



Salt Ash Sand Quarry

Annual Review 2025

Prepared for:

ATB Morton Pty Ltd

Janet Parade
Salt Ash, NSW
2318

March 2026

CONTENTS

1.	STATEMENT OF COMPLIANCE	5
2.	INTRODUCTION.....	9
2.1.	CONTACT DETAILS	9
3.	APPROVALS.....	12
4.	OPERATIONS SUMMARY	13
4.1.	EXTRACTION SUMMARY	13
4.2.	EXPLORATION	13
4.3.	LAND PREPARATION	13
4.4.	CONSTRUCTION ACTIVITIES	13
4.5.	NEXT REPORTING PERIOD – MINING OPERATIONS	13
4.5.1.	<i>Quarrying Operations.....</i>	<i>13</i>
4.5.2.	<i>Rehabilitation</i>	<i>13</i>
5.	ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW	14
5.1.	FEEDBACK ON 2024 ANNUAL REVIEW (FROM DPHI).....	14
5.2.	ACTIONS FROM PREVIOUS ANNUAL REVIEW (REDISAND PROPOSED ACTIONS)	14
6.	ENVIRONMENTAL PERFORMANCE.....	16
6.1.	METEOROLOGICAL MONITORING	16
6.2.	NOISE.....	17
6.2.1.	<i>EA Predictions.....</i>	<i>17</i>
6.2.2.	<i>Approved Criteria</i>	<i>17</i>
6.2.3.	<i>Key Environmental Performance</i>	<i>18</i>
6.2.3.1.	<i>Noise Monitoring Results.....</i>	<i>18</i>
6.2.4.	<i>Management Measures</i>	<i>21</i>
6.2.5.	<i>Proposed Improvements.....</i>	<i>21</i>
6.3.	AIR QUALITY	21
6.3.1.	<i>EA Predictions.....</i>	<i>21</i>
6.3.2.	<i>Approved Criteria</i>	<i>22</i>
6.3.3.	<i>Key Environmental Performance</i>	<i>22</i>
6.3.4.	<i>Management Measures</i>	<i>28</i>
6.3.5.	<i>Proposed Improvements.....</i>	<i>28</i>
6.4.	TRAFFIC MANAGEMENT	28
6.4.1.	<i>EA Predictions.....</i>	<i>28</i>
6.4.2.	<i>Approved Criteria</i>	<i>28</i>
6.4.3.	<i>Key Environmental Performance</i>	<i>29</i>
6.4.4.	<i>Management Measures</i>	<i>29</i>
6.4.5.	<i>Proposed Improvements.....</i>	<i>29</i>
6.5.	BIODIVERSITY.....	29
6.5.1.	<i>EA Predictions.....</i>	<i>29</i>
6.5.2.	<i>Approved Criteria / Site Boundary Issue.....</i>	<i>30</i>
6.5.3.	<i>Key Environmental Performance</i>	<i>30</i>
6.5.4.	<i>Management Measures</i>	<i>36</i>
6.5.5.	<i>Proposed Improvements.....</i>	<i>36</i>
6.6.	HERITAGE	37
6.6.1.	<i>EA Predictions.....</i>	<i>37</i>
6.6.1.1.	<i>Aboriginal Archaeology.....</i>	<i>37</i>
6.6.1.2.	<i>Historic Heritage</i>	<i>37</i>
6.6.2.	<i>Approved Criteria</i>	<i>37</i>
6.6.3.	<i>Key Environmental Performance</i>	<i>37</i>
6.6.4.	<i>Management Measures</i>	<i>37</i>
6.6.5.	<i>Proposed Improvements.....</i>	<i>37</i>

7. WATER AND SOIL MANAGEMENT.....	38
7.1. EA PREDICTIONS	38
7.1.1. Surface Water	38
7.1.2. Groundwater	38
7.1.3. Acid Sulfate Soils	38
7.2. APPROVED CRITERIA	38
7.3. KEY ENVIRONMENTAL PERFORMANCE	40
7.3.1. Groundwater Results	40
7.3.2. Surface Water Results	44
7.3.3. Acid Sulfate Soils Results	46
7.4. PROPOSED IMPROVEMENTS	47
7.5. WATER USAGE AND STORAGE	47
7.6. WATER TAKE	47
8. REHABILITATION.....	48
8.1. REHABILITATION PERFORMANCE DURING THE REPORTING PERIOD	48
9. SUMMARY OF ENVIRONMENTAL PERFORMANCE.....	53
10. WASTE MANAGEMENT	55
10.1. WASTE MANAGEMENT	55
11. COMMUNITY	56
11.1. COMMUNITY ENGAGEMENT ACTIVITIES	56
11.2. COMPLAINTS	56
12. INDEPENDENT AUDIT	57
13. INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD	58
13.1. SUMMARY OF AGENCY NOTICES, ORDERS, PENALTY NOTICES OR PROSECUTIONS	58
14. ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD.....	60

