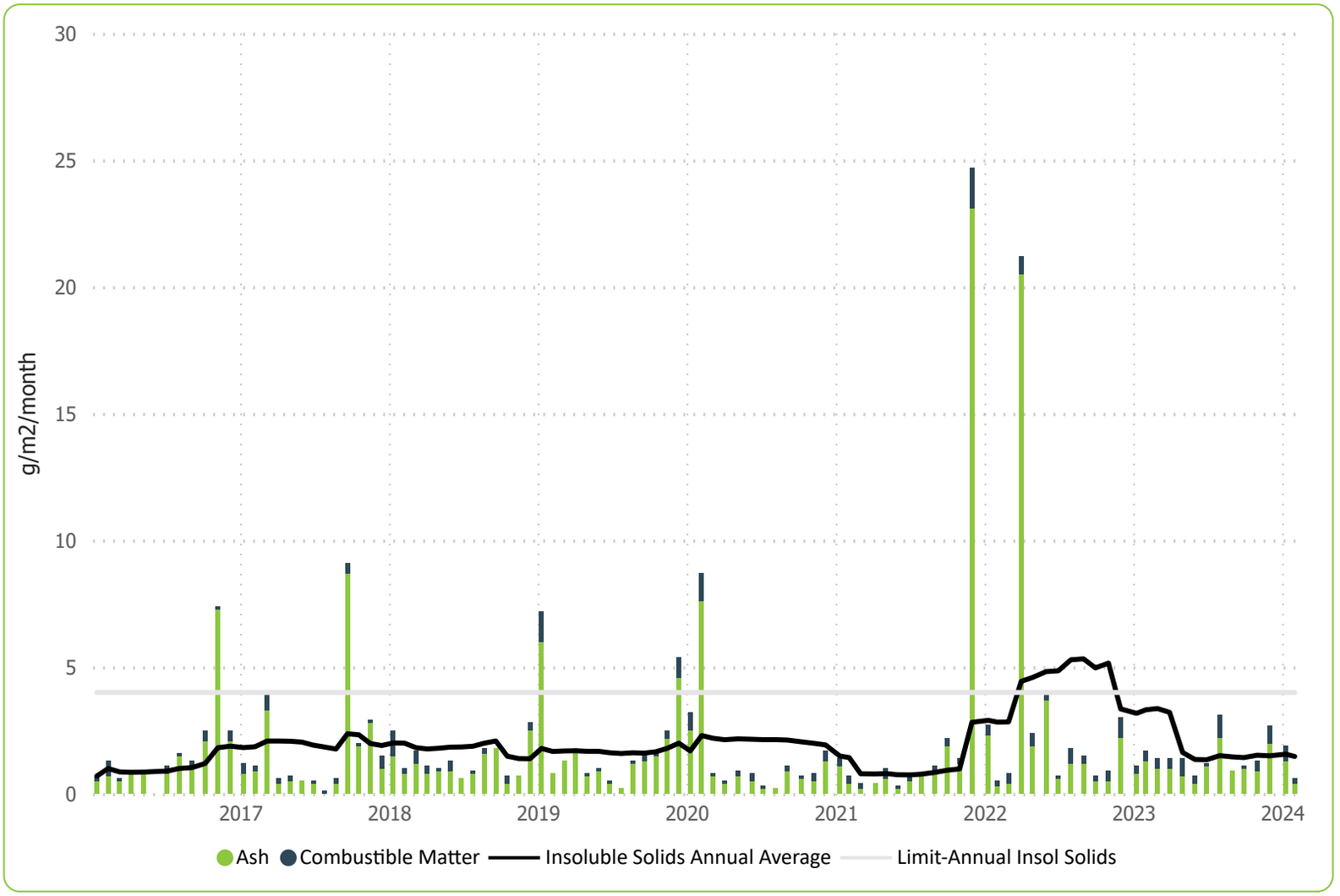
DECEMBER 2023
Maroota, NSW AUS

Appendix H Air Monitoring Results

Depositional Dusts last 12 months

D1 Gate

Insoluble Solids Annual Average g/m2/month



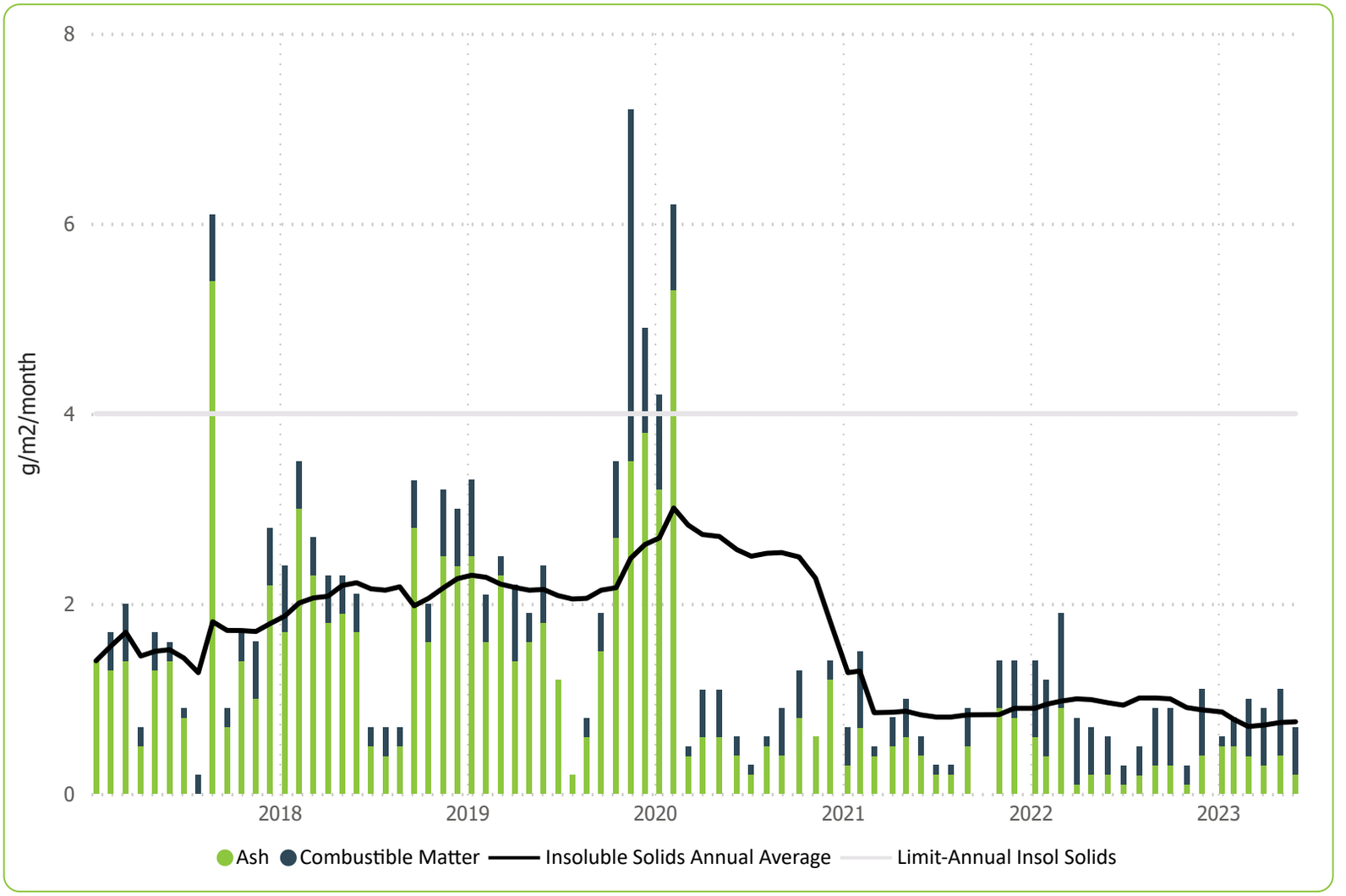
Date On	Comments
1/02/23	Sampled by M.Mass
1/03/23	Sampled by M.Mass
31/03/23	Sampled by M.Mass
2/05/23	Sampled by M.Mass.
1/06/23	Sampled by M.Mass.
30/06/23	
1/08/23	
1/09/23	
29/09/23	
1/11/23	
1/12/23	
10/01/24	

Date Sampled	Days On	Insoluble Solids	Ash	Combustible Matter	Calculated Rain
1/3/23	28	1.4	1.0	0.4	115
31/3/23	30	1.4	1.0	0.4	59
2/5/23	32	1.4	0.7	0.7	86
1/6/23	30	0.7	0.4	0.3	18
30/6/23	29	1.2	1.1	0.1	16
1/8/23	32	3.1	2.2	0.9	14
1/9/23	31	0.9	0.9	0.0	41
29/9/23	28	1.1	1.0	0.1	31
1/11/23	33	1.3	0.9	0.4	28
1/12/23	30	2.7	2.0	0.7	114
10/1/24	43	1.9	1.3	0.6	115
1/2/24	22	0.6	0.4	0.2	85

Depositional Dusts last 12 months

D2 North East Corner

Insoluble Solids Annual Average g/m2/month



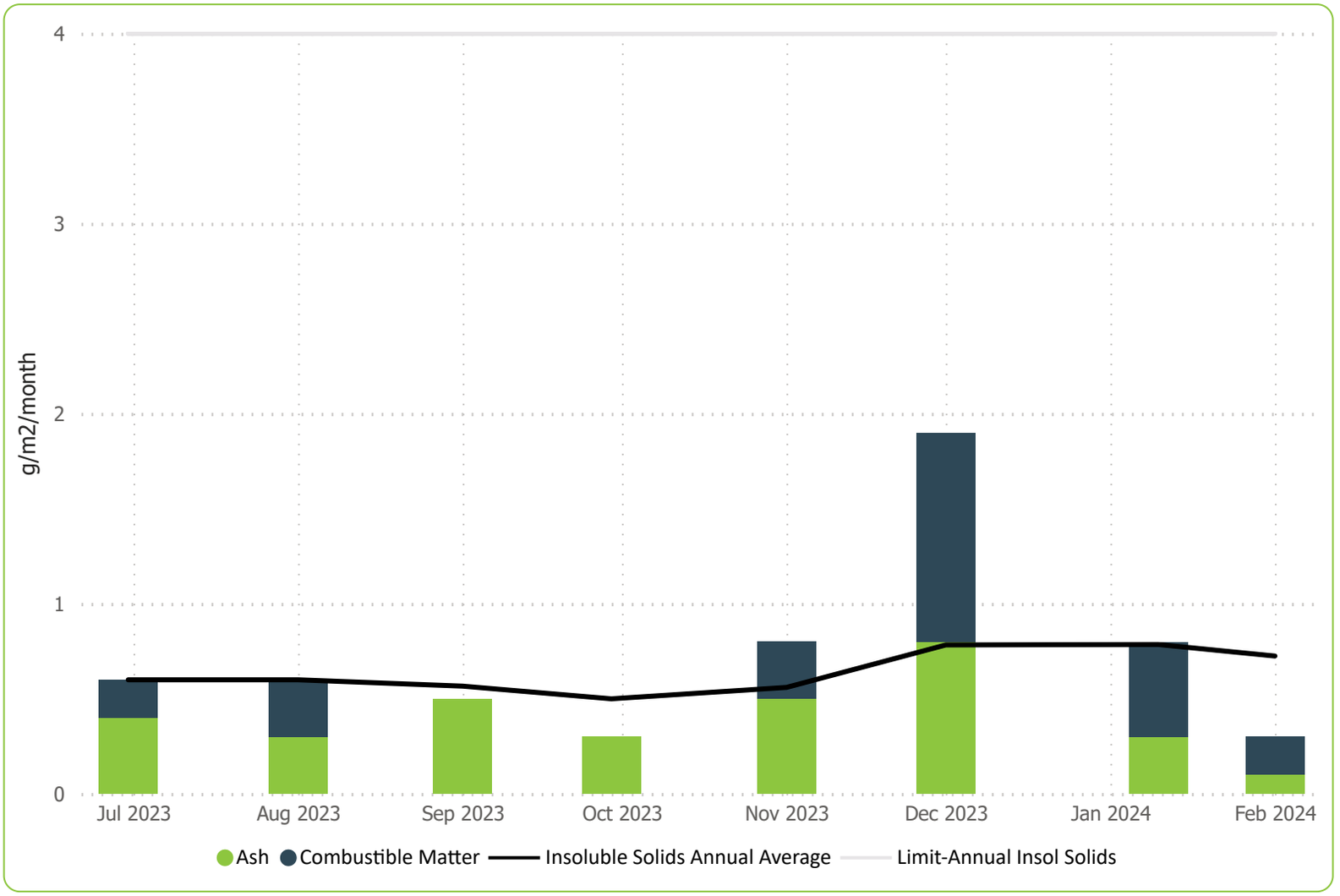
Date On	Comments
1/06/22	Sampled by Melissa Mass
1/07/22	Sampled by Melissa Mass. Flooding rainfall event during July.
1/08/22	Sampled by Melissa Mass.
1/09/22	Sampled by Melissa Mass.
30/09/22	Sampled by Melissa Mass.
1/11/22	Sampled by Melissa Mass.
1/12/22	Sampled by Melissa Mass.
9/01/23	
1/02/23	Sampled by M.Mass
1/03/23	Sampled by M.Mass. Not compliant - Clear sky/ 10m from obstacle
31/03/23	Sampled by M.Mass.

Date Sampled	Days On	Insoluble Solids	Ash	Combustible Matter	Calculated Rain
1/7/22	30	0.3	0.1	0.2	4
1/8/22	31	0.5	0.2	0.3	115
1/9/22	31	0.9	0.3	0.6	26
30/9/22	29	0.9	0.3	0.6	72
1/11/22	32	0.3	0.1	0.2	114
1/12/22	30	1.1	0.4	0.7	20
9/1/23	39	0.6	0.5	0.1	68
1/2/23	23	0.8	0.5	0.3	114
1/3/23	28	1.0	0.4	0.6	114
31/3/23	30	0.9	0.3	0.6	47
2/5/23	32	1.1	0.4	0.7	67
1/6/23	30	0.7	0.2	0.5	12

Depositional Dusts last 12 months

D2a North East Corner

Insoluble Solids Annual Average g/m2/month



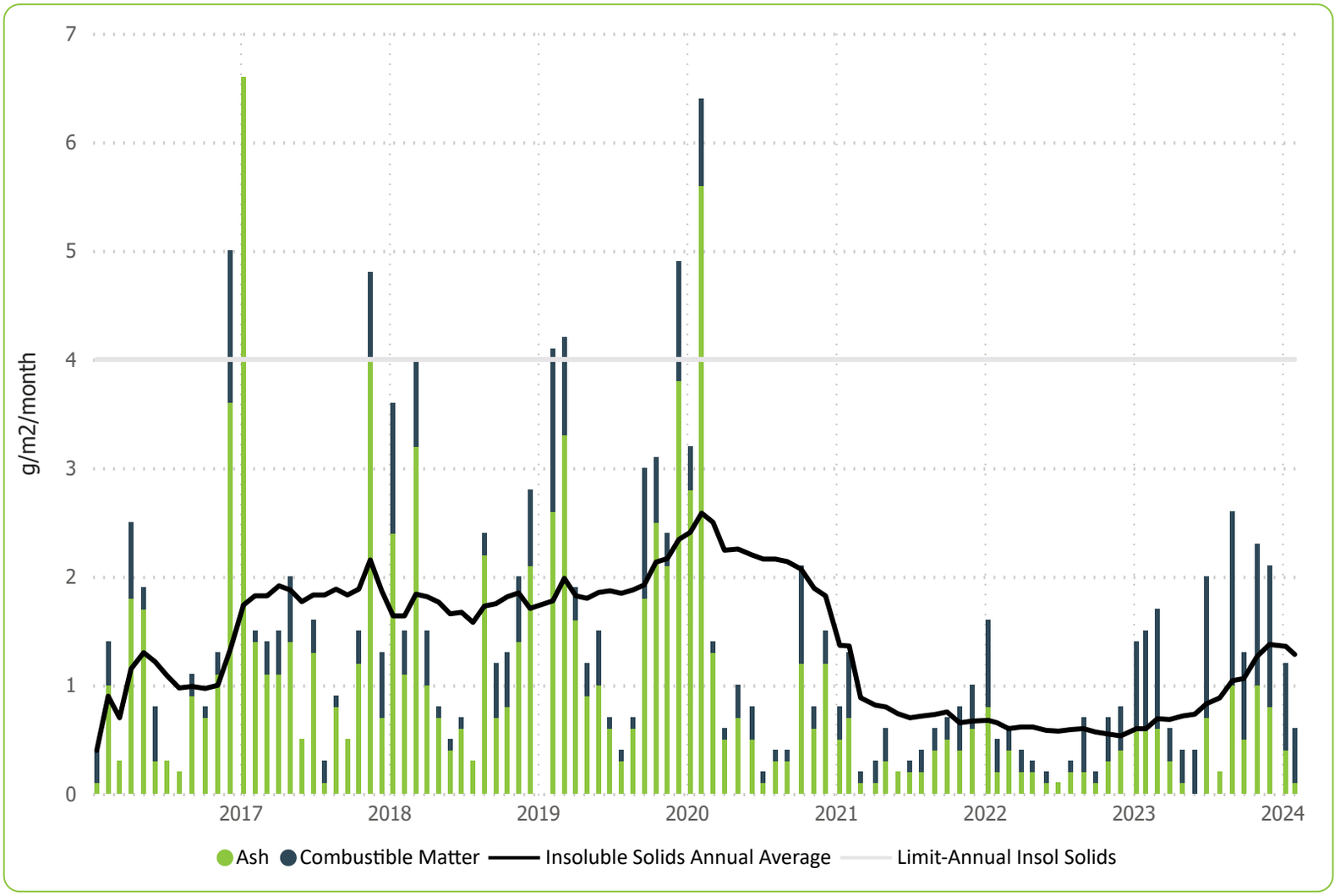
Date On	Comments
1/06/23	Sampled by M.Mass.
30/06/23	
1/08/23	
1/09/23	
29/09/23	
1/11/23	
1/12/23	
10/01/24	

Date Sampled	Days On	Insoluble Solids	Ash	Combustible Matter	Calculated Rain
30/6/23	29	0.6	0.4	0.2	9
1/8/23	32	0.6	0.3	0.3	3
1/9/23	31	0.5	0.5	0.0	32
29/9/23	28	0.3	0.3	0.0	28
1/11/23	33	0.8	0.5	0.3	8
1/12/23	30	1.9	0.8	1.1	115
10/1/24	43	0.8	0.3	0.5	114
1/2/24	22	0.3	0.1	0.2	72

Depositional Dusts last 12 months

D3A Bundwall

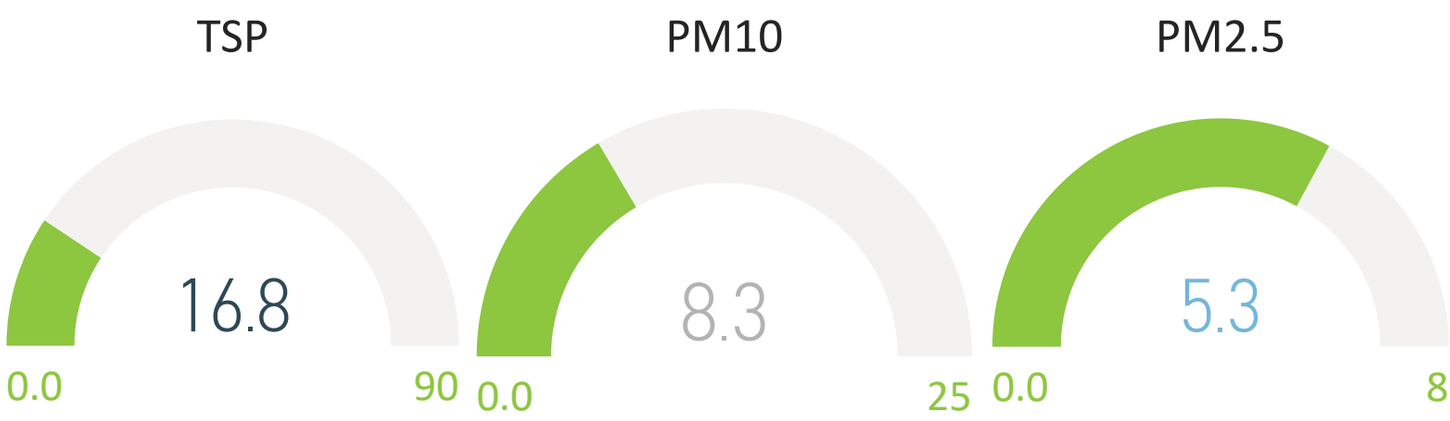
Insoluble Solids Annual Average g/m2/month

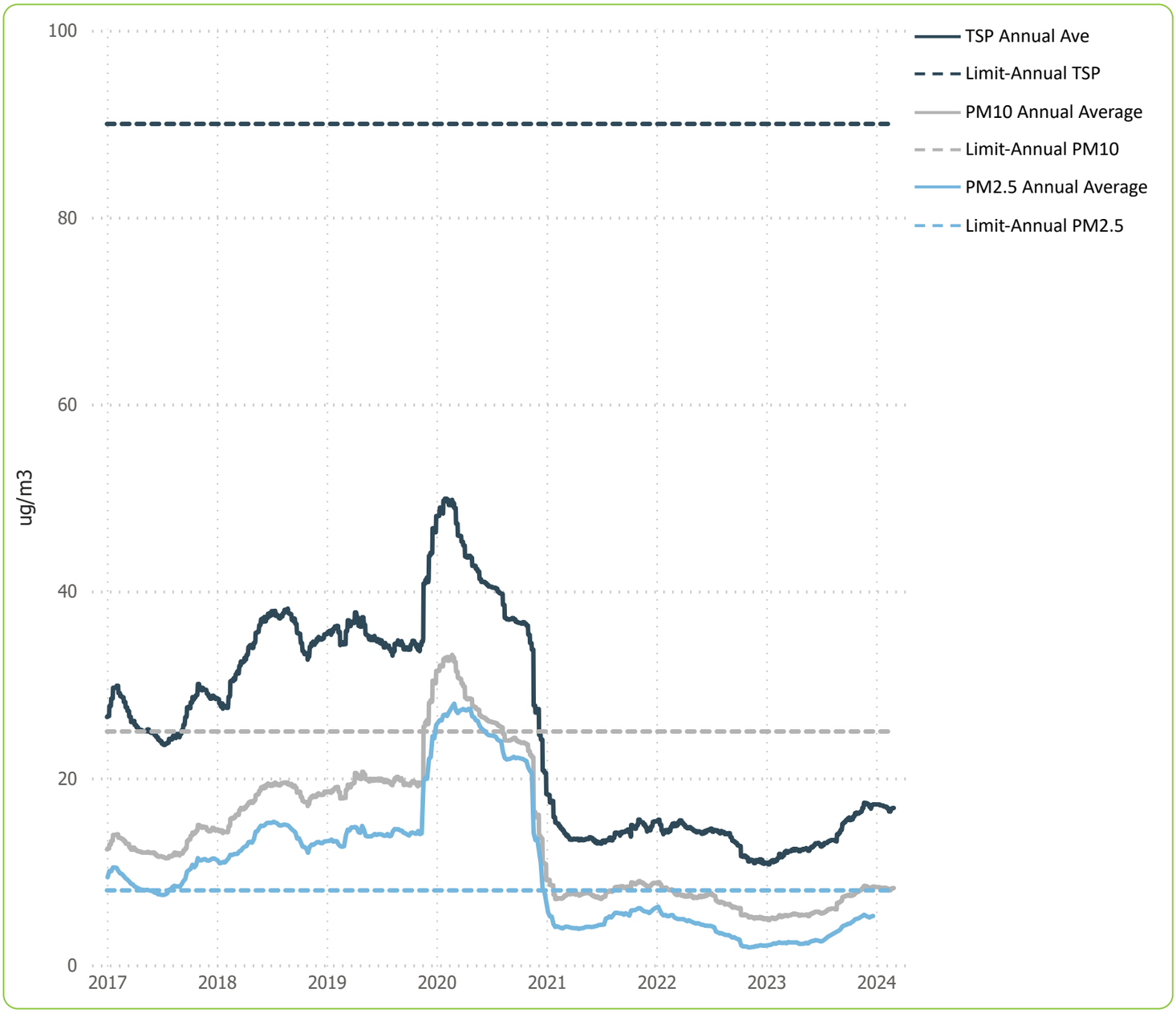


Date On	Comments
1/02/23	Sampled by M.Mass
1/03/23	Sampled by M.Mass
31/03/23	Sampled by M.Mass
2/05/23	Sampled by M.Mass.
1/06/23	Sampled by M.Mass.
30/06/23	
1/08/23	
1/09/23	
29/09/23	
1/11/23	
1/12/23	Funnel broken from large hail.
10/01/24	

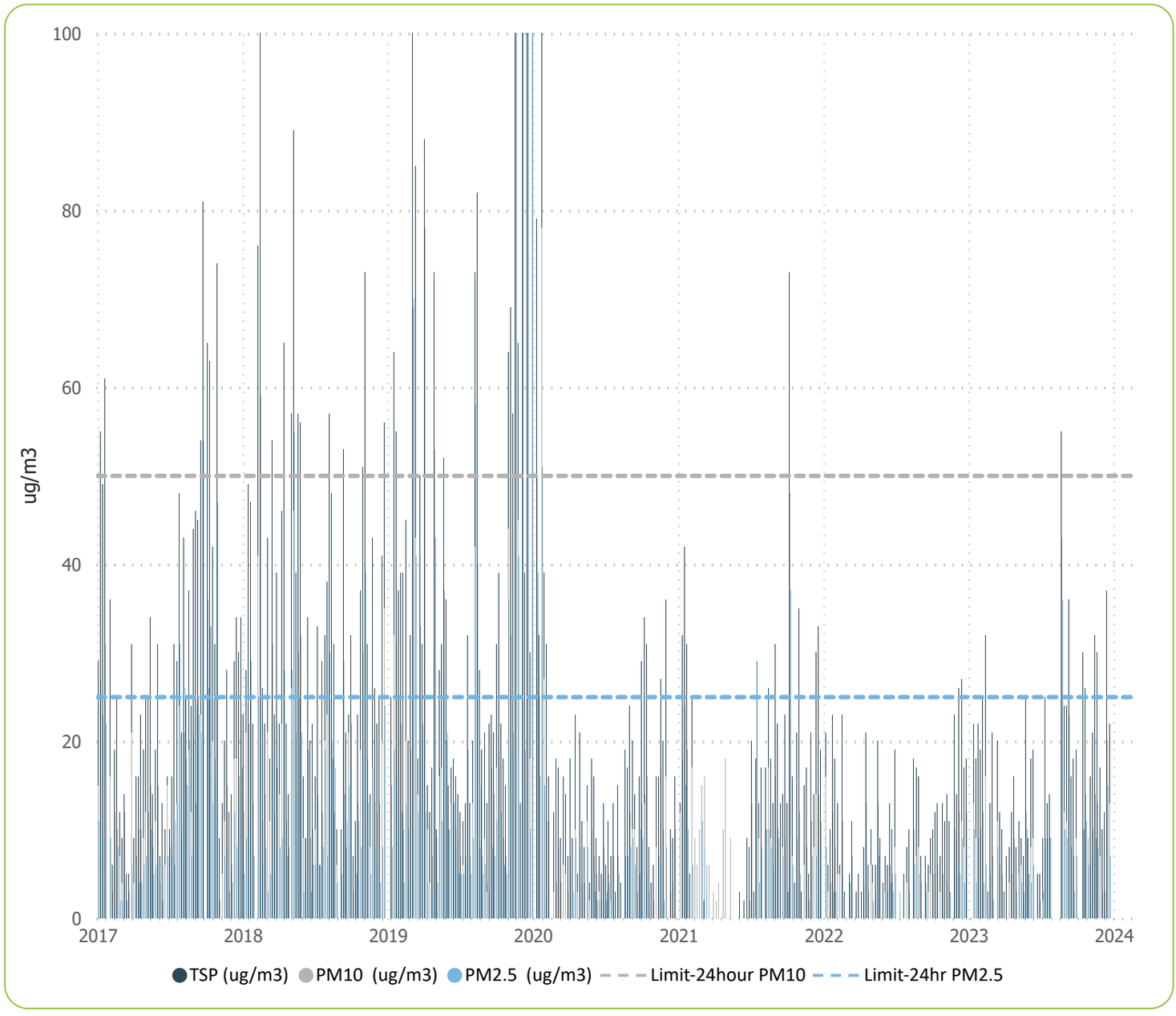
Date Sampled	Days On	Insoluble Solids	Ash	Combustible Matter	Calculated Rain
1/3/23	28	1.7	0.6	1.1	115
31/3/23	30	0.6	0.3	0.3	55
2/5/23	32	0.4	0.1	0.3	82
1/6/23	30	0.4	0.0	0.4	19
30/6/23	29	2.0	0.7	1.3	16
1/8/23	32	0.2	0.2	0.0	13
1/9/23	31	2.6	1.0	1.6	40
29/9/23	28	1.3	0.5	0.8	35
1/11/23	33	2.3	1.0	1.3	26
1/12/23	30	2.1	0.8	1.3	115
10/1/24	43	1.2	0.4	0.8	115
1/2/24	22	0.6	0.1	0.5	58

Particulate Matter Annual Averages (µg/m3)





Particulate Matter 24 Hour Averages (µg/m3)



PM10 24 hour exceedances (>50 µg/m3)

Date	PM10 (ug/m3)	Sampling Comments

PM2.5 24 hour exceedances (>25 µg/m3)

Date	PM2.5 (ug/m3)	Sampling Comments

Appendix I Air Quality Sampling Procedures

WORK INSTRUCTION

WORK INSTRUCTION TITLE: HVAS OPERATION AND SAMPLING

QUALITY PROCEDURE NUMBER: VGTLAB-QWI57

Amend. No	Date	Description of Amendment
0	16/02/2023	Issue A
1		
2		
3		
4		
5		
6		
7		
8		

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HVAS OPERATION & SAMPLING

Where to find what to record:

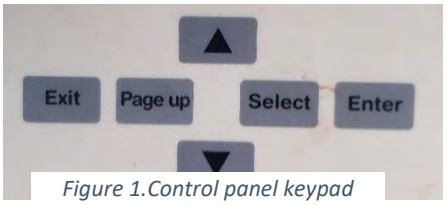


Figure 1.Control panel keypad

1. Run Time:

Do this when putting paper on and when taking paper off.

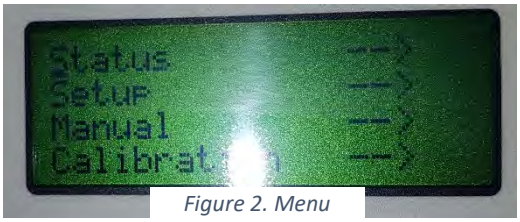


Figure 2. Menu

Press SELECT to enter menu (figure 2.).

Press SELECT again (Status screen).

Use down arrow until “Runtime min” appears on screen (figure 3).

Record runtime in ‘Start Hrs Run’/’End Hrs Run’.

Press EXIT to return to front menu.

Display should be in standby with next run time displayed.

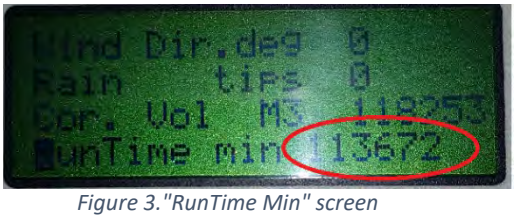


Figure 3."RunTime Min" screen

2. Swapping Out Papers:

Record details

Unscrew hood (figure 4.)

Carefully remove paper.

FOLD PAPER -dust to the inside

Put in envelope.

Place new paper between blue screen.

How to place filter on screen:

1. Number facing DOWN.
2. Paper on mesh
3. Spongy lid on top

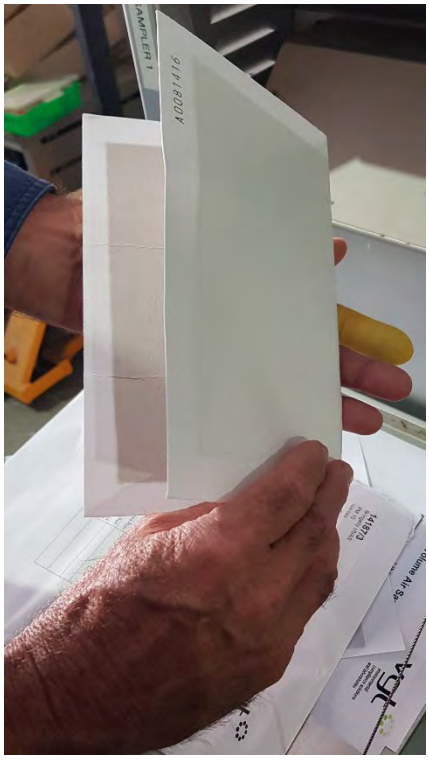

Figure 4. Unscrewing lid

Avoid excessive touching of paper.

Handle papers with clean hands.

Figure 5. Fold dust to the INSIDE

Do not crease paper before placing on machine.



4. Close lid.
5. Check next ‘run time’
6. Lock up.

Finished.