TABLES

TABLE 1: STATEMENT OF COMPLIANCE.....	5
TABLE 2: DPHI COMPLIANCE STATUS KEY	5
TABLE 3: NON-COMPLIANCES WITHIN THE 2025 REPORTING PERIOD.....	6
TABLE 4: ANNUAL REVIEW REQUIREMENTS.....	9
TABLE 5: PRIMARY CONTACTS FOR REDISAND	10
TABLE 6: APPROVALS FOR REDISAND.....	12
TABLE 7: PRODUCTION SUMMARY	13
TABLE 8: ACTIONS FROM 2024 ANNUAL REVIEW.....	14
TABLE 9: WILLIAMTOWN METEOROLOGICAL DATA 2025.....	16
TABLE 10: APPROVED NOISE IMPACT ASSESSMENT CRITERIA FOR REDISAND (PA 07_0094).....	17
TABLE 11: APPROVED NOISE IMPACT ASSESSMENT CRITERIA (CONDITION L3.1 OF THE EPL).....	18
TABLE 12: NOISE COMPLIANCE ASSESSMENT FOR REDISAND (SPECTRUM ACOUSTICS, 2025)	19
TABLE 13: NOISE MONITORING RESULTS – TRUCK NOISE (SPECTRUM ACOUSTICS, 2025)	19
TABLE 14: ADDITIONAL NOISE COMPLIANCE ASSESSMENT – NELSON BAY ROAD (SPECTRUM ACOUSTICS, 2025).....	20
TABLE 15: AIR QUALITY CRITERIA FOR REDISAND (PA 07_0094)	22
TABLE 16: 2025 DUST MONITORING (PM ^{2.5} AND PM ¹⁰ AND TSP) RESULTS AT REDISAND (VGT, 2025)	23
TABLE 17: 2025 DUST MONITORING RESULTS (DEPOSITIONAL DUST) (VGT, 2025)	26
TABLE 18: LONG-TERM PM ^{2.5} AND PM ¹⁰ RESULTS	27
TABLE 19: LONG-TERM DEPOSITIONAL DUST RESULTS.....	27
TABLE 20: NUMBER OF <i>D. ARENARIA</i> (SAND DOUBLETAIL) FROM 2016 – 2025	30

TABLE 21: COMPARISON OF 2016 – 2025 <i>D. ARENARIA</i> (SAND DOUBLETAIL) STEM HEIGHT DATA.....	31
TABLE 22: COMPARISON OF 2016 – 2025 <i>D. ARENARIA</i> (SAND DOUBLETAIL) MEAN NO. OF FLOWERS DATA	32
TABLE 23: GROUNDWATER MONITORING REQUIREMENTS (REDISAND EPL 13406)	38
TABLE 24: APPROVED GROUNDWATER QUALITY AND LEVEL TRIGGER VALUES	39
TABLE 25: GROUNDWATER SAMPLING REQUIREMENTS.....	39
TABLE 26: SURFACE WATER SAMPLING REQUIREMENTS	39
TABLE 27: ADOPTED SURFACE WATER QUALITY CRITERIA.....	40
TABLE 28: GROUNDWATER MONITORING RESULTS FOR 2025 (BH1, BH3 - BH6)	41
TABLE 29: GROUNDWATER MONITORING RESULTS FOR 2025 (MW1, MW3 – MW7)	42
TABLE 30: SUMMARY OF 2025 DAILY GROUNDWATER LEVELS.....	43
TABLE 31: 2025 MANUAL GROUNDWATER WATER LEVELS.....	43
TABLE 32: SURFACE WATER MONITORING RESULTS (2025)	45
TABLE 33: LONG-TERM SURFACE WATER RESULTS (2018 – 2025)	45
TABLE 34: ACID SULFATE SOIL RESULTS FOR 2025	46
TABLE 35: WATER TAKE FOR FY2025 (JULY 2024 – JUNE 2025)	47
TABLE 36: REHABILITATION UPDATE FOR 2025.....	48
TABLE 37: REHABILITATION STATUS AT THE END OF THE 2025 REPORTING PERIOD	49
TABLE 38: ENVIRONMENTAL PERFORMANCE FOR REDISAND IN 2025	53
TABLE 39: SUMMARY OF NON-COMPLIANCES.....	58
TABLE 40: IMPROVEMENT ACTIONS FOR 2026	60

FIGURES

FIGURE 1: REGIONAL LOCALITY (IEMA, 2026)	11
FIGURE 2: STAGE 2 REHABILITATION AREAS (EARTH SURVEYING CONSULTING SURVEYORS, 2026) ..	51
FIGURE 3: DISTURBANCE FOOTPRINT (EARTH SURVEYING CONSULTING SURVEYORS, 2026).....	52