3. Record:

Technician Name: *Name of person placing/removing filter paper.*

Weather: *e.g. rainy, overcast, sunny.*

Temperature On: *Temperature on the day paper is placed.*

Initial Flow Rate: *Operate the sampler for 5 min and record the initial flow indicated. (Usually between 67-69)*

Start Hrs: *Number displayed after “RunTime min” recorded before paper is placed.*

Date and Time On: *Date and time paper is placed on HVAS.*

Date Operating: *Date HVAS is running.*

Temperature Off: *Temperature on the day paper is removed.*

Final Flow Rate: *Operate the sampler for 5 min and record the initial flow indicated. (Usually between 67-69)*

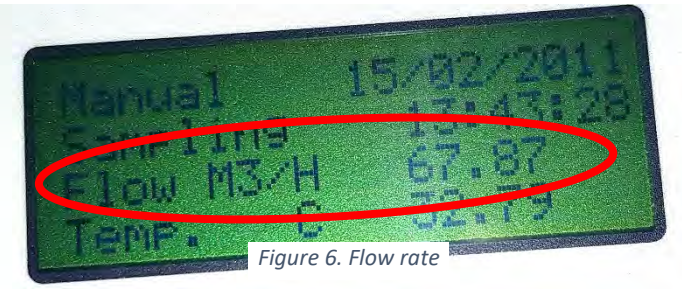
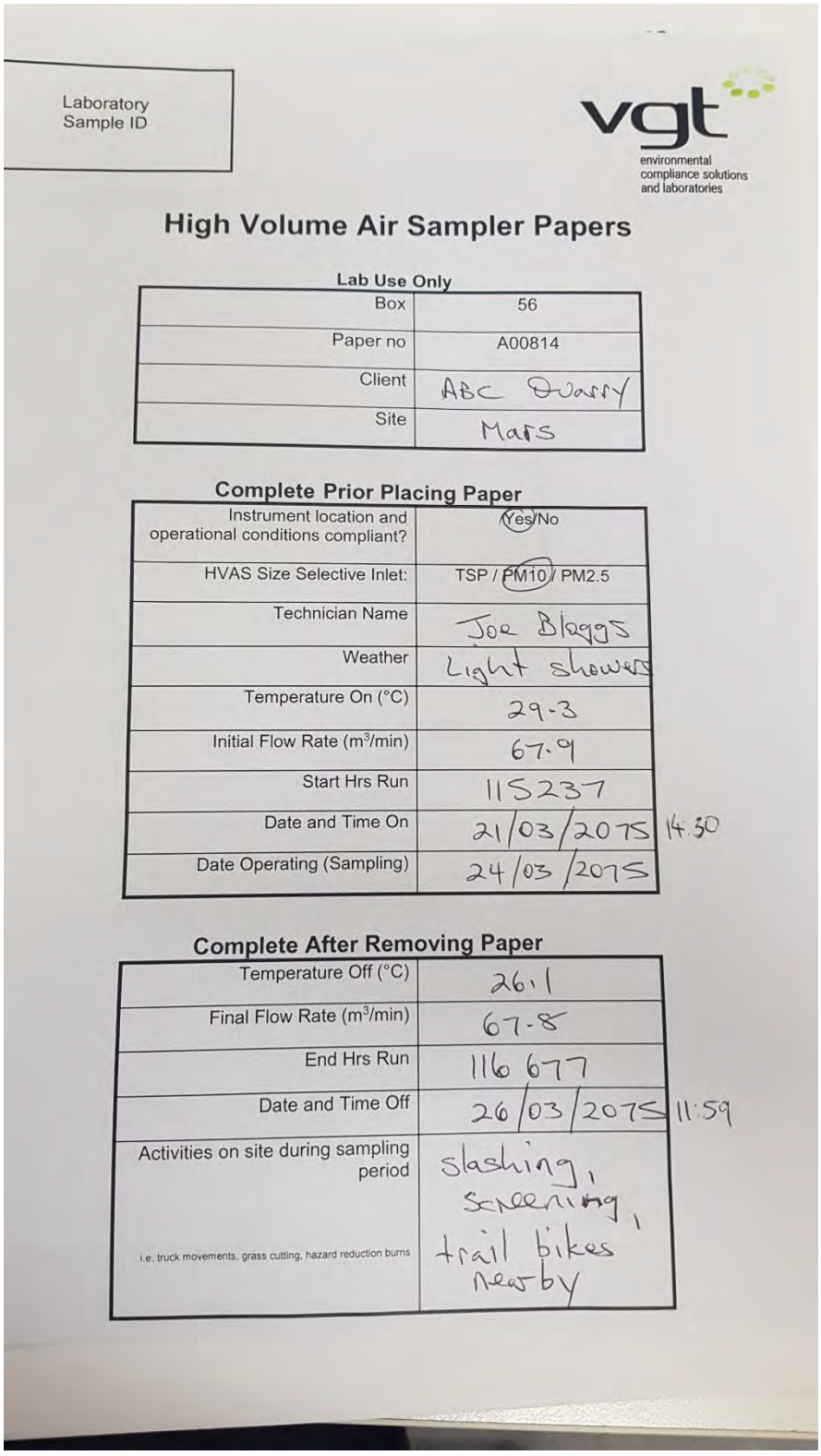


Figure 6. Flow rate

End Hrs: *Number displayed after “RunTime min”, recorded after paper is removed. (There should be a difference of 1439-1441 between Start and End numbers)*

Date and Time Off: *Date and time paper is removed from HVAS*

Activities on site during operating period: *E.g. truck movement levels- high, low. Mowing, hazard reduction burns etc.*



Laboratory Sample ID

vgt environmental compliance solutions and laboratories

High Volume Air Sampler Papers

Lab Use Only

Box	56
Paper no	A00814
Client	ABC Quarry
Site	Mars

Complete Prior Placing Paper

Instrument location and operational conditions compliant?	(Yes)/No
HVAS Size Selective Inlet:	TSP / (PM10) / PM2.5
Technician Name	Joe Bloggs
Weather	Light showers
Temperature On (°C)	29.3
Initial Flow Rate (m^3/min)	67.9
Start Hrs Run	115237
Date and Time On	21/03/2075 14:30
Date Operating (Sampling)	24/03/2075

Complete After Removing Paper

Temperature Off (°C)	26.1
Final Flow Rate (m^3/min)	67.8
End Hrs Run	116 677
Date and Time Off	26/03/2075 11:59
Activities on site during sampling period i.e. truck movements, grass cutting, hazard reduction burns	slashing, screening, trail bikes nearby

Figure 7. Example of Filled in Envelope

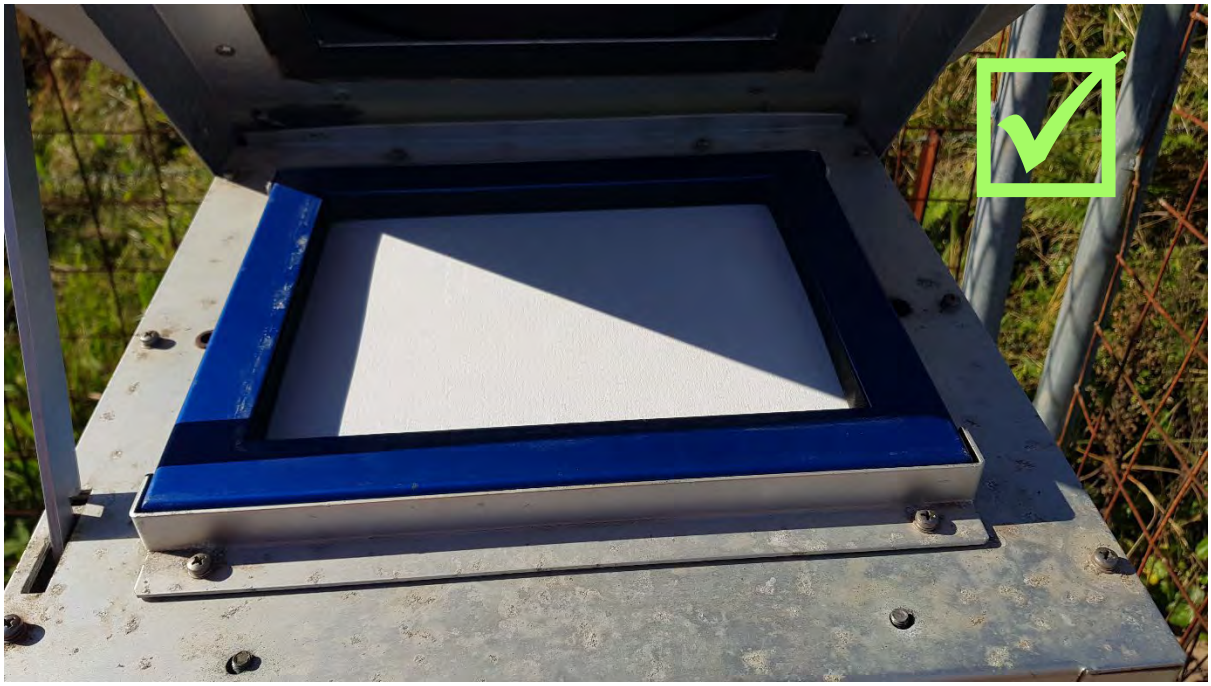


Figure 8. A correctly installed HVAS filter paper

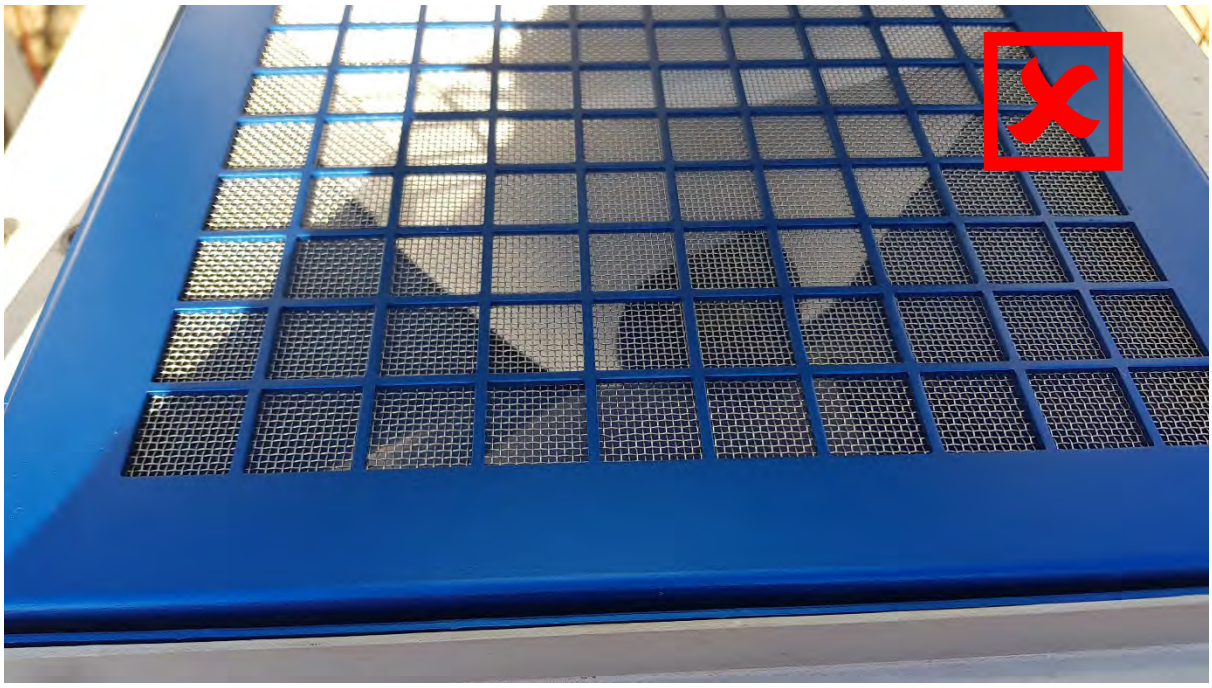


Figure 9. An example of an incorrectly installed HVAS filter paper.

WORK INSTRUCTION

Work Instruction Title: **DUST SAMPLING**

Quality Procedure Number: **VGTLAB-QWI15**

Amend. No	Date	Description of Amendment
0	19/5/03	Issue A
1	15/3/2005	Add figures, spelling errors, page formatting
2	9/11/05	As per Oct 2005 NATA assessment findings
3	28/2/06	As per NATA letter 23/2/06
4	19/3/2007	New logo
5	16/9/07	AS3580.1.1
6	14/05/2008	As per Audit 21
7	22/04/09	As per Audit 23
8	19/07/13	As per Audit 38
9	28/5/15	As per Audit 43
10	7/6/16	As per Audit 49
11	06/04/2021	As per Audit 75, formatting

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1. Scope

This method is adapted from the Australian Standard AS3580.10.1. It sets out the sampling of particulate matter, which is deposited from the atmosphere for determination of insoluble solids, ash, and combustible matter. It provides a means for measuring the mean concentration of particulate matter in air over a sampling period, normally one month.

2. Principle

Over a given sampling period, particles, which settle from the ambient air, are collected in a vessel and retained together with any rainwater. The sample is sieved to remove any extraneous matter and the filtrate containing the deposited matter is quantitatively transferred to a filtration apparatus whereby determination of insoluble solids, ash, and combustible matter can be made.

3. References

- AS3580.10.1 Determination of particulates- Deposited Matter-Gravimetric method
- AS3580.1.1 Methods for sampling and analysis of ambient air Part 1.1 Guide to siting air monitoring equipment
- VGTLAB-QW14 – Determination of Dusts
- VGTLAB-QW11- Site Visits /Site specific Appendix (online Onenote)

4. Apparatus

4.1. Deposit Gauge

Comprising of a 150mm $\pm$ 10mm diameter funnel (nominal angle of cone sides 60 degrees) of glass, or other demonstrably unreactive material, supported in the neck of a glass bottle of minimum volume 2L, in such a way as to remain horizontal and to allow water overflow under excessive rainfall conditions. (An indicative design is given in Figure 1)

4.2. Lid

The gauge shall have a tight fitting lid for sealing the bottle during transport. The lid shall be made of an impermeable material, which does not react with the collected, deposited matter.

4.3. Stand

The stand shall support the deposit gauge such that the funnel face is between 1.8 and 2.2m above ground level. The stand generally incorporates a container or beaker to protect the bottle contents from sunlight, which can accelerate algal growth. This container or beaker is provided with a drainage hole at the base to prevent rainwater build-up. The stand should be sufficiently rugged to prevent any noticeable sway and shall ensure that the funnel aperture plane is maintained in horizontal position. A typical stand is illustrated in Figure 2.

4.4. Bird Ring (optional)

Shall be made of inert and corrosion resistant metal wire having a diameter of 4 mm to 6 mm and of suitable design to prevent birds perching on the funnel. See Figure 2.

Other bird deterrent methods (such as cable ties around the ring) can be employed as long as they do not interfere with sample collection zone.

4.5. Copper Sulphate Solution

Dissolve 7.8g of copper sulphate pentahydrate ($CuSO_4.5H_20$) in 1 litre tap water. This acts as an algaecide. There is no requirement to accurately measure this as Total Solids is not included in this scope.

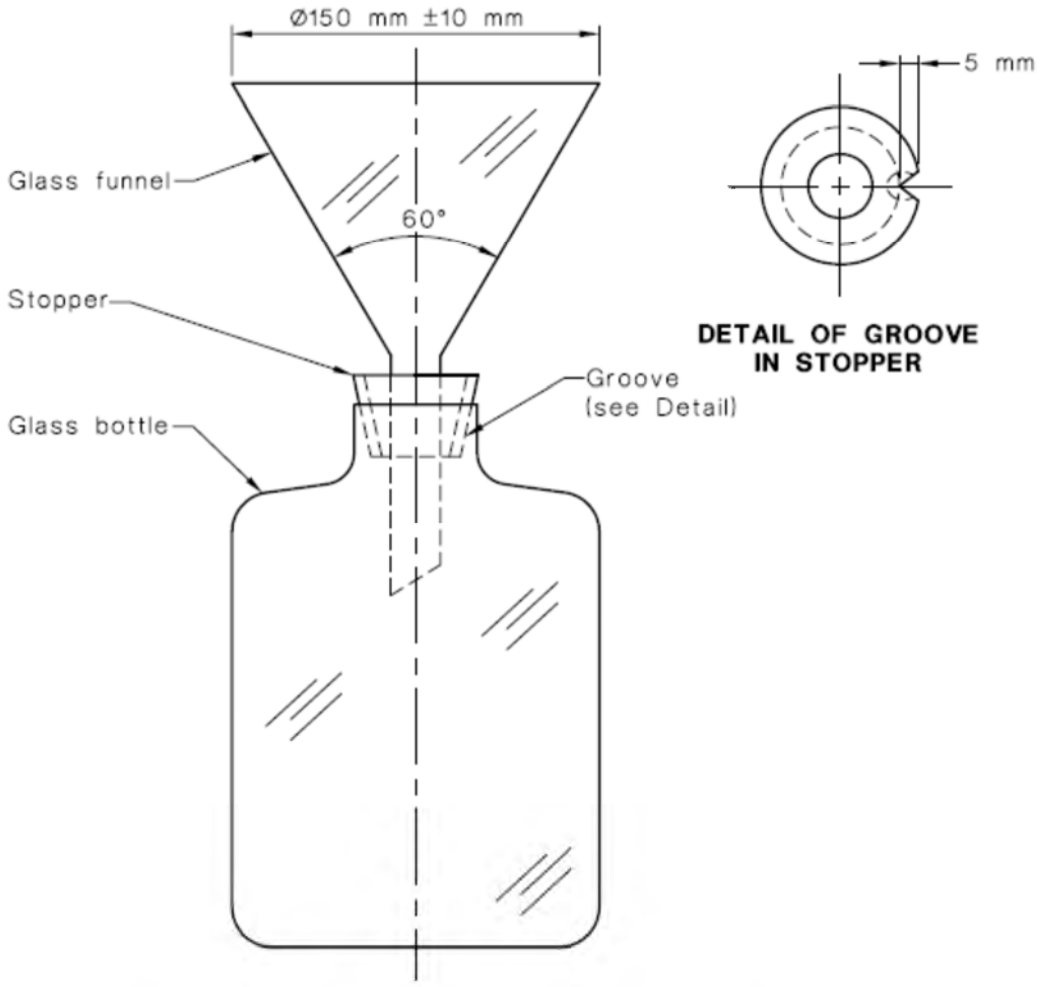


FIGURE 1 TYPICAL STANDARD DEPOSIT GAUGE

(Source: AS3580.10.1)

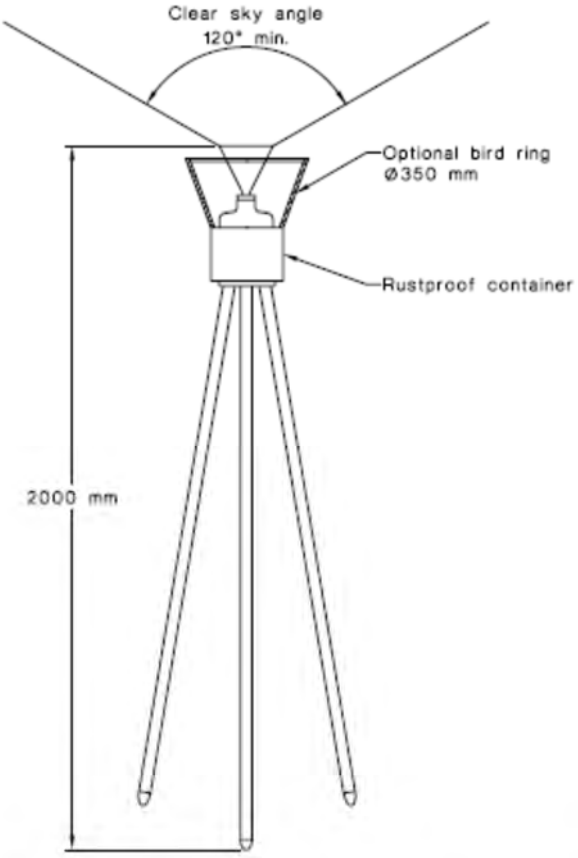


FIGURE 2 TYPICAL STAND WITH DEPOSIT GAUGE

(Source: AS3580.10.1)

5. Safety

VGT staff must at all times follow the safety directions of site managers and site safety protocols. This includes consultation with the client prior to entering the premises. Laboratory safety begins with a safe attitude. The following must be considered before proceeding.

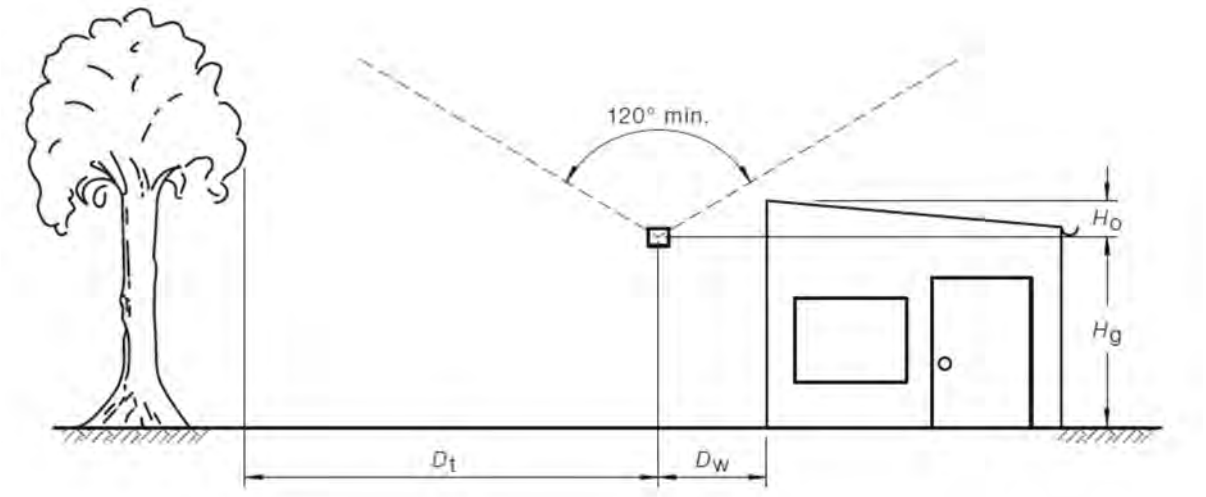
- Become familiar with the physical properties and potential dangers of materials you plan to use. Consider how they may react in combination
- Consider the limitations of the equipment you plan to use.
- Think through any potential hazards associated with your work and plan your response *before* commencing an experiment.
- If in doubt ask your supervisor for assistance.
- Wear the appropriate protective clothing when working in the field.
- Wear appropriate footwear and personal protection.
- If you are working alone, always let someone know your whereabouts and schedule.
- All chemicals should be disposed of as stated in the MSDS.
- Treat each sample as if it is potentially hazardous.
- Inspect any glass or equipment for breakage or sharp edges prior to handling. Do not pick up bottles by the lids, particularly Winchesters of 2L capacity or more. Place a hand under the base of the bottles whilst lifting
- Dispose of broken glassware into the appropriate container, ensuring any contamination hazard is considered.
- Care should be taken when cleaning or drying glassware.
- If glass tubing or rod is to be passed through a bung, lubricate the glass before insertion. The bung should never be held in the palm of the hand while inserting the tube. If any significant force is required to push the tube through the bung, the hole should be enlarged.

6. Procedure

6.1. Location and Positioning

The sampling site should be selected in accordance with the guidelines given in AS3580.1.1 Methods for sampling and analysis of ambient air Part 1.1 Guide to siting air monitoring equipment. In particular, the following points should be considered:

- The site shall be level ground, free, as far as practicable, from such foreign (to the case in hand) sources of pollution such as chimneys, traffic, incinerators, trees, dusty ground and road traffic. If a local foreign source exists in the area, it shall be noted and mapped.
- The nearest obstacles shall not be closer than twice their height. Therefore if the obstacle is 3m high, the gauge must be no closer than 6m.
- As a general rule, a sampling inlet should be located away from any nearby structure to the extent that the sampling inlet has a minimum clear sky angle of 120º.
- There should be an unrestricted air flow of 360º around the sampling inlet.
- The sample inlet shall be horizontal and between 1.8 and 2.2m above ground level.
- The gauge must greater than 5m from source road and 10m from any object taller than the gauge inlet and 10m from the dripline of any trees.



(Source: AS3580.1.1)

H_g = Height of top of funnel above ground = 2 ± 0.2m

H_o = Height of nearby obstacle above sampling inlet – $2H_o \leq D_w$

D_t = Distance to nearby tree ≥ 10m from drip-line

D_W = Distance to wall or supporting structure ≥ minimum 1m

120° = Minimum clear sky angle above sampling inlet

6.2. Recommended Minimum Distances between Stations and Roads

For sites significantly influenced by motor vehicle emissions, the following criteria require a statement in the monitoring data if not met. (Distances are for particle measurement)

Estimated No of Vehicles per day	Min Distance between site and road (m)
<10,000	50
20,000	75
40,000	100

6.3. Period of Exposure

In general the period of exposure shall be 30 $\pm$ 2 days.

6.4. Gauge Preparation

During preliminary cleaning, washing agents which do not attack the inside surface of the deposit gauge and lid may be used to clean the deposit gauge bottle. After each preliminary cleaning, the deposit gauge bottle shall be rinsed with water in order to remove any remaining extraneous matter. To prevent algal growth in the deposit gauge, 10mL of copper sulphate solution (4.5) shall be measured into the deposit gauge bottle and the bottle tightly sealed. The gauge and prepared assembly should be packed for transport to the sampling site. Before exposure, all extraneous matter adhering to the deposit gauge and lid shall be removed.

6.5. Gauge Exchange

Where a gauge has overflowed, or where the sampling site doesn't comply with AS3580.1.1, or any other details that may affect the results, this should be noted on the sampling report, and the client made aware that the results may be invalid. The volume of liquid in the gauge should be recorded as it gives an indication of the rainfall for the exposure period. The gauge exchange procedure shall be as follows:

- At the end of the exposure period, wash any deposited matter adhering to the funnel into the deposit gauge bottle using a minimum volume of distilled water from a wash bottle.
- Inspect the gauge from the base to ensure no spiders or other harmful insects are present in the gauge prior to placing hands within the apparatus. Observe whether any broken glass is present.
- Remove bottle carefully lifting from the base where possible. Use gloves to avoid cuts from any broken funnels or bottles if required.
- Remove the funnel and attached stopper and seal the bottle with a lid. If the bottle is broken, carefully and clearly label as broken to warn staff of the risk of cuts when handling. Identify the bottle with a label detailing the site location and period of exposure. Return the bottle to the laboratory for analysis.
- Insert the clean funnel with attached stopper into a fresh bottle containing algicide (10mL of copper sulphate solution) and leave exposed for the next sampling period.
- Ensure that the funnel is firmly held in the neck of the bottle and that the funnel aperture plane is horizontal.

NOTE: When on site to exchange dust gauges ensure that you have the appropriate safety equipment and follow all safety instructions given by the relevant company/landowner

operating the site. For further instructions see relevant safety procedures and Safe Work Method Statements.

6.6. Storage

Analysis of the deposited matter should be performed at the earliest opportunity and completed within 30 days of collection. During storage, deposit gauges shall be tightly sealed and kept cool to prevent the growth of algae, fungi and other micro-organisms.

6.7. Documentation

The sampling details are recorded on the dust sampling form. Any customer-requested deviations, additions or exclusions from the documented sampling procedure are recorded and communicated to the appropriate personnel. The following details are to be recorded for reporting:

- Location of gauge, including co-ordinate or map reference, height above ground, classification of area (eg industrial, residential, agricultural or urban).
- Any non-conformance to AS3580.1.1 or AS3580.10.1, such as proximity of objects, overflow of gauge, funnel size or angle not compliant.
- Date and time of sampling and name of technician
- Relevant data that may include weather conditions, proximity of bush fires, farming or earth-moving activities, traffic on unsealed roads

  This is recorded on VGTLAB-QFM46 Dust Sampling Sheet each month. Static information is stored in LIMS/sample point fields along with the Site Specific Appendix.

Appendix J Pumping Records

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
01/01/2023			0	0	**Sunday**	0
2/01/2023			0	0	**Monday**	0
3/01/2023			0	0	Tuesday	0
4/01/2023			0	0	Wednesday	0
5/01/2023			0	0	Thursday	0
6/01/2023			0	0	Friday	0
7/01/2023			0	0	Saturday	0
8/01/2023			0	0	Sunday	0
9/01/2023			0	0	Monday	0
10/01/2023	9.00	5.00	8	57600	Tuesday	57.6
11/01/2023	9.00	5.00	8	57600	Wednesday	57.6
12/01/2023	9.30	5.00	7.5	54000	Thursday	54
13/01/2023	10.00	4.00	6	43200	Friday	43.2
14/01/2023	7.00	12.00	4	28800	Saturday	28.8
15/01/2023			0	0	Sunday	0
16/01/2023			0	0	Monday	0
17/01/2023	8.30	2.30	6	43200	Tuesday	43.2
18/01/2023			0	0	Wednesday	0
19/01/2023			0	0	Thursday	0
20/01/2023	8.30	4.00	7.5	54000	Friday	54
21/01/2023				0	Saturday	0
22/01/2023				0	Sunday	0
23/01/2023	8.00	12.00	4	28800	Monday	28.8
24/01/2023	1.00	4.00	3	21600	Tuesday	21.6
25/01/2023	7.30	2.00	6.5	46800	Wednesday	46.8
26/01/2023				0	**Thursday**	0
27/01/2023				0	Friday	0
28/01/2023				0	Saturday	0
29/01/2023				0	Sunday	0
30/01/2023	9.00	4.00	7	50400	Monday	50.4
31/01/2023	8.00	1.00	5	36000	Tuesday	36
1/02/2023	9.00	4.00	7	50400	Wednesday	50.4
2/02/2023	9.00	4.00	7	50400	Thursday	50.4
3/02/2023	7.00	12.00	5	36000	Friday	36
4/02/2023	7.00	12.00	5	36000	Saturday	36
5/02/2023				0	Sunday	0
6/02/2023	7.00	4.00	9	64800	Monday	64.8
7/02/2023	9.00	4.00	7	50400	Tuesday	50.4
8/02/2023	8.00	4.30	8.5	61200	Wednesday	61.2
9/02/2023	9.00	4.30	7.5	54000	Thursday	54
10/02/2023	7.30	2.00	6.5	46800	Friday	46.8
11/02/2023				0	Saturday	0
12/02/2023				0	Sunday	0
13/02/2023	9.00	3.00	6	43200	Monday	43.2
14/02/2023	8.00	3.00	7	50400	Tuesday	50.4
15/02/2023	7.00	2.00	7	50400	Wednesday	50.4
16/02/2023	7.30	2.30	7	50400	Thursday	50.4
17/02/2023	7.00	2.00	7	50400	Friday	50.4
18/02/2023	9.00	12.00	3	21600	Saturday	21.6

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
19/02/2023				0	Sunday	0
20/02/2023	8.30	2.30	6	43200	Monday	43.2
21/02/2023				0	Tuesday	0
22/02/2023	9.00	3.00	6	43200	Wednesday	43.2
23/02/2023	9.30	3.30	6	43200	Thursday	43.2
24/02/2023	9.30	3.30	6	43200	Friday	43.2
25/02/2023				0	Saturday	0
26/02/2023				0	Sunday	0
27/02/2023	8.30	4.00	7.5	54000	Monday	54
28/02/2023	10.30	4.00	5.5	39600	Tuesday	39.6
1/03/2023	10.30	4.00	5.5	39600	Wednesday	39.6
2/03/2023	9.00	4.00	7	50400	Thursday	50.4
3/03/2023	8.00	2.00	6	43200	Friday	43.2
4/03/2023	8.00	12.00	4	28800	Saturday	28.8
5/03/2023				0	Sunday	0
6/03/2023	8.00	3.30	7.5	54000	Monday	54
7/03/2023	7.00	4.00	9	64800	Tuesday	64.8
8/03/2023	8.00	4.00	8	57600	Wednesday	57.6
9/03/2023	8.00	4.00	8	57600	Thursday	57.6
10/03/2023	12.00	4.00	4	28800	Friday	28.8
11/03/2023	7.00	12.00	5	36000	Saturday	36
12/03/2023				0	Sunday	0
13/03/2023	7.00	3.30	8.5	61200	Monday	61.2
14/03/2023	7.00	3.00	8	57600	Tuesday	57.6
15/03/2023	10.00	4.00	6	43200	Wednesday	43.2
16/03/2023	1.00	4.00	3	21600	Thursday	21.6
17/03/2023	7.00	2.30	7.5	54000	Friday	54
18/03/2023	8.00	12.00	4	28800	Saturday	28.8
19/03/2023				0	Sunday	0
20/03/2023	7.00	3.30	8.5	61200	Monday	61.2
21/03/2023	2.00	4.00	2	14400	Tuesday	14.4
22/03/2023	1.00	4.00	3	21600	Wednesday	21.6
23/03/2023	7.30	12.00	4.5	32400	Thursday	32.4
24/03/2023	7.30	12.00	4.5	32400	Friday	32.4
25/03/2023	7.30	12.00	4.5	32400	Saturday	32.4
26/03/2023				0	Sunday	0
27/03/2023	8.00	4.00	8	57600	Monday	57.6
28/03/2023				0	Tuesday	0
29/03/2023				0	Wednesday	0
30/03/2023	7.00	4.00	9	64800	Thursday	64.8
31/03/2023	7.00	4.00	9	64800	Friday	64.8
1/04/2023	7.30	12.00	4.5	32400	Saturday	32.4
2/04/2023				0	Sunday	0
3/04/2023	8.00	4.00	8	57600	Monday	57.6
4/04/2023	8.00	4.00	8	57600	Tuesday	57.6
5/04/2023	7.00	4.00	9	64800	Wednesday	64.8
6/04/2023				0	Thursday	0
7/04/2023				0	**Friday**	0
8/04/2023				0	**Saturday**	0