PHOTOS

PHOTO 1: SQUIRREL GLIDER RECORDED IN BOX 30 (EMERGENT ECOLOGY, 2025).....	33
PHOTO 2: LACE MONITOR AND GALAH IN INSTALLED STAG TREE (EMERGENT ECOLOGY, 2025).....	34
PHOTO 3: THE GATE TO ACCESS PHOTO POINT G IS IN DISREPAIR AND NEEDS TO BE REPLACED	35
PHOTO 4: PHOTO-POINT NUMBER: F_E	35
PHOTO 5: PHOTO-POINT NUMBER: G_E	35
PHOTO 6: REHABILITATION STATUS AT SITE.....	50
PHOTO 7: REHABILITATION STATUS AT SITE.....	50

APPENDICES

Appendix A – 2024 IEA Action Plan

Appendix B – Quarterly Noise Monitoring Results (2025)

Appendix C – Air Quality Monitoring Results (2025)

Appendix D – Traffic Movements (2025)

Appendix E – Biodiversity Monitoring Reports (2025)

Appendix F – Murrooma Incorporated Cultural Heritage Report (2025)

Appendix G – Soil and Water Monitoring Results (2025)

Appendix H – DPHI Correspondence

Name of operation	Salt Ash Sand Quarry
Name of operator	Redisand Pty Ltd
Development consent / project approval #	07/0094
Name of holder of development consent / project approval	ATB Morton Pty Ltd
Water licence No.	WAL36627
Name of holder of water licence	Redisand Pty Ltd
Annual Review start date	01 January 2025
Annual Review end date	31 December 2025
I, Grant Stevenson, certify that this audit report is a true and accurate record of the compliance status of Salt Ash Sand Quarry for the period 01 January 2025 to 31 December 2025 and that I am authorised to make this statement on behalf of Redisand Pty Ltd. Note. a) The Annual Review is an 'environmental audit' for the purposes of section 9.39(2) of the Environmental Planning and Assessment Act 1979. Section 9.42 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	Grant Stevenson
Title of authorised Reporting Officer	Quarry Manager
Signature of authorised Reporting Officer	
Date	31 March 2026

1. STATEMENT OF COMPLIANCE

The statement of compliance for the 2025 reporting period (1 January 2025 to 31 December 2025) for the Redisand Salt Ash Sand Quarry (Redisand) is listed in **Table 1**. The Department of Planning, Housing and Infrastructure (DPHI) Compliance Status Key is provided as **Table 2**. Non-compliances identified within the reporting period are detailed in **Table 3**.

Table 1: Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
Project Approval 07_0094	No
EPL 13406	No

Table 2: DPHI Compliance Status Key

Risk Level	Colour Code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence.
Medium	Non-compliant	Non-compliance with: - Potential for serious environmental consequences, but is unlikely to occur; or - Potential for moderate environmental consequences, but is likely to occur
Low	Non-compliant	Non-compliance with: - Potential for moderate environmental consequences, but is unlikely to occur; or - Potential for low environmental consequences, but is likely to occur
Administrative Non-compliance	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

Table 3 summarises all the non-compliances at Redisand for the 2025 reporting period. All non-administrative non-compliances are discussed in further detail in **Section 13**.

Table 3: Non-Compliances within the 2025 Reporting Period

Relevant Approval	Condition Number	Condition Description	Compliance Status	Comment	Where addressed																			
PA 07_0094	Schedule 3, Condition 8	Air Quality Impact Assessment Criteria <i>The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 3 at any residence on privately-owned land.</i> <i>Table 3: Air quality criteria</i> <table><tr><th>Pollutant</th><th>Averaging period</th><th>Criterion</th></tr><tr><td rowspan="2">Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>^{a, c} 25 µg/m³</td></tr><tr><td>24 hour</td><td>^b 50 µg/m³</td></tr><tr><td rowspan="2">Particulate matter < 2.5 µm (PM_{2.5})</td><td>Annual</td><td>^{a, c} 8 µg/m³</td></tr><tr><td>24 hour</td><td>^b 25 µg/m³</td></tr><tr><td>Total suspended particulate (TSP) matter</td><td>Annual</td><td>^{a, c} 90 µg/m³</td></tr><tr><td>^d Deposited dust</td><td>Annual</td><td>^b 2 g/m²/month ^a 4 g/m²/month</td></tr></table> Notes: <i>a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).</i> <i>b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).</i> <i>c Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary.</i> <i>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.</i>	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	Non-Compliance	There was one valid exceedance of the 24-hour air quality criteria during 2025 for PM^{2.5} 28 January 2025 - PM^{2.5} reading of 26 ug/m³. - On 6 December 2025, elevated PM¹⁰ (71 µg/m³) and PM^{2.5} (63 µg/m³) readings were recorded during a bushfire event and reported to DPHI. DPHI confirmed (refer Section 6.3.3 for details) that these results should be excluded due to extraordinary conditions; therefore, this is not considered a non-compliance. There was one exceedance of the air quality annual average criteria in 2025: - PM^{2.5} annual criteria was exceeded, with a final reading of 9.1 µg/m³ for the 2025 period.	Section 6.3.3
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																						

Relevant Approval	Condition Number	Condition Description	Compliance Status	Comment	Where addressed
PA 07_0094	Schedule 3, Condition 10	Air Quality Management Plan <i>Within 3 months of approval of Modification 4, the Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:</i> <i>(a) be prepared by a suitably qualified and experienced person/s;</i> <i>(b) be prepared in consultation with the EPA;</i> <i>(c) describe the measures to be implemented to ensure:</i> <i>(i) compliance with the air quality criteria and operating conditions in this consent;</i> <i>(ii) best practice management is being employed; and</i> <i>(iii) air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;</i> <i>(d) describe the air quality management system; and</i> <i>(e) include an air quality monitoring program that:</i> <i>(i) is capable of evaluating the performance of the development against the air quality criteria;</i> <i>(ii) adequately supports the air quality management system; and</i> <i>(iii) includes a protocol for identifying any air quality-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of these events.</i>	Non-Compliance	Redisand acknowledged there were three missed monitoring events in 2025: 16 January 2025 - This was due to intense rainfall between 15 and 17 January 2025 (declared a natural disaster event) which resulted in a power outage in the Port Stephens area. 27 June 2025 - This was due to cable damage on the PM^{2.5} HVAS Monitor. 26 August 2025 - The monitoring was not completed as scheduled due to filter papers being removed before the delivery of new replacement papers.	Section 6.3.3
PA 07_0094	Schedule 5, Condition 7	Non-Compliance Notification <i>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 consent 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.</i> <i>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</i>	Administrative Non-Compliance	Redisand did not notify the DPHI of the PM^{2.5} exceedance on 28 January 2025 within the required timeframe. Redisand only became aware of the exceedance on 11 April 2025 during a routine data upload to their website after discovering that the air quality monitoring consultancy had not sent the January 2025 monitoring data until prompted that same day.	Section 6.3.3
PA 07_0094	Schedule 4, Condition 2	Notification of Landholders <i>If the results of the monitoring required in schedule 3 identify that the impacts generated by the development on site are greater than the relevant impact assessment criteria, and</i>	Administrative Non-Compliance	This non-compliance was identified during the 2024 Independent Environmental Audit (IEA).	Section 6.3

Relevant Approval	Condition Number	Condition Description	Compliance Status	Comment	Where addressed																																
		there is no negotiated agreement in place to allow the impact, then within 2 weeks of obtaining the monitoring results the Applicant must: (b) notify the Secretary, the affected landowners and tenants (including tenants of quarry-owned properties) accordingly, and provide monitoring results to each of these parties until the results show that the development is complying with the relevant criteria in schedule 3; and (c) in the case of exceedances of the relevant air quality criteria, send the affected landowners and/or tenants a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time).		Relevant landholders potentially affected by the air quality exceedances during the reporting period were not notified.																																	
PA 07_0094	Appendix 3, Condition 3	A vegetation management plan shall be prepared for the Offset Site. This Plan shall be endorsed by Office of Environment and Heritage prior to the commencement of clearing on the Salt Ash site. The plan shall give regard to the following: • Weed Management and monitoring; • Management of retained native vegetation and habitat; • Feral animal control; • Fire management; • Public access management; • Minimisation of edge effects and fragmentation; • Long term monitoring commitments; • Details of rehabilitation programs / measures; • Measures to ensure conservation in perpetuity; and • Funding details of long-term financial commitment to any proposed conservation measures.	Administrative Non-Compliance	This non-compliance was identified during the 2024 IEA. Redisand currently does not have a <i>Vegetation Management Plan</i> in place for the Tomalla Offset Site, however, it is in process of finalisation. In 2026 ecological monitoring has been completed at Tomalla to meet the requirements.	Section 6.5																																
EPL 13406	M2.3	Water and/ or Land Monitoring Requirements <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Arsenic</td><td>micrograms per litre</td><td>Every 6 months</td><td>Grab sample</td></tr><tr><td>Conductivity</td><td>millisiemens per centimetre</td><td>Every 6 months</td><td>Grab sample</td></tr><tr><td>Depth</td><td>metres</td><td>Every 6 months</td><td>Probe</td></tr><tr><td>Iron</td><td>milligrams per litre</td><td>Every 6 months</td><td>Grab sample</td></tr><tr><td>Manganese</td><td>milligrams per litre</td><td>Every 6 months</td><td>Grab sample</td></tr><tr><td>pH</td><td>pH</td><td>Every 6 months</td><td>Grab sample</td></tr><tr><td>Turbidity</td><td>nephelometric turbidity units</td><td>Every 6 months</td><td>Grab sample</td></tr></table>	Pollutant	Units of measure	Frequency	Sampling Method	Arsenic	micrograms per litre	Every 6 months	Grab sample	Conductivity	millisiemens per centimetre	Every 6 months	Grab sample	Depth	metres	Every 6 months	Probe	Iron	milligrams per litre	Every 6 months	Grab sample	Manganese	milligrams per litre	Every 6 months	Grab sample	pH	pH	Every 6 months	Grab sample	Turbidity	nephelometric turbidity units	Every 6 months	Grab sample	Non-Compliance	Manganese and Turbidity were not measured in the December 2025 groundwater monitoring event.	Section 7.3.1
Pollutant	Units of measure	Frequency	Sampling Method																																		
Arsenic	micrograms per litre	Every 6 months	Grab sample																																		
Conductivity	millisiemens per centimetre	Every 6 months	Grab sample																																		
Depth	metres	Every 6 months	Probe																																		
Iron	milligrams per litre	Every 6 months	Grab sample																																		
Manganese	milligrams per litre	Every 6 months	Grab sample																																		
pH	pH	Every 6 months	Grab sample																																		
Turbidity	nephelometric turbidity units	Every 6 months	Grab sample																																		