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
9/04/2023				0	**Sunday**	0
10/04/2023				0	**Monday**	0
11/04/2023	10.00	4.00	6	43200	Tuesday	43.2
12/04/2023				0	Wednesday	0
13/04/2023				0	Thursday	0
14/04/2023				0	Friday	0
15/04/2023				0	Saturday	0
16/04/2023				0	Sunday	0
17/04/2023	8.30	4.00	7.5	54000	Monday	54
18/04/2023	10.30	4.00	5.5	39600	Tuesday	39.6
19/04/2023	10.30	4.00	5.5	39600	Wednesday	39.6
20/04/2023	9.00	4.00	7	50400	Thursday	50.4
21/04/2023	8.00	2.00	6	43200	Friday	43.2
22/04/2023	8.00	12.00	4	28800	Saturday	28.8
23/04/2023				0	Sunday	0
24/04/2023				0	Monday	0
25/04/2023				0	**Tuesday**	0
26/04/2023	9.00	5.00	8	57600	Wednesday	57.6
27/04/2023	9.30	5.00	7.5	54000	Thursday	54
28/04/2023	10.00	4.00	6	43200	Friday	43.2
29/04/2023	7.00	12.00	4	28800	Saturday	28.8
30/04/2023				0	Sunday	0
1/05/2023				0	Monday	0
2/05/2023	8.30	4.00	7.5	54000	Tuesday	54
3/05/2023	10.30	4.00	5.5	39600	Wednesday	39.6
4/05/2023	10.30	4.00	5.5	39600	Thursday	39.6
5/05/2023	9.00	4.00	7	50400	Friday	50.4
6/05/2023	8.00	2.00	6	43200	Saturday	43.2
7/05/2023				0	Sunday	0
8/05/2023				0	Monday	0
9/05/2023	9.00	3.00	6	43200	Tuesday	43.2
10/05/2023	8.00	3.00	7	50400	Wednesday	50.4
11/05/2023	7.00	2.00	7	50400	Thursday	50.4
12/05/2023	7.30	2.30	7	50400	Friday	50.4
13/05/2023	7.00	2.00	7	50400	Saturday	50.4
14/05/2023				0	Sunday	0
15/05/2023	9.00	5.00	8	57600	Monday	57.6
16/05/2023	9.00	5.00	8	57600	Tuesday	57.6
17/05/2023	9.30	5.00	7.5	54000	Wednesday	54
18/05/2023	10.00	4.00	6	43200	Thursday	43.2
19/05/2023	7.00	12.00	4	28800	Friday	28.8
20/05/2023				0	Saturday	0
21/05/2023				0	Sunday	0
22/05/2023	7.00	3.30	8.5	61200	Monday	61.2
23/05/2023	2.00	4.00	2	14400	Tuesday	14.4
24/05/2023	1.00	4.00	3	21600	Wednesday	21.6
25/05/2023	7.30	12.00	4.5	32400	Thursday	32.4
26/05/2023	7.30	12.00	4.5	32400	Friday	32.4
27/05/2023	7.30	12.00	4.5	32400	Saturday	32.4

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
28/05/2023				0	Sunday	0
29/05/2023	9.00	3.00	6	43200	Monday	43.2
30/05/2023	8.00	3.00	7	50400	Tuesday	50.4
31/05/2023	7.00	2.00	7	50400	Wednesday	50.4
1/06/2023	7.30	2.30	7	50400	Thursday	50.4
2/06/2023	7.00	2.00	7	50400	Friday	50.4
3/06/2023				0	Saturday	0
4/06/2023				0	Sunday	0
5/06/2023				0	Monday	0
6/06/2023	9.00	5.00	8	57600	Tuesday	57.6
7/06/2023	9.00	5.00	8	57600	Wednesday	57.6
8/06/2023	9.30	5.00	7.5	54000	Thursday	54
9/06/2023	10.00	4.00	6	43200	Friday	43.2
10/06/2023	7.00	12.00	4	28800	Saturday	28.8
11/06/2023				0	Sunday	0
12/06/2023				0	**Monday**	0
13/06/2023				0	Tuesday	0
14/06/2023	9.00	5.00	8	57600	Wednesday	57.6
15/06/2023	9.00	5.00	8	57600	Thursday	57.6
16/06/2023	9.30	5.00	7.5	54000	Friday	54
17/06/2023	10.00	4.00	6	43200	Saturday	43.2
18/06/2023				0	Sunday	0
19/06/2023	9.00	5.00	8	57600	Monday	57.6
20/06/2023	9.00	5.00	8	57600	Tuesday	57.6
21/06/2023	9.30	5.00	7.5	54000	Wednesday	54
22/06/2023	10.00	4.00	6	43200	Thursday	43.2
23/06/2023	7.00	12.00	4	28800	Friday	28.8
24/06/2023				0	Saturday	0
25/06/2023				0	Sunday	0
26/06/2023				0	Monday	0
27/06/2023	9.00	5.00	8	57600	Tuesday	57.6
28/06/2023	9.00	5.00	8	57600	Wednesday	57.6
29/06/2023	9.30	5.00	7.5	54000	Thursday	54
30/06/2023	10.00	4.00	6	43200	Friday	43.2
1/07/2023				0	Saturday	0
2/07/2023				0	Sunday	0
3/07/2023	9.00	5.00	8	57600	Monday	57.6
4/07/2023	9.00	5.00	8	57600	Tuesday	57.6
5/07/2023	9.30	5.00	7.5	54000	Wednesday	54
6/07/2023	10.00	4.00	6	43200	Thursday	43.2
7/07/2023				0	Friday	0
8/07/2023				0	Saturday	0
9/07/2023				0	Sunday	0
10/07/2023				0	Monday	0
11/07/2023	9.00	3.00	6	43200	Tuesday	43.2
12/07/2023	8.00	3.00	7	50400	Wednesday	50.4
13/07/2023	7.00	2.00	7	50400	Thursday	50.4
14/07/2023	7.30	2.30	7	50400	Friday	50.4
15/07/2023	7.00	2.00	7	50400	Saturday	50.4

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
16/07/2023				0	Sunday	0
17/07/2023				0	Monday	0
18/07/2023	9.00	3.00	6	43200	Tuesday	43.2
19/07/2023	8.00	3.00	7	50400	Wednesday	50.4
20/07/2023	7.00	2.00	7	50400	Thursday	50.4
21/07/2023	7.30	2.30	7	50400	Friday	50.4
22/07/2023	7.00	2.00	7	50400	Saturday	50.4
23/07/2023				0	Sunday	0
24/07/2023				0	Monday	0
25/07/2023	8.30	4.00	7.5	54000	Tuesday	54
26/07/2023	10.30	4.00	5.5	39600	Wednesday	39.6
27/07/2023	10.30	4.00	5.5	39600	Thursday	39.6
28/07/2023	9.00	4.00	7	50400	Friday	50.4
29/07/2023	8.00	2.00	6	43200	Saturday	43.2
30/07/2023				0	Sunday	0
31/07/2023	7.00	3.30	8.5	61200	Monday	61.2
1/08/2023	2.00	4.00	2	14400	Tuesday	14.4
2/08/2023	1.00	4.00	3	21600	Wednesday	21.6
3/08/2023	7.30	12.00	4.5	32400	Thursday	32.4
4/08/2023	7.30	12.00	4.5	32400	Friday	32.4
5/08/2023	7.30	12.00	4.5	32400	Saturday	32.4
6/08/2023				0	Sunday	0
7/08/2023				0	Monday	0
8/08/2023	9.00	5.00	8	57600	Tuesday	57.6
9/08/2023	9.00	5.00	8	57600	Wednesday	57.6
10/08/2023	9.30	5.00	7.5	54000	Thursday	54
11/08/2023				0	Friday	0
12/08/2023				0	Saturday	0
13/08/2023				0	Sunday	0
14/08/2023				0	Monday	0
15/08/2023	8.30	4.00	7.5	54000	Tuesday	54
16/08/2023	10.30	4.00	5.5	39600	Wednesday	39.6
17/08/2023	10.30	4.00	5.5	39600	Thursday	39.6
18/08/2023	9.00	4.00	7	50400	Friday	50.4
19/08/2023	8.00	2.00	6	43200	Saturday	43.2
20/08/2023				0	Sunday	0
21/08/2023				0	Monday	0
22/08/2023	7.00	3.30	8.5	61200	Tuesday	61.2
23/08/2023	2.00	4.00	2	14400	Wednesday	14.4
24/08/2023	1.00	4.00	3	21600	Thursday	21.6
25/08/2023	7.30	12.00	4.5	32400	Friday	32.4
26/08/2023	7.30	12.00	4.5	32400	Saturday	32.4
27/08/2023	7.30	12.00	4.5	32400	Sunday	32.4
28/08/2023				0	Monday	0
29/08/2023	9.00	5.00	8	57600	Tuesday	57.6
30/08/2023	9.00	5.00	8	57600	Wednesday	57.6
31/08/2023	9.30	5.00	7.5	54000	Thursday	54
1/09/2023				0	Friday	0
2/09/2023				0	Saturday	0

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
3/09/2023				0	Sunday	0
4/09/2023	7.00	3.30	8.5	61200	Monday	61.2
5/09/2023	2.00	4.00	2	14400	Tuesday	14.4
6/09/2023	1.00	4.00	3	21600	Wednesday	21.6
7/09/2023	7.30	12.00	4.5	32400	Thursday	32.4
8/09/2023	7.30	12.00	4.5	32400	Friday	32.4
9/09/2023	7.30	12.00	4.5	32400	Saturday	32.4
10/09/2023				0	Sunday	0
11/09/2023				0	Monday	0
12/09/2023	8.30	4.00	7.5	54000	Tuesday	54
13/09/2023	10.30	4.00	5.5	39600	Wednesday	39.6
14/09/2023	10.30	4.00	5.5	39600	Thursday	39.6
15/09/2023	9.00	4.00	7	50400	Friday	50.4
16/09/2023	8.00	2.00	6	43200	Saturday	43.2
17/09/2023				0	Sunday	0
18/09/2023				0	Monday	0
19/09/2023	7.00	3.30	8.5	61200	Tuesday	61.2
20/09/2023	2.00	4.00	2	14400	Wednesday	14.4
21/09/2023	1.00	4.00	3	21600	Thursday	21.6
22/09/2023	7.30	12.00	4.5	32400	Friday	32.4
23/09/2023	7.30	12.00	4.5	32400	Saturday	32.4
24/09/2023				0	Sunday	0
25/09/2023	7.00	3.30	8.5	61200	Monday	61.2
26/09/2023	2.00	4.00	2	14400	Tuesday	14.4
27/09/2023	1.00	4.00	3	21600	Wednesday	21.6
28/09/2023	7.30	12.00	4.5	32400	Thursday	32.4
29/09/2023	7.30	12.00	4.5	32400	Friday	32.4
30/09/2023	7.30	12.00	4.5	32400	Saturday	32.4
1/10/2023				0	Sunday	0
2/10/2023				0	**Monday**	0
3/10/2023	8.30	4.00	7.5	54000	Tuesday	54
4/10/2023	10.30	4.00	5.5	39600	Wednesday	39.6
5/10/2023	10.30	4.00	5.5	39600	Thursday	39.6
6/10/2023	9.00	4.00	7	50400	Friday	50.4
7/10/2023				0	Saturday	0
8/10/2023				0	Sunday	0
9/10/2023				0	Monday	0
10/10/2023	7.00	3.30	8.5	61200	Tuesday	61.2
11/10/2023	2.00	4.00	2	14400	Wednesday	14.4
12/10/2023	1.00	4.00	3	21600	Thursday	21.6
13/10/2023	7.30	12.00	4.5	32400	Friday	32.4
14/10/2023	7.30	12.00	4.5	32400	Saturday	32.4
15/10/2023				0	Sunday	0
16/10/2023				0	Monday	0
17/10/2023	7.00	3.30	8.5	61200	Tuesday	61.2
18/10/2023	2.00	4.00	2	14400	Wednesday	14.4
19/10/2023	1.00	4.00	3	21600	Thursday	21.6
20/10/2023	7.30	12.00	4.5	32400	Friday	32.4
21/10/2023	7.30	12.00	4.5	32400	Saturday	32.4

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
22/10/2023				0	Sunday	0
23/10/2023				0	Monday	0
24/10/2023	8.30	4.00	7.5	54000	Tuesday	54
25/10/2023	10.30	4.00	5.5	39600	Wednesday	39.6
26/10/2023	10.30	4.00	5.5	39600	Thursday	39.6
27/10/2023	9.00	4.00	7	50400	Friday	50.4
28/10/2023				0	Saturday	0
29/10/2023				0	Sunday	0
30/10/2023				0	Monday	0
31/10/2023	8.30	4.00	7.5	54000	Tuesday	54
1/11/2023	10.30	4.00	5.5	39600	Wednesday	39.6
2/11/2023	10.30	4.00	5.5	39600	Thursday	39.6
3/11/2023	9.00	4.00	7	50400	Friday	50.4
4/11/2023				0	Saturday	0
5/11/2023				0	Sunday	0
6/11/2023				0	Monday	0
7/11/2023	9.00	5.00	8	57600	Tuesday	57.6
8/11/2023	9.00	5.00	8	57600	Wednesday	57.6
9/11/2023	9.30	5.00	7.5	54000	Thursday	54
10/11/2023				0	Friday	0
11/11/2023				0	Saturday	0
12/11/2023				0	Sunday	0
13/11/2023				0	Monday	0
14/11/2023	7.00	3.30	8.5	61200	Tuesday	61.2
15/11/2023	2.00	4.00	2	14400	Wednesday	14.4
16/11/2023	1.00	4.00	3	21600	Thursday	21.6
17/11/2023	7.30	12.00	4.5	32400	Friday	32.4
18/11/2023	7.30	12.00	4.5	32400	Saturday	32.4
19/11/2023				0	Sunday	0
20/11/2023	8.30	4.00	7.5	54000	Monday	54
21/11/2023	10.30	4.00	5.5	39600	Tuesday	39.6
22/11/2023	10.30	4.00	5.5	39600	Wednesday	39.6
23/11/2023	9.00	4.00	7	50400	Thursday	50.4
24/11/2023				0	Friday	0
25/11/2023				0	Saturday	0
26/11/2023				0	Sunday	0
27/11/2023	7.00	3.30	8.5	61200	Monday	61.2
28/11/2023	7.00	3.30	8.5	61200	Tuesday	61.2
29/11/2023	8.30	4.00	7.5	54000	Wednesday	54
30/11/2023	7.00	3.30	8.5	61200	Thursday	61.2
1/12/2023	8.00	4.00	8	57600	Friday	57.6
2/12/2023	7.00	12.00	5	36000	Saturday	36
3/12/2023				0	Sunday	0
4/12/2023				0	Monday	0
5/12/2023	8.00	3.00	7	50400	Tuesday	50.4
6/12/2023	8.00	4.00	8.00	57600	Wednesday	57.6
7/12/2023	8.00	4.00	8.00	57600	Thursday	57.6
8/12/2023	8.00	4.00	8.00	57600	Friday	57.6
9/12/2023				0	Saturday	0

Date	Start	Finish	Hours	Litres @ 120/min	Day	m3/day
10/12/2023				0	Sunday	0
11/12/2023				0	Monday	0
12/12/2023	7.00	3.30	8.5	61200	Tuesday	61.2
13/12/2023	12.00	4.00	4	28800	Wednesday	28.8
14/12/2023	8.00	4.00	8	57600	Thursday	57.6
15/12/2023				0	Friday	0
16/12/2023	8.00	12.00	4	28800	Saturday	28.8
17/12/2023				0	Sunday	0
18/12/2023				0	Monday	0
19/12/2023	8.00	4.00	8	57600	Tuesday	57.6
20/12/2023	9.00	12.00	3	21600	Wednesday	21.6
21/12/2023	8.00	4.00	8	57600	Thursday	57.6
22/12/2023				0	Friday	0
23/12/2023				0	Saturday	0
24/12/2023				0	Sunday	0
25/12/2023				0	**Monday**	0
26/12/2023				0	**Tuesday**	0
27/12/2023				0	Wednesday	0
28/12/2023				0	Thursday	0
29/12/2023				0	Friday	0
30/12/2023				0	Saturday	0
31/12/2023				0	Sunday	0
				10285200		

Appendix K Noise Monitoring Results

Annual Noise Monitoring Assessment

Roberts Rd Sand Quarry
Roberts Road
Maroota, NSW
December 2023

Prepared for: Hodgson Quarry and Plant
C/-VGT Environmental Compliance Solutions Pty Ltd
March 2024
MAC160257-03RP1V1

Muller Acoustic Consulting

Document Information

Annual Noise Monitoring Assessment

Roberts Rd Sand Quarry

Roberts Road

Maroota, NSW

December 2023

Prepared for: Hodgson Quarry and Plant

C/- VGT Environmental Compliance Solutions Pty Ltd

Prepared by: Muller Acoustic Consulting Pty Ltd

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ABN: 36 602 225 132

P: +61 2 4920 1833

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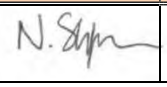
DOCUMENT ID	DATE	PREPARED	SIGNED	REVIEWED	SIGNED
MAC160257-03RP1V1	22 March 2024	Nicholas Shipman		Oliver Muller	

CONTENTS

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by VGT Environmental Compliance Solutions Pty Ltd (VGT), on behalf of Hodgson Quarry and Plant to complete a Noise Monitoring Assessment (NMA) for the Roberts Rd Sand Quarry (the quarry), Maroota, NSW.