2. INTRODUCTION

Redisand Salt Ash Sand Quarry (the site) is owned by ATB Morton and operated under the proponent Redisand. The site was granted Project Approval MP 07_0094 (the Project Approval) on 28 October 2010 by the (then) NSW Minister for Planning for the construction and operation of a sand quarry in the Port Stephens Local Government Area, which is located approximately 20 kilometre (km) north-east of Newcastle. Extraction operations on site did not commence until February 2015. The Redisand project boundary is shown in **Figure 1**.

Extraction is scheduled to be undertaken in five stages to minimise the time surface materials are exposed and to expedite rehabilitation and revegetation of the disturbed areas. Currently the site is in Stage 3 of extraction activities with Stage 1 and Stage 2 being rehabilitated.

The Project Approval has been modified five times with the most recent modification (MOD 5) approved in August 2022. This was to rectify an on-going issue regarding truck movements and detailed in **Section 6.4.2**. The previous modification, MOD 4, was approved on 10 October 2018, allowing Redisand to increase their production transport to 400,000 tonnes per annum (tpa) from 201,000 tpa. An application for a MOD 6 has been made, proposing the expansion of approved sand mining operations into the proposed Expansion Site situated to the southwest of the existing extraction footprint. A modification report is expected to be prepared in 2026.

Redisand also operates in accordance with the Environment Protection Licence (EPL) No. 13406 issued by the NSW Environment Protection Authority (EPA).

Under Schedule 5, Condition 3 of the Project Approval, Redisand is required to complete an Annual Review in accordance with the conditions outlined in **Table 4**.

This Annual Review has been prepared to meet the requirements of the *Annual Review Guideline: Post-approval Requirements for State Significant Mining Developments* (NSW Government, 2015). This report details the environmental performance of Redisand for the 2025 reporting period.

Table 4: Annual Review Requirements

Condition	Section addressed in Annual Review
By the end of March each year, the Applicant must review the environmental performance of the Development to the satisfaction of the Secretary. This review must;	
a) Describe the works (including rehabilitation) that were carried out in the previous calendar year, and the works that are proposed to be carried out over current calendar year;	Sections 4 and 8
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; - The monitoring results of previous years; and - The relevant predictions in the EA;	Sections 6, 7 and 11.2
c) Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	Section 1 and 13
d) Identify any trends in the monitoring data over the life of the development;	Sections 6 and 7
e) Identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	Sections 6 and 7
f) Describe what measures will be implemented over the next year to improve the environmental performance of the development.	Section 6

2.1. Contact Details

The contact details for the personnel responsible for environmental management and community relations at Redisand during the reporting period are provided in **Table 5**.

Table 5: Primary Contacts for Redisand

Contact	Position	Contact Details
Grant Stevenson	Quarry Manager	M: 0422 016 870 E: Grantstevenson@redisand.com.au



Locality
Figure 1

3. APPROVALS

The site operates under the following approvals listed in **Table 6**.

Table 6: Approvals for Redisand

Regulatory Authority	Approval
NSW DPHI	Project Approval 07_0094
NSW EPA	EPL 13406
NSW Natural Resources Access Regulator (NRAR)	Water Access Licence Reference No: WAL36627
NSW Biodiversity Conservation Trust (BCT)	BioBanking agreement BA108 Bola Fogal, Tomalla

4. OPERATIONS SUMMARY

4.1. Extraction Summary

Table 7 provides the extraction summary at Redisand for the 2025 reporting period.

Table 7: Production Summary

Material	Approved limit (Source PA 07_0094 Schedule2, Condition 8)	Previous reporting period (2024)	This reporting period (2025)	Next reporting period (forecast 2026)
Quartz sand	400,000 t	157,207 t	127,285 t	120,000 t

Quartz sand extraction was 127,285 t in the 2025 reporting period, this is down from the 2024 reporting period which produced 157,207 t.