The NMA involved quantifying the noise contribution of the quarry by conducting operator attended measurements to determine compliance with the Environmental Protection Licence (EPL #6535) noise limits. The monitoring has been conducted in general accordance with Conditions P1.2 and L3 of the EPL and Conditions 16, 48, 49 and 50 of the Consolidated Consent (Mod 4, DA 267-11-99) at seven receiver locations.

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA), Approved Methods for the measurement and analysis of environmental noise in NSW, 2022;
- NSW Environment Protection Authority (EPA), Environment Protection Licence (EPL) #6535;
- NSW Department of Planning, Industry and Environment (DPIE), Consolidated Consent DA #267-11-99, Modification 4;
- Standards Australia AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters – Specifications; and
- Standards Australia AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

2.1 Operational Noise Criteria

Table 1 incorporates the noise limits for assessed receivers referenced from Conditions P1.2 and L3.1 of the EPL and Condition 49 of the Consolidated Consent, that have been adopted for this NMA and are consistent with EPL monitoring locations.

Table 1 Noise Limits, dBA

Receiver Identification	Day[3]	Morning Shoulder[2]	
	$L_{Aeq(15min)}$	$L_{Aeq(15min)}$	$L_{A1(1min)}$
Point 1,3,4,5,6,7 (EPA 1,3,4,5,6,7)[1] or All other receivers[2]	43	40	50
Point 2 (EPA 2)[1] or Receiver B[2]	44	40	50

Note 1: Noise criteria adopted from EPL #6535.

Note 2: Noise criteria adopted from Consolidated Consent #DA 267-11-99, Modification 4.

Note 3: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

The subsequent conditions stated in Section L3 and P1.2 of the projects EPL (EPL #6535) and are reproduced below:

Condition L3.3

a) *The noise limits set out in condition L3.1 apply under all meteorological conditions shown in the table below; and*

b) *For those meteorology conditions not referred to in Condition L3.3(a), the noise limits that apply are the noise limits in Condition L3.1 plus 5dB.*

Assessment Period	Meteorology Conditions
Day	Stability Categories A, B, C, D and E with wind speeds up to and including 3m/s at 10m above ground level.

L3.4 For the purpose of condition L3.3:

a) *The meteorological conditions are to be determined from meteorological data obtained from a meteorological weather station.*

b) *Stability category shall be determined using the following method from fact Sheet D of the Noise Policy for Industry (NSW EPA, 2017):*

   i. *Pasquill-Gifford stability classification scheme (section D1.3.1).*

L3.5 To assess compliance:

a) *with LAeq (15 minute) noise limits in condition L3.1, the noise measurement equipment must be located:*

    i. *approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or where applicable,*
    ii. *within 30 meters of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 meters from the property boundary closest to the premises; or, where applicable,*
    iii. *in an area within 50 meters of the boundary of a National Park or a Nature Reserve,*
    iv. *at any other location identified in condition L3.1.*

b) *with LAeq (15 minute) noise limits in condition L3.1, the noise measurement equipment must be located:*

    i. *at the reasonably most affected point at a location where there is no residence at the location; or,*
    ii. *at the reasonably most affected point within an area at a location prescribed by condition L3.5(a).*

L3.6 A non-compliance of conditions L3.1 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L3.5(a) or L3.5(b).

Notes to L3.5 and L3.6: *The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.*

L3.7 For the purpose of determining the noise generated at the premises, the modifying factor correction in Table C1 in Fact Sheet C of the Noise Policy for Industry (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.

L3.8 Noise measurement must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

P1.2 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

EPA identification no.	*Type of monitoring point*	*Location description*
1	*Noise monitoring*	*100 Old Telegraph Road, Maroota*
2	*Noise monitoring*	*35 Roberts Road, Maroota*
3	*Noise monitoring*	*4471 Northern Road, Maroota*
4	*Noise monitoring*	*11 Roberts Road, Maroota*
5	*Noise monitoring*	*4460 Old Northern Road, Maroota*
6	*Noise monitoring*	*59 Roberts Road, Maroota*
7	*Noise monitoring*	*45 Roberts Road, Maroota*

Due to technical difficulties, data from the on-site meteorological station was unavailable. Therefore, data from the nearest Bureau of Meteorological (BoM) Station has been supplemented.

2.2 Traffic Noise Criteria

The subsequent conditions stated in Section 50 of the projects Consolidated Consent (DA# 267-11-99, Modification 4) and are reproduced below:

> *50. The Applicant shall ensure that all traffic noise from the development does not exceed ($LA_{eq\ (1hr)}$) 55dB(A) between 7am and 10pm and 50dB(A) between 10pm and 7am at any affected residence under adverse weather conditions. Where ambient Leq levels already exceed these criteria, the Applicant shall ensure that traffic noise from the development does not result in an exceedance of more than 2dB(A).*
>
> *Note: Adverse weather conditions means in the presence of winds up to 3 meters per second and/or temperature inversions of up to 4 degrees Centigrade per 100 meters.*

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3 Methodology

3.1 Locality

Roberts Rd Sand Quarry is located at the Corner of Roberts Road and Old Northern Road, Maroota, NSW. Receivers in the locality surrounding the quarry are primarily rural/residential and for consistency the naming conventions for each receiver have been retained from Condition P1.2 of the EPL. The monitoring locations with respect to the quarry are presented in the locality plan shown in **Figure 1**.

3.2 Assessment Methodology

The attended noise survey was conducted by MAC staff in general accordance with the procedures described in Standards Australia AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. Measurements were carried out using Svantek Type 1, 971 noise analysers between Wednesday 13 December 2023 and Thursday 14 December 2023. The acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved Methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) and complies with AS/NZS IEC 61672.1-2019- Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ±0.5dBA.

Due to time constraints within the shoulder period, several Svantek Type 1, 971 noise analysers were installed simultaneously and an intermittent observation point representative of the locations monitored was used. The noise analysers have audio playback capabilities to confirm noise sources during the observation period.

Day and morning shoulder measurements were of 15-minutes duration. Where possible, throughout each survey the operator quantified the contribution of each significant noise source. Extraneous noise sources were excluded from the analysis to calculate the $LA_{eq(15min)}$ quarry noise contribution for comparison against the relevant EPL limit.

Prevailing meteorological conditions for the monitoring period were sourced from the Bureau of Meteorology (BoM) site located at Mangrove Mountain AWS, NSW Site #61375. Results obtained during non-prevailing meteorological conditions (ie F Class Stability in conjunction with a 2m/s drainage or G Class Stability) are considered not applicable against the EPL criteria.

Where the quarry is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.

FIGURE 1

LOCALITY PLAN

MAC160257-03

Roberts Road Quarry

KEY

- EPL Monitoring Locations
- Unattended Traffic Logger
- Quarry Boundary

0 30 60 90 120 150 m

N

MAC
Muller Acoustic Consulting

4 Results

The monitoring and assessment results are presented in individual tables for each assessment location.

4.1 Meteorological Conditions

Weather data for the noise assessment was sourced from the BoM station, Mangrove Mountain, NSW, as well as operator measured conditions on site of EPL nominated receiver locations. The data was used to determine prevailing meteorological conditions at the time of the attended measurements, which are presented in Table 2.

Table 2 Prevailing Meteorological Conditions

Date & Time	Mangrove Mountain AWS, NSW Bureau of Meteorological Station Site #61375		Operator Measured Weather Monitoring Location (1.8m AGL)	
	Wind Direction	Wind (m/s)	Wind Direction	Wind (m/s)
13/12/2023 06:04	NE	0.5	N	0.1
13/12/2023 06:20	ENE	0.5	N	0.1
13/12/2023 06:22	ENE	0.5	N	0.1
13/12/2023 06:40	N	0.0	N	0.1
13/12/2023 06:42	N	0.0	N	0.1
13/12/2023 07:12	ENE	0.5	N	0.2
13/12/2023 07:35	NNE	1.6	N	0.1
13/12/2023 07:55	NE	1.6	N	0.1
13/12/2023 08:14	NE	1.6	N	0.1
13/12/2023 08:32	NE	1.6	N	0.1
13/12/2023 08:51	N	1.1	N	0.1
13/12/2023 09:22	NE	1.9	N	0.1
14/12/2023 06:24	NW	0.5	N	0.1
14/12/2023 06:41	NW	0.5	N	0.1

4.2 Assessment Results – Location EPA 1

The results of the attended noise measurements at location EPA 3 for the December 2023 survey are summarised in **Table 3** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 3 Operator-Attended Noise Survey Results – EPA 1

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	09:22 (Day)	74	52	39	43	WD: N WS: 0.1m/s Rain: Nil	Birds 37-56 Insects <37 Traffic 37-74 Quarry mobile plant 37-39
Quarry $L_{Aeq(15min)}$ Contribution							38
13/12/2023	06:42 (Morning Shoulder)	78	50	34	40/50	WD: N WS: 0.1m/s Rain: Nil	Birds 31-64 Insects <30 Traffic 30-78 Quarry mobile plant 31-35
Quarry $L_{Aeq(15min)}$ Contribution							33
Quarry $L_{A1(1min)}$ Contribution							35

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.3 Assessment Results – Location EPA 2

The results of the attended noise measurements at location EPA 2 for the December 2023 survey are summarised in **Table 4** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 4 Operator-Attended Noise Survey Results – EPA 2

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	08:14 (Day)	88	62	38	44	WD: N WS: 0.1m/s Rain: Nil	Traffic 35-88 Birds 35-58 Local residential noise 35-54 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<28
13/12/2023	06:20 (Morning Shoulder)	78	53	46	40/50	WD: N WS: 0.1m/s Rain: Nil	Traffic 40-78 Birds 44-56 Insects <40 Pedestrian 40-45 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<36
Quarry $L_{A1(1min)}$ Contribution							<36

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.4 Assessment Results – Location EPA 3

The results of the attended noise measurements at location EPA 3 for the December 2023 survey are summarised in **Table 5** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 5 Operator-Attended Noise Survey Results – EPA 3

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	07:12 (Day)	66	52	42	43	WD: N WS: 0.2m/s Rain: Nil	Traffic 35-66 Birds 35-58 Agriculture 38-63 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<32
14/12/2023	06:24 (Morning Shoulder)	66	52	45	40/50	WD: N WS: 0.1m/s Rain: Nil	Traffic 41-66 Agriculture 41-43 Birds 46-54 Insects 41-45 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<35
Quarry $L_{A1(1min)}$ Contribution							<35

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.5 Assessment Results – Location EPA 4

The results of the attended noise measurements at location EPA 4 for the December 2023 survey are summarised in **Table 6** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 6 Operator-Attended Noise Survey Results – EPA 4

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	07:55 (Day)	75	54	38	43	WD: N WS: 0.1m/s Rain: Nil	Insects <35 Birds 35-56 Traffic 35-75 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<30
13/12/2023	06:04 (Morning Shoulder)	84	62	36	40/50	WD: N WS: 0.1m/s Rain: Nil	Traffic 33-84 Birds 33-49 Insects <33 Pedestrian 36-45 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<30
Quarry $L_{A1(1min)}$ Contribution							<40

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.6 Assessment Results – Location EPA 5

The results of the attended noise measurements at location EPA 5 for the December 2023 survey are summarised in **Table 7** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 7 Operator-Attended Noise Survey Results – EPA 5

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	07:35 (Day)	92	69	41	43	WD: N WS: 0.1m/s Rain: Nil	Traffic 35-92 Birds 35-56 Rooster 35-50 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<31
14/12/2023	06:41 (Morning Shoulder)	88	69	45	40/50	WD: N WS: 0.1m/s Rain: Nil	Traffic 40-88 Birds 40-52 Rooster 40-46 Insects 40-43 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<35
Quarry $L_{A1(1min)}$ Contribution							<35

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.7 Assessment Results – Location EPA 6

The results of the attended noise measurements at location EPA 6 for the December 2023 survey are summarised in **Table 8** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 8 Operator-Attended Noise Survey Results – EPA 6

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	08:51 (Day)	80	53	39	43	WD: N WS: 0.1m/s Rain: Nil	Dog bark 40-44 Insects 35-42 Traffic 35-80 Birds 38-56 Quarry mobile plant <35
Quarry $L_{Aeq(15min)}$ Contribution							<35
13/12/2023	06:40 (Morning Shoulder)	80	53	33	40/50	WD: N WS: 0.1m/s Rain: Nil	Traffic 30-80 Birds 36-52 Insects <30 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<30
Quarry $L_{A1(1min)}$ Contribution							<40

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.8 Assessment Results – Location EPA 7

The results of the attended noise measurements at location EPA 7 for the December 2023 survey are summarised in **Table 9** with the relevant EPL limits, the calculated quarry noise contribution and prevailing meteorological conditions at the time of each measurement.

Table 9 Operator-Attended Noise Survey Results – EPA 7

Date	Time (hrs)[1]	Descriptor (dBA re 20 µPa)			Limit	Meteorology[2]	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}			
13/12/2023	08:32 (Day)	78	54	38	43	WD: N WS: 0.1m/s Rain: Nil	Insects 36-42 Birds 35-56 Traffic 36-78 Rooster 36-57 Quarry inaudible
Quarry $L_{Aeq(15min)}$ Contribution							<30
13/12/2023	06:22 (Morning Shoulder)	64	46	41	40/50	WD: N WS: 0.1m/s Rain: Nil	Pedestrian 43-54 Traffic 34-64 Birds 34-59 Rooster 40-56 Quarry impacts 41-46 (2 seconds)
Quarry $L_{Aeq(15min)}$ Contribution							<31
Quarry $L_{A1(1min)}$ Contribution							46

Note 1: Day - the period from 7am to 7pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays, EPL #6535.

Note 2: Meteorological data obtained from direct measurement by the operator and by BoM Mangrove Mountain AWS, NSW Site #61375.

4.9 Unattended Road Traffic Noise Results – Location R1

To assess road traffic noise levels associated with quarry related heavy vehicle, an unattended noise monitor was located on the boundary of 4405 Old Northern Road, Maroota, NSW.

The results of the road traffic noise measurements on Wednesday 13 December 2023 are summarised in **Table 10**.

As per condition 50 of the quarries Consolidated Consent (#DA 267-11-99, Modification 4), results of the road traffic noise measurements identify that noise levels were influenced by extraneous noise sources such as birds and local road traffic not associated with the quarry. The noise contribution of the quarry related traffic at this location remained below relevant criteria.

Road traffic noise calculations were undertaken to quantify project related road traffic noise contributions at the measurement position using Traffic Noise Model (TNM) by the United States Department of Transport, Federal Highway Administrations Low Volume Calculator Tool at an offset distance of 25m from the road, which is representative of R1. Results of the road traffic noise calculations identify that quarry related heavy vehicles satisfy the relevant road noise criteria, hence would comply at all privately-owned receivers further than 25m from Old Northern Road.

Table 10 Road Noise Survey Results

Operational Period	Number of Quarry Trucks (passbys)[1]	Overall Calculated dB LAeq (dBA re 20 µPa)	Overall Measured dB LAeq (dBA re 20 µPa)	Compliance Limit dB LAeq (period)
Assessment Period – Day (7am to 8am), dB $L_{Aeq(1hr)}$				
7:00am to 8:00am	17	54	70	55
Assessment Period – Morning Shoulder (6am to 7am), dB $L_{Aeq(1hr)}$				
6:00am to 7:00am	6	49	70	50

Note 1: Vehicle flows provided by site, it is assumed that during the morning shoulder period, a maximum of 6 trucks will be loaded within that hour, the remaining 17 trucks are assumed to be loaded during the day period.

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5 Discussion

5.1 Discussion of Results – Location EPA 1

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were audible on both occasions during the morning shoulder and day periods at location EPA 1. The estimated quarry contributions satisfied the relevant EPL noise limits. Extraneous sources such as birds, insects and traffic were audible during the measurement period.

5.2 Discussion of Results – Location EPA 2

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were inaudible during all assessment periods at location EPA 2, therefore the estimated quarry contribution satisfied the relevant EPL noise limits. Extraneous sources such as birds, traffic, local residential noise, insects and pedestrians were audible during the measurement period.

5.3 Discussion of Results – Location EPA 3

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were inaudible during all assessment periods at location EPA 3, therefore the estimated quarry contribution satisfied the EPL noise limits. Extraneous sources such as traffic, birds, agricultural noise and insects were audible during the measurement period.

5.4 Discussion of Results – Location EPA 4

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were inaudible during all assessment periods at location EPA 4, therefore the estimated quarry contribution satisfied the relevant EPL noise limits. Extraneous sources such as insects, birds, traffic, and pedestrians were audible during the measurement period.

5.5 Discussion of Results – Location EPA 5

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were inaudible during all assessment periods at location EPA 5, therefore the estimated quarry contribution satisfied the relevant EPL noise limits. Extraneous sources such as traffic, birds, roosters, and insects were audible during the measurement period.

5.6 Discussion of Results – Location EPA 6

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were audible during the day period at location EPA 6. The estimated quarry contribution satisfied the relevant EPL noise limits during the measurement period. Extraneous sources such as dogs barking, insects, traffic, and birds were audible during the measurement period.

5.7 Discussion of Results – Location EPA 7

Monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that noise emissions were audible during the morning shoulder period at location EPA 7. The estimated quarry contribution satisfied the relevant EPL noise limits during the measurement period. Extraneous sources such as insects, birds, traffic, roosters, and pedestrians were audible during the measurement period.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) for VGT Environmental Compliance Solutions Pty Ltd (VGT), on behalf of Hodgson Quarry and Plant. Monitoring was conducted in accordance with Conditions P1.2 and L3 of the Environmental Protection Licence (EPL #6535) and Conditions 16, 48, 49 and 50 of the Consolidated Consent (Mod 4, DA#267- 11- 99). The assessment was completed determine compliance with the EPL and Consent noise limits.

Attended monitoring conducted between Wednesday 13 December 2023 and Thursday 14 December 2023 identified that Roberts Rd Sand Quarry noise emissions were audible on several occasions, although satisfying the relevant EPL noise limits. A review of monitoring data and operator attended observations determined that Roberts Rd Sand Quarry contributions are below the EPL and Consent limits for all assessment periods.

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

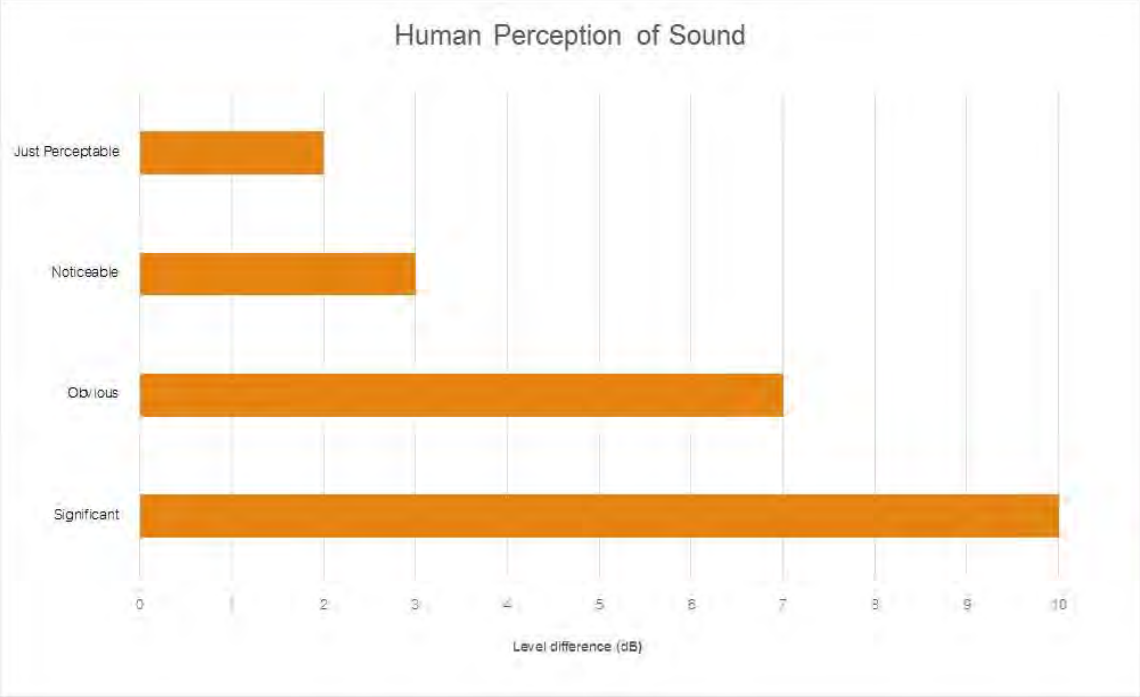
Table A1 Glossary of Acoustical Terms

Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmax	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by 10.log10 (W/Wo). Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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MAC
Muller Acoustic Consulting

Appendix L Weed Management Reports

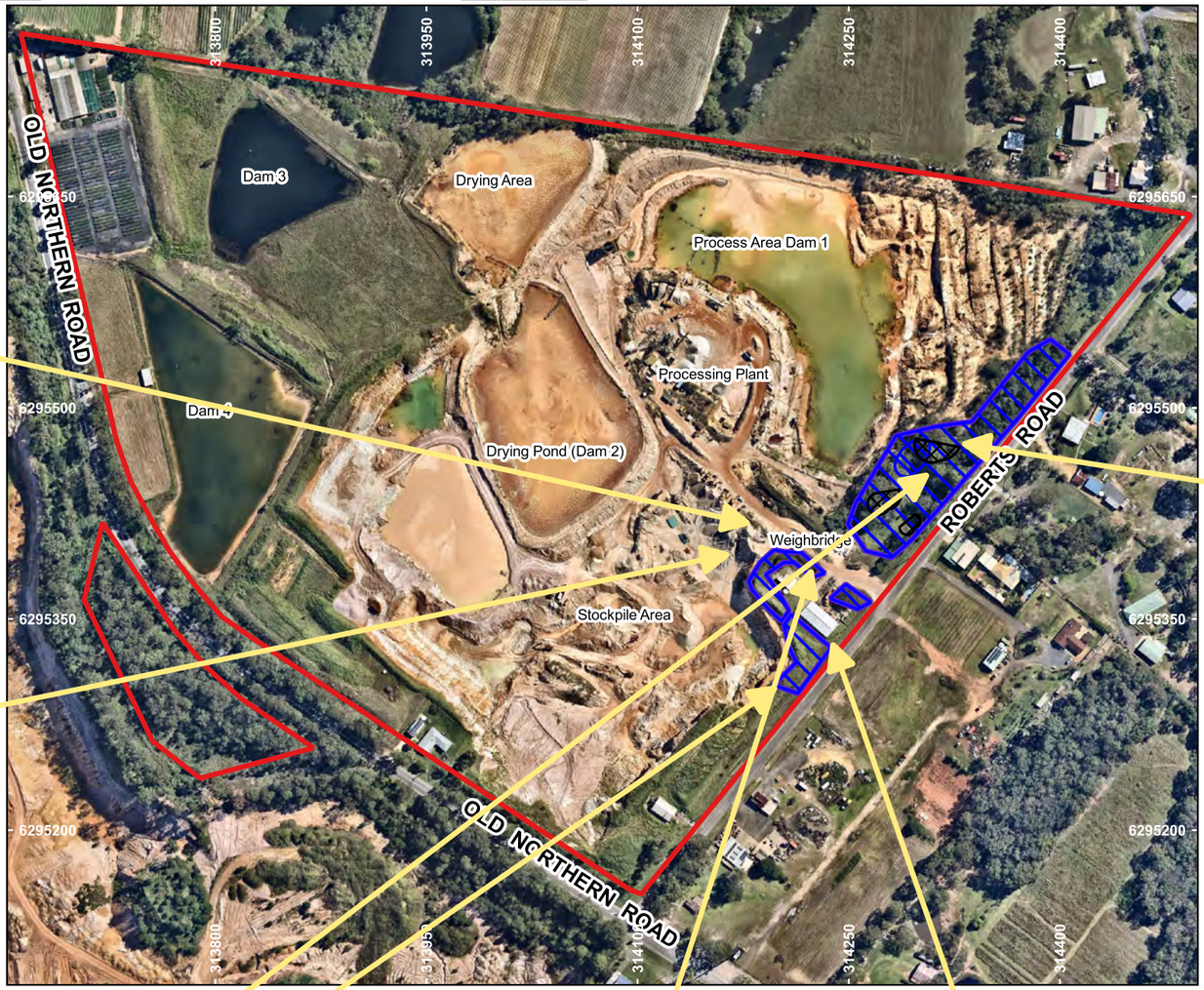
Plan of:	**Weed Management December 2023 - Maroota Sand Quarry**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	nearmap - Image Dated 17/03/2023	**Plan By:**	SK/JD
Figure:	**ONE**	**Council:**	Hills Shire Council	**Survey:**	Lot Boundary NSW Clip & Ship	**Project Manager:**	LT
Version/ Date:	V0 25/01/2024	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856		
Our Ref:	12591_HMA_Weed_Q001_Dec2023	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	Not Applicable		

N

0 50 100 150 m

vgt environmental compliance solutions and laboratories

This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.



South-Eastern Boundary
Weed Name: Fireweed, Whiskey Grass
Treatment Date: 15/8/2022
Treatment: Hand Pulling

South-Eastern Boundary
Weed Name: Fireweed, Whiskey Grass, Crofton Weed
Treatment: Hand Pulling, Slashing, Herbiside

Legend

- Property Boundary

Weed Group

- African Lovegrass
- Blackberry
- Bridal Creeper
- Cobblers Peg
- Crofton Weed
- Fireweed
- Lantana
- Paspalum
- Rhodes Grass
- Whiskey Grass

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
African Lovegrass	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Blackberry	Herbicide - too wet	Herbicide	Herbicide						Herbicide	Herbicide	Herbicide	Herbicide
Bridal Creeper	Hand Removal - slashing	Hand Removal	Hand Removal - not found	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal
Cobblers Peg	Hand Removal - slashing	Hand Removal - slashing	Hand Removal - slashing	Hand Removal					Herbicide	Herbicide	Herbicide	Hand Removal
Crofton Weed	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Fireweed	Hand Removal - slashing	Hand Removal - slashing	Hand Removal - none visible	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal
Lantana	Herbicide - too wet	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Paspalum	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide			Herbicide	Herbicide	Herbicide	Herbicide
Rhodes Grass	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide
Whiskey Grass	Herbicide - slashing	Hand Removal - slashing	Hand Removal - slashing	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Herbicide	Herbicide	Herbicide	Hand Removal

Plan of:	**Weed Management November 2023 - Maroota Sand Quarry**	**Location:**	Maroota Quarry, Roberts Road, Maroota, NSW	**Source:**	nearmap - Image Dated 17/03/2023	**Plan By:**	SK/JD
Figure:	**ONE**	**Council:**	Hills Shire Council	**Survey:**	Lot Boundary NSW Clip & Ship	**Project Manager:**	LT
Version/ Date:	V0 08/12/2023	**Tenure:**	Not Applicable	**Projection:**	GDA2020/MGA Zone 56 EPSG:7856		
Our Ref:	12591_HMA_Weed_Q001_Nov2023	**Client:**	Hodgson Quarries & Plant Pty Ltd	**Contour Interval:**	Not Applicable		

N

0 50 100 150 m

vgt environmental compliance solutions and laboratories

South-Eastern Boundary
Weed Name: Fireweed, Whiskey Grass
Treatment: Hand Pulling, Slashing, Herbiside

South-Eastern Boundary
Weed Name: Fireweed, Whiskey Grass
Treatment: Hand Pulling, Slashing, Herbiside

Legend

- Property Boundary

Weed Group

- African Lovegrass
- Blackberry
- Bridal Creeper
- Cobblers Peg
- Crofton Weed
- Fireweed
- Lantana
- Paspalum
- Rhodes Grass
- Whiskey Grass

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
African Lovegrass	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Blackberry	Herbicide - too wet	Herbicide	Herbicide						Herbicide	Herbicide	Herbicide	Herbicide
Bridal Creeper	Hand Removal - slashing	Hand Removal	Hand Removal - not found	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal
Cobblers Peg	Hand Removal - slashing	Hand Removal - slashing	Hand Removal - slashing	Hand Removal					Herbicide	Herbicide	Herbicide	Hand Removal
Crofton Weed	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Fireweed	Hand Removal - slashing	Hand Removal - slashing	Hand Removal - none visible	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal
Lantana	Herbicide - too wet	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Paspalum	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide			Herbicide	Herbicide	Herbicide	Herbicide
Rhodes Grass	Herbicide - slashing	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide
Whiskey Grass	Herbicide - slashing	Hand Removal - slashing	Hand Removal - slashing	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Hand Removal	Herbicide	Herbicide	Herbicide	Hand Removal

Appendix M Induction Checklist

Hodgson Quarries & Plant Pty Ltd

Workplace Environmental Inclement Weather Check List

1.0 PURPOSE

The purpose of document is to identify potential damage to plant, equipment and the environment in the event of significant rainfall event, either short term or over a prolong period of days.

2.0 SCOPE

Prepare the site in the event of torrential rain occurrence.

Predicted rain event date: 4/10/23 O/NIGHT -20-25mm Amount in mm: 15mm SEE ATTACH

Quarry Pit

Are catchment areas pumped out.	Yes	No
Gensets checked and operational	Yes	No
Gensets fully fueled	Yes	No
Pumps checked and operational	Yes	No
Hoses checked and connected	Yes	No
Hall roads clear and accessible	Yes	No
Drains clear and feeding into catchment	Yes	No
Highwalls checked for pooling	Yes	No

Comments:_____

_____

Mud Dams

Sufficient capacity to take inundation	Yes	No
Overflow plugs checked and clear	Yes	No
Bund walls checked	Yes	No
Gensets checked and operational	Yes	No
Gensets fully fueled	Yes	No
Pumps checked and operational	Yes	No
Hoses checked and connected	Yes	No

Comments:_____

_____

Hodgson Quarries & Plant Pty Ltd

Clean Water Process Dam

Sufficient capacity to take inundation	(Yes)	No
Pumps checked and operational	(Yes)	No
Hoses checked and connected	(Yes)	No
Bund walls checked	(Yes)	No

Comments: _____

_____

Receiving Water Dams

Sufficient capacity to take pumped water	(Yes)	No
Bund walls checked	(Yes)	No

Comments: _____

_____

Review After Event

Comments / Follow Up Actions: 15mm RECIEVED IN 24 HOUR PERIOD NO SUFFICENT IMPACT.

Name: S. Reed Date: 5/10/23

Signature: S Reed

Gmail

Hodgson Quarries and Plant Pty Ltd <hodgsonquarries@gmail.com>

High 24 HR Max Rain Total Alarm at Hodgson Quarries - Maroota

1 message

noreply@weatherlink.com <noreply@weatherlink.com>
Reply-To: noreply@weatherlink.com
To: hodgsonquarries@gmail.com

Wed, Oct 4, 2023 at 9:25 PM

DAVIS

As of: 04/10/2023 21:25

Hodgson Quarries - Maroota

New Alarm(s)	
Maroota Weather Station - High 24 HR Max Rain Total	15.0 mm

Hodgson Quarries & Plant Pty Ltd

Inducted Truck Driver
Code of Conduct Audit

1. Purpose
To ensure all drivers who are approaching & entering the Maroota Site know the correct procedures and are complying with them.

2. Scope
To cover all persons whilst in and about the quarry site.

3. Responsibilities
The Quarry Manager / Site Supervisor have overall responsibility to ensure the observance of the requirements of this procedure.
All personnel within the quarry site have a responsibility to comply with the requirements of this procedure and to at all times follow the directions of the Quarry Manager / Site Supervisor.

4. Procedure (All Drivers Must)

- Do you comply with all NSW government rules and regulations, including all posted school zone and work-site speed limits.

  (YES) NO

  If no please explain:_____

  _____

- Do you comply with RMS regulations and never leave the quarry overloaded.

  (YES) NO

  If no please explain:_____

  _____

- Do you minimise potential conflict with school buses, observe speed limits when lights are flashing.

  (YES) NO

  If no please explain:_____

  _____

- Do hold a valid driver's license for the class of vehicle that is operated today.

  YES NO

  If no please explain:_____

  _____

- Have you in the last 12 months been given an infringement notice.

  YES NO

  If yes please explain:_____

  _____

- Do you conduct a prestart on the vehicle to ensure the vehicle is safe to operate.

  YES NO

  If no please explain:_____

  _____

- Do attend regular safety meetings with the appropriate Manager / Supervisor.

  YES NO

  If no please explain:_____

  _____

- Do you have your vehicle serviced and maintained as recommended by the manufacturer.

  YES NO

  If no please explain:_____

  _____

- Has the driver follow all directions of site personnel.

YES NO

If no please explain: S REED CAN CONFIRM.

- Has an inspection been completed for tailgate leakage.