4.2. Exploration

There were no exploration activities undertaken during the 2025 reporting period.

4.3. Land Preparation

There were no land preparation activities undertaken during the 2025 reporting period.

4.4. Construction Activities

No construction activities occurred in the 2025 reporting period.

4.5. Next Reporting Period – Mining Operations

4.5.1. Quarrying Operations

Operations for the next reporting period include continued Stage 3 operations. Extraction totals will be within approval limits.

4.5.2. Rehabilitation

Redisand continues to undertake progressive rehabilitation as operations continue.

5. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

5.1. Feedback on 2024 Annual Review (From DPHI)

Redisand provided the 2024 Annual Review to DPHI by the 31 March 2024 due date.

The DPHI responded on 5 August 2025 stating:

'NSW Planning has reviewed the Annual Review and considers it to generally satisfy the reporting requirements of the consent and the NSW Planning Annual Review Guideline (October 2015).' Please make publicly available a copy of the 2024 Annual Review on the company's website within 30 days.

Please note that the NSW Planning's acceptance of this Annual Review is not an endorsement of the compliance status of the project.

Non-compliances identified in the Annual Review will be assessed in accordance with the NSW Planning Compliance Policy. Further correspondence may be sent in relation to these non-compliances.'

The 2024 Annual Review was uploaded to the Redisand website following approval from DPHI in August 2025.

5.2. Actions from previous Annual Review (Redisand Proposed Actions)

Actions from the 2024 Annual Review that Redisand proposed to undertake in 2025 are detailed in **Table 8**.

Table 8: Actions from 2024 Annual Review

Improvement	Actions	Redisand Comment
Complete actions from 2024 IEA Action Plan	Redisand will continue to work towards completing the actions from the 2024 IEA Action Plan (see Appendix A).	NC05 - Monitoring does not include groundwater levels, but rather depth to water: Redisand consulted with the monitoring specialists for site (VGT) to confirm depths on the lab reports and the loggers will be reported to standing water level going forward in March 2025. NC06 - Groundwater modelling information not found within the ASSMP: Redisand has been completing updates to all site management plans throughout 2025. As part of the Acid Sulfate Soils Management Plan, reference was made to groundwater modelling information. NC07 - A copy of the NSW Health fact sheet entitled "Mine Dust and You" has not been distributed to residents following exceedances in groundwater and air quality criteria: Will be completed when triggered. NC12 - There is no evidence of a Vegetation Management Plan for the Offset Site at Tomalla: The Tomalla Biodiversity Offset Management Plan continued to be developed in 2025. Due to complications in recent ecology monitoring the updates were on hold and will continue with accurate data once new ecology reports come available. OFI01 - All Management Plans are required to have a 'change details section' to ensure that document edits are tracked: A revision history table has been added in all updated management plans. OFI02 - Recommended disbandment of CCC: In correspondence dated 8 October 2024 DPHI formally suspended the CCC until such a time as needed arises to reconvene it.
Continue improvement of compliance with Project Approval and EPL 13406	Continue to improve environmental compliance across the site.	Continued with the IEA illustrating improved compliance.

Improvement	Actions	Redisand Comment
Relocation of the HVAS monitors	Redisand is currently in the progress of consulting the EPA for advice on the newly proposed location of the HVAS monitors. Once the new location has been determined, the Air Quality Management Plan will be amended and submitted to DPHI for approval	An updated figure of Redisand's monitoring locations, including the new location of the HVAS monitors, was submitted to the EPA for consultation in accordance with the requirements of the Project Approval Schedule 2 Condition 14: The EPA provided their approval on 14 April 2025. The Air Quality Management plan was updated accordingly and approved by DPHI 2 June 2025.
Review and revise all management plans in line with the MOD 6 application	Redisand will review and revise all management plans in line with MOD 6 requirements.	MOD 6 has not yet been approved. Redisand will review and revise all management plans following approval.

6. ENVIRONMENTAL PERFORMANCE

6.1. Meteorological Monitoring

Meteorological data has been taken from the Bureau of Meteorology (BOM) RAAF Williamtown, NSW weather station (ID 061078). Monthly rainfall, wind, and temperature data for the 2025 reporting period is provided in Table 9.

Table 9: Williamtown Meteorological Data 2025

Month	Temperature		Rainfall			Wind
	Min Temp (°C)	Max Temp (°C)	Total (mm)	Max Daily (mm)	No. rain days >1 mm	Max Wind Gust (km/h)
January 2025	13.8	40.7	247.2	66.4	13	120
February 2025	12.6	36.9	33.2	12.4	6	59
March 2025	15.0	35.3	145.0	37.0	12	63
April 2025	11.8	28.9	180.0	59.0	13	81
May 2025	8.8	25.9	502.0	149.0	18	72
June 2025	4.1	21.8	65.6	26.8	5	80
July 2025	2.3	22.7	152.4	70.4	8	87
August 2025	4.7	25.1	255.2	47.8	17	81
September 2025	5.5	29.4	58.4	17.2	5	69
October 2025	6.9	39.8	30.8	19.6	3	91
November 2025	8.3	37.7	20.6	6.6	5	78
December 2025	11.3	42.6	31.4	18.6	5	63

During the 2025 reporting period, a total of 1,721.8 millimetres (mm) of rain was recorded at the RAAF Williamtown weather station. This represents an increase from 1,126.8 mm in 2024 and 825 mm in 2023, continuing the upward trend in annual rainfall observed since 2023.

6.2. Noise

6.2.1. EA Predictions

Section 9.8.2 of the original Environmental Assessment (EA) (February 2010) predicted:

Noise emission levels are predicted to be below the relevant project specific noise criteria at all assessed residential locations on Nelson Bay Road. At the Janet Parade residences, noise emission levels are predicted to be up to 5 dBA above the project specific noise criteria. The predicted exceedance is due predominantly to the mobile extraction equipment and the road-truck pass-by on the quarry access road.

The cumulative impact of the proposed development with existing industrial noise sources has been assessed in the determination of the acceptable amenity levels at surrounding potentially noise sensitive areas.

The MOD 4 EA (November 2017) predicted that:

Traffic noise on Janet Parade associated with Salt Ash sand quarry haul trucks was calculated using the loss of distance method taking into account the noise wall attenuation. The results of the assessment indicate that the quarry haul trucks should be limited to five pass-by events during the daytime period and two pass-by events during the night-time period.

Review of this analysis indicates that noise levels would still comply with the noise criteria during the day and night periods and meet the major project conditions. The predicted noise levels from the Salt Ash sand quarry represent conservative assumptions, based on maximum number of trucks travelling on site. It is therefore considered that these calculated predictions represent the upper limit of expected noise levels.

6.2.2. Approved Criteria

In accordance with Schedule 3, Condition 2, 'the Applicant must ensure that the operational noise generated by the development does not exceed the noise impact assessment criteria in the table at any residence on privately-owned land'.

Noise criteria from the Project Approval are listed in **Table 10**.

Table 10: Approved Noise Impact Assessment Criteria for Redisand (PA 07_0094)

Receiver	Morning shoulder period 6:00am – 7:00am L _{Aeq} (15min) dB(A)	Day 7:00am – 6:00pm L _{Aeq} (15mins) dB(A)
JP1	35	40
JP2	35	43
JP3	35	39
JP4	35	37
NB1	35	36
All other receivers	35	35

Notes: Receiver locations are shown in Figure in Appendix 2 of PA07_0094; and Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

Noise criteria are also provided in Condition L3.1 of the EPL. This is outlined in **Table 11**.

Table 11: Approved Noise Impact Assessment Criteria (Condition L3.1 of the EPL)

Receiver	L _{Aeq} (15 minute) dB(A)
JP1	40
JP2	Limit to be regulated by the consent authority under Development Consent MP07_0094, dated 29 October 2010
JP3	39
JP4	37
NB1	36
All other receivers	35

Note: Development Consent MP07_0094 required additional noise mitigation measures and land acquisition where certain noise criteria cannot be met

6.2.3. Key Environmental Performance

In accordance with Schedule 3, Condition 7(b) of the Project Approval, Redisand must complete ‘*quarterly attended noise monitoring on a day on which truck dispatches meet or exceed the daily average.*’ A copy of 2025 quarterly noise monitoring results are included in **Appendix B**.

6.2.3.1. Noise Monitoring Results

Condition M6.1 of EPL 13406 states that “*the licensee must undertake noise monitoring on a quarterly basis at noise monitoring locations JP1, JP2, JP3, JP4 and NB5. Monitoring must occur at a period of normal or peak operations and in the case of monitoring at locations JP3 and JP4 must include at least three (3) truck pass-by*”.

Quarterly attended noise monitoring was completed in 2025 on the following dates by Spectrum Acoustics Pty Limited (Spectrum Acoustics):

- 26 February 2025;
- 14 May 2025;
- 18 August 2025; and
- 25 November 2025.

A summary of 2025 noise monitoring results are detailed in **Table 12** and **Table 13**.

The noise monitoring results in **Table 12** show that quarry operations complied with the relevant LAeq (15 min) criteria at all locations (JP1–JP4 and NB5) across all four quarters. Noise levels were either below the limits or inaudible at several locations, particularly JP2 and NB5. Where noise was audible, including some contribution from trucks on the access road, it remained within acceptable levels. Overall, there were no exceedances recorded during the reporting period.

The truck noise monitoring results (**Table 13**) show that noise levels complied with the relevant LAeq (15 min) criteria at both monitoring locations (JP3 and JP4) across all four quarters. Noise levels for both empty and laden truck movements, as well as total site contributions, remained below the applicable limits in all cases. Overall, there were no exceedances recorded during the reporting period.