YES NO

If yes please explain: _____

Has the driver been observed complying with the following YES NO

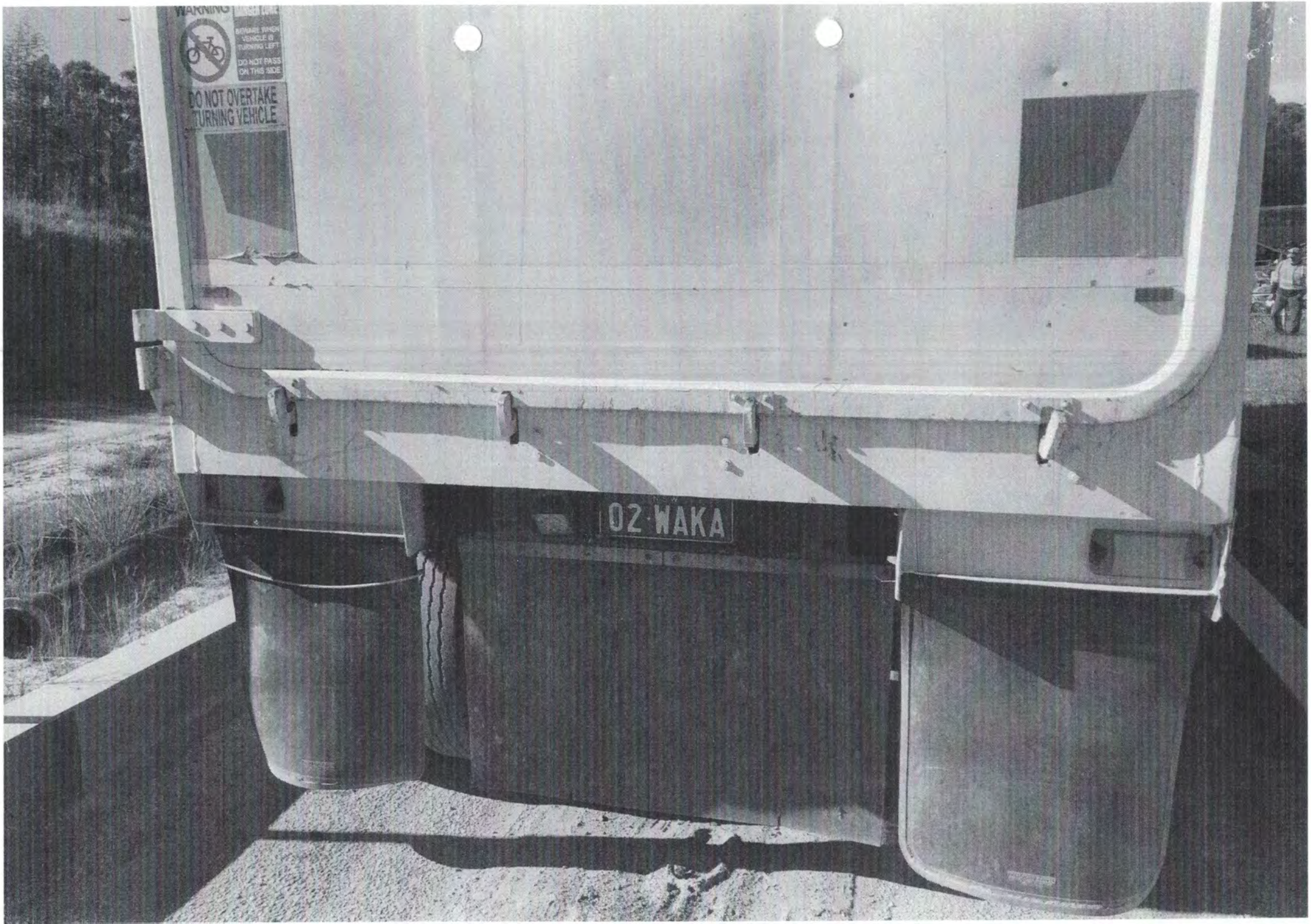
- Comply with Hodgson Quarries SMS.
- Always display courtesy & restraint to others entering and leaving the quarry.
- Maintain on approach to the quarry (entering Roberts Rd) a minimum speed and walking pace whilst in the quarry, never uses compression braking.
- Prior to entering the quarry contacts the Loader Operator via UHF Ch.28, to get permission to enter.
- Wear all appropriate PPE.
- Never approaches an operating mobile machine from the rear.
- If it is necessary to approach a machine makes contact first via radio, otherwise remains in your truck until called to get his or her docket.
- Never approaches machinery until eye contact is made with operator & he/she acknowledges your presence and equipment is grounded.
- When exiting the quarry calls on the radio **"Truck up Haul Road"**.

Truck Driver Name: Kevin Walker Date: 11.4.23

Signature: K Walker

Auditor Name: STUART REED Date: 11/4/23

Signature: S Reed


WARNING
DANGER WHEN VEHICLE IS TURNING LEFT
DO NOT PASS ON THIS SIDE
DO NOT OVERTAKE TURNING VEHICLE
02 WAKA

Hodgson Quarries & Plant Pty Ltd

Workplace Environmental Stability Check List

1.0 PURPOSE

The purpose of document is to identify potential failures within the operations of the quarry with reference to dams, slopes / walls, channels and spillways.

2.0 SCOPE

At a minimum complete a visual walk through every month of the site.

Quarry Pit

Are catchment areas pumped out.	Yes	No
Gensets checked and operational	Yes	No
Gensets fully fueled	Yes	No
Pumps checked and operational	Yes	No
Hoses checked and connected	Yes	No
Hall roads clear and accessible	Yes	No
Drains clear and feeding into catchment	Yes	No
Highwalls checked for pooling	Yes	No

Comments:_____

_____

Mud Dams

Sufficient capacity to take inundation	Yes	No
Overflow plugs checked and clear	Yes	No
Bund walls checked	Yes	No
Gensets checked and operational	Yes	No
Gensets fully fueled	Yes	No
Pumps checked and operational	Yes	No
Hoses checked and connected	Yes	No

Comments:_____

_____

Hodgson Quarries & Plant Pty Ltd

Clean Water Process Dam

Sufficient capacity to take inundation	Yes	No
Pumps checked and operational	Yes	No
Hoses checked and connected	Yes	No
Bund walls checked	Yes	No

Comments: _____

_____

Receiving Water Dams

Sufficient capacity to take pumped water	Yes	No
Bund walls checked	Yes	No

Comments: _____

_____

Comments / Follow Up Actions: SETTING UP TO PUMP UP TO TOP DAM

Name: S. REED Date: 11/4/23

Signature: S Reed

Appendix N Correspondence

Department of Planning and Environment

Our ref: DA267-11-99-PA-45

Mr Stuart Reed
Environmental Officer
Hodgson Quarries and Plant Hire Pty Ltd
PO Box 1778
Gosford, NSW, 2250

18/12/2023

Subject: Rehabilitation and Conservation Bond Calculation

Dear Mr Reed

I refer to the Rehabilitation and Conservation Bond Calculation (dated 26 October 2023) submitted in accordance with condition 61 of Schedule 2 of the conditions of consent for the Roberts Road Quarry (DA267-11-99).

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions of consent.

Accordingly, as nominee of the Planning Secretary, I approve the Rehabilitation and Conservation Bond calculation to the value of $313,619.00. Please provide the Department with a bond to this value in accordance with the timing requirements set out in the conditions of consent.

You are reminded that if there are any inconsistencies between relevant plans and the conditions of approval, the conditions prevail.

If you wish to discuss the matter further, please contact Jarrod Blane on 02 8275 1831 or jarrod.blane@dpie.nsw.gov.au.

Yours sincerely

JEvans

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary

27/09/2023

Secretary

Department of Planning and Environment
Locked Bag 5022
Parramatta, NSW 2124

Via Major Projects Portal.

To Secretary,

RE: Notification of Exceedance of Air Quality Criteria, DA 267-11-99

Please let this letter serve as notice that Hodgson Quarry and Plant Pty Ltd (Hodgson) has notified the Department of Planning and Environment that an exceedance of a performance criteria condition has occurred at the Robert Road, Maroota Sand Quarry, DA 267-11-99.

1.1 Condition Exceeded

DA 267-11-99, Schedule 2:

Air Quality Criteria

***28**. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 1 at any residence on privately-owned land.*

Table 1: *Air quality criteria*

Pollutant	***Averaging period***	***Criterion***	
Particulate matter < 10 µm (PM_{10})	Annual	[a, c] 25 µg/m^3	
	24 hour	[b] 50 µg/m^3	
Particulate matter < 2.5 µm ($PM_{2.5}$)	Annual	[a, c] 8 µg/m^3	
	24 hour	[b] 25 µg/m^3	
Total suspended particulate (TSP) matter	Annual	[a, c] 90 µg/m^3	
[d] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes:

[b] Incremental impact (i.e. incremental increase in concentrations due to the development on its own)

[c] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.

VGT Environmental Compliance Solutions Pty Ltd. ABN 26 621 943 888
Unit 4, 30 Glenwood Drive Thornton NSW 2322 | PO Box 2335, Greenhills NSW 2323
P: (02) 4028 6412 | **E:** mail@vgt.com.au | **www.vgt.com.au**

1.2 Investigation and Causes

Hodgson received report number 15174 (ATT 1) on 26/09/2023, stating that the high volume air sampler located near the Office of the Roberts Rd site had a Particulate Matter less than 2.5µm level of 36 µg/m^3 for the 24 hours of 24/08/2023, which is above the 24 hour average criteria of 25 µg/m^3.

The field notes covering the period of 24 hours for 24/08/2023 included a note “RFS back burning” as noted on the analytical report 15174. The laboratory reported that the filter paper sample for that period showed a dark material that smelt strongly of smoke.

The closest background monitoring site to Maroota is Rouse Hill, which measured 9.0 µg/m3 for the same 24 hour period. Therefore the incremental increase in PM2.5 concentrations due to the development on its own is (36-9=) 27 µg/m^3.

NSW Planning and Environment Monitoring Location	Km to Site	Background Particles PM 2.5 24-hour average µg/m3	Measured at Site PM 2.5 24-hour average µg/m3	Incremental Impact PM 2.5 24-hour average µg/m3
Rouse Hill	25 km South	9.0	36	27

The following mitigating circumstances have been recorded:

a) The site monitoring station is within the site and not at any residence on privately-owned land;

b) The fire was closer to the site than the Rouse Hill background monitoring point, and in a different direction;

c) The sampling notes included the presence of the fire in the locality; and

d) The laboratory noted the strong smell of smoke on the paper.

The PM2.5 result can therefore be determined as falling under the Note [c] criteria of an “extraordinary event” and is not therefore an incident nor a non-compliance. No further action is required by the operation.

1.3 Reporting

The development consent conditions require the following reporting.

Incident Reporting

68. The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Non-Compliance Notification

68A. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not

comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

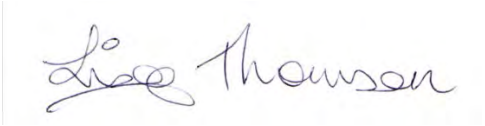
This letter serves notice that the DPE has been notified of this event, although it is not an incident nor non-compliance.

This report has been submitted via the Major Projects Portal within 7 days of the proponent becoming aware of the result.

The environment protection licence for the site has no monitoring or air quality criteria requirements, therefore this report will not be forwarded to the EPA unless required by the Secretary.

If you have any questions please do not hesitate to contact Lisa Thomson (environmental consultant) on lisa@vgt.com.au or 0427 334471, or Stuart Reed (environmental manager) on hodgsonquarries@gmail.com or 0418 277 871.

Regards,



Lisa Thomson, BAppSc (Chem), MIQA, MRACI, CChem
Environmental Consultant.

ATT1: Report Number 15174

VGT Laboratories Pty Ltd.
ABN 77 621 943 600
NATA Accreditation 20375
Unit 4, 30 Glenwood Drive Thornton NSW 2322|
P: (02) 4028 6412 | E: lab@vgt.com.au | www.vgt.com.au

Report Number: 15174

Date Issued: 26/09/2023 Revision Number: 00

Site/Job: Hodgson Maroota HVAS

Client: Hodgson Quarries & Plant Pty Ltd
Address PO Box 355
Glenorie NSW 2157
Contact Martin Hodgson

The following HVAS Filter(s) were received on 20/09/2023

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	24/08/2023	15174/1	HVAS	21/08/2023 13:00	29/08/2023 10:48	59	208,625
PM 10	24/08/2023	15174/2	HVAS	21/08/2023 13:00	29/08/2023 10:48	59	208,627
PM 2.5	24/08/2023	15174/3	HVAS	21/08/2023 13:00	29/08/2023 10:48	59	208,626
TSP	30/08/2023	15174/4	HVAS	29/08/2023 11:00	01/09/2023 12:28	59	208,628
PM 10	30/08/2023	15174/5	HVAS	29/08/2023 11:00	01/09/2023 12:28	59	208,630
PM 2.5	30/08/2023	15174/6	HVAS	29/08/2023 11:00	01/09/2023 12:28	59	208,629
TSP	05/09/2023	15174/7	HVAS	01/09/2023 12:45	06/09/2023 09:10	60	208,662
PM 10	05/09/2023	15174/8	HVAS	01/09/2023 12:45	06/09/2023 09:10	60	208,665
PM 2.5	05/09/2023	15174/9	HVAS	01/09/2023 12:45	06/09/2023 09:10	60	208,663
TSP	11/09/2023	15174/10	HVAS	06/09/2023 09:20	12/09/2023 13:50	60	208,666
PM 10	11/09/2023	15174/11	HVAS	06/09/2023 09:20	12/09/2023 13:50	60	208,668
PM 2.5	11/09/2023	15174/12	HVAS	06/09/2023 09:20	12/09/2023 13:50	60	208,667
TSP	17/09/2023	15174/13	HVAS	12/09/2023 14:00	20/09/2023	60	208,669
PM 10	17/09/2023	15174/14	HVAS	12/09/2023 14:00	20/09/2023	60	208,671
PM 2.5	17/09/2023	15174/15	HVAS	12/09/2023 14:00	20/09/2023	60	208,670

The Filter(s) have been tested as received and results relate specifically to the filters tested.
The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Sampling Report: Information supplied by client
- Chain of Custody (if available)

Test Report Number: 15174

Date Issued: 26/09/2023 Revision No: 00

Results

HVAS - TSP Date of Operation	Method	Units	15174/1 24/08/2023	15174/4 30/08/2023	15174/7 05/09/2023	15174/10 11/09/2023	15174/13 17/09/2023
Date Tested	--	--	25/08/2023	25/08/2023	25/08/2023	25/08/2023	25/08/2023
Particulates per filter	VGT-WI/44	µg/filter	82,700	36,400	37,600	55,200	24,800
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	55	24	24	36	16

HVAS - PM10 Date of Operation	Method	Units	15174/2 24/08/2023	15174/5 30/08/2023	15174/8 05/09/2023	15174/11 11/09/2023	15174/14 17/09/2023
Date Tested	--	--	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023
Particulates per filter	VGT-WI/44	µg/filter	65,000	18,300	16,600	35,200	12,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	43	12	11	23	8

HVAS - PM2.5 Date of Operation	Method	Units	15174/3 24/08/2023	15174/6 30/08/2023	15174/9 05/09/2023	15174/12 11/09/2023	15174/15 17/09/2023
Date Tested	--	--	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023
Particulates per filter	VGT-WI/44	µg/filter	53,800	15,900	13,700	24,800	11,900
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	**36**	10	9	16	8

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

Weather and flow rates used for calculation purposes supplied by client.

[NT]: Not tested

Sampling Report Number: 15174

Date Issued: 26/09/2023 Revision No: 00

Sampling procedures supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
15174/1	TSP	S.Reed	Unknown	RFS Back burning
15174/2	PM 10	S.Reed	Unknown	RFS Back burning
15174/3	PM 2.5	S.Reed	Unknown	RFS Back burning
15174/4	TSP	S.Reed	Unknown	
15174/5	PM 10	S.Reed	Unknown	
15174/6	PM 2.5	S.Reed	Unknown	
15174/7	TSP	S.Reed	Unknown	
15174/8	PM 10	S.Reed	Unknown	
15174/9	PM 2.5	S.Reed	Unknown	
15174/10	TSP	S.Reed	Unknown	Hazard reduction burning
15174/11	PM 10	S.Reed	Unknown	Hazard reduction burning
15174/12	PM 2.5	S.Reed	Unknown	Hazard reduction burning
15174/13	TSP	S.Reed	Unknown	
15174/14	PM 10	S.Reed	Unknown	
15174/15	PM 2.5	S.Reed	Unknown	

Lab ID	Description	Average Flow Rate m3/min	Total Run time min	Est Mean Temperature °C	Est Mean Pressure kPa	Volume Air sampled m3	Weather
15174/1	TSP	1.13	1,439	20.0	101.3	1,514	Sunny
15174/2	PM 10	1.13	1,439	20.0	101.3	1,514	Sunny
15174/3	PM 2.5	1.13	1,439	20.0	101.3	1,514	Sunny
15174/4	TSP	1.13	1,439	15.5	101.3	1,538	Fine
15174/5	PM 10	1.13	1,439	15.5	101.3	1,538	Fine
15174/6	PM 2.5	1.13	1,439	15.5	101.3	1,538	Fine
15174/7	TSP	1.13	1,439	14.0	101.3	1,546	Fine
15174/8	PM 10	1.13	1,439	14.0	101.3	1,546	Fine
15174/9	PM 2.5	1.13	1,439	14.0	101.3	1,546	Fine
15174/10	TSP	1.13	1,439	17.0	101.3	1,530	Fine
15174/11	PM 10	1.13	1,439	17.0	101.3	1,530	Fine
15174/12	PM 2.5	1.13	1,439	17.0	101.3	1,530	Fine
15174/13	TSP	1.12	1,439	20.0	101.3	1,508	Overcast
15174/14	PM 10	1.12	1,439	20.0	101.3	1,508	Overcast
15174/15	PM 2.5	1.12	1,439	20.0	101.3	1,508	Overcast

vgt environmental compliance solutions and laboratories

Beyond Compliance

VGT Environmental Compliance Solutions Pty Ltd
ABN 26 621 943 888

Unit 4, 30 Glenwood Drive Thornton NSW 2322
PO Box 2335, Greenhills NSW 2323

Ph: (02) 4028 6412
E: mail@vgt.com.au

www.vgt.com.au