During the 2025 reporting period, additional noise monitoring was undertaken at three locations near Nelson Bay Road (refer to Figure 1 in **Appendix B**), with results summarised in **Table 14**. Monitoring at all locations (near NB1 and NB4) was dominated by road traffic noise, and quarry noise was inaudible in all quarters. Location 1 was positioned to represent a similar distance from the extraction area as the rear of NB1, while Locations 2 and 3 were at the roadside of NB1 and NB4 respectively. Across all monitoring periods, noise levels complied with the relevant LAeq (15 min) criteria, with no exceedances recorded.

Table 12: Noise Compliance Assessment for Redisand (Spectrum Acoustics, 2025)

Monitoring Location	Quarrying Noise Criteria	Q1		Q2		Q3		Q4	
	L _{Aeq} (15 min)	Quarry Noise Contribution ¹	Compliance	Quarry Noise Contribution ¹	Compliance	Quarry Noise Contribution ¹	Compliance	Quarry Noise Contribution ¹	Compliance
JP1	40	29	✓	28	✓	Inaudible	✓	28	✓
JP2	43	Inaudible	✓	Inaudible	✓	Inaudible	✓	Inaudible	✓
JP3	39	30 ¹	✓	31 ¹	✓	38 ¹	✓	32 ¹	✓
JP4	37	22 ¹	✓	31 ¹	✓	36 ¹	✓	27 ¹	✓
NB5	35	Inaudible	✓	Inaudible	✓	Inaudible	✓	Inaudible	✓
¹ Noise from trucks on Access Road									

Table 13: Noise Monitoring Results – Truck Noise (Spectrum Acoustics, 2025)

Monitoring Location	Noise Criteria	Q1			Q2			Q3			Q4		
	L _{Aeq} (15 min)	Truck Condition	L _{Aeq} (15 min)	Compliance	Truck Condition	L _{Aeq} (15 min)	Compliance	Truck Condition	L _{Aeq} (15 min)	Compliance	Truck Condition	L _{Aeq} (15 min)	Compliance
JP3	39	Empty	24	✓	Empty	29	✓	Empty	35	✓	Empty	26	✓
		Empty	21	✓	Empty	22	✓	Empty	33	✓	Empty	27	✓
		Laden	28	✓	Laden	25	✓	Laden	31	✓	Empty	27	✓
		Total	30	✓	Total	31	✓	Total	38	✓	Total	32	✓
JP4	37	Empty	18	✓	Empty	25	✓	Empty	33	✓	Empty	23	✓
		Empty	15	✓	Empty	26	✓	Empty	28	✓	Empty	21	✓
		Laden	19	✓	Laden	28	✓	Laden	31	✓	Empty	22	✓
		Total	22	✓	Total	31	✓	Total	36	✓	Total	27	✓

Table 14: Additional Noise Compliance Assessment – Nelson Bay Road (Spectrum Acoustics, 2025)

Monitoring Location	Quarrying Noise Criteria	Q1		Q2		Q3		Q4	
	L _{Aeq} (15 min)	Quarry Noise Contribution ¹	Compliance	Quarry Noise Contribution ¹	Compliance	Quarry Noise Contribution ¹	Compliance	Quarry Noise Contribution ¹	Compliance
1 / NB1	36	Inaudible	✓	Inaudible	✓	Inaudible	✓	Inaudible	✓
2 / NB1	35	Inaudible	✓	Inaudible	✓	Inaudible	✓	Inaudible	✓
3 / NB4	35	Inaudible	✓	Inaudible	✓	Inaudible	✓	Inaudible	✓
¹ Noise from trucks on Access Road									

Long-term Trends

Noise monitoring criteria changed after the approval of MOD 4 in October 2018. Prior to 2020, noise monitoring was inconsistent and undertaken by three different companies, with numerous missed monitoring dates. Noise levels remained consistently below the approved criteria since 2020 when Spectrum Acoustics took over as the only company carrying out the monitoring. Noise levels remained below the approved criteria in the 2025 reporting period.

There were no noise complaints during the period.

Comparison to EA Predictions

The noise monitoring results were all within with the EA predictions.

6.2.4. Management Measures

Key noise management controls include:

- Speed limits on the haul road;
- Designated operating hours;
- Noise fence;
- Equipment designed for noise mitigation and regularly maintained;
- Induction and training program; and
- Complaints management and investigation.

More detailed noise management strategies, procedures, controls, and monitoring programs are detailed in the *Redisand Noise Management Plan*.

6.2.5. Proposed Improvements

Redisand will continue to implement controls and programs as per the *Noise Management Plan*.

6.3. Air Quality

6.3.1. EA Predictions

Section 9.9 of the original EA (February 2010) predicted:

The results of the AUSPLUME modelling indicate that operation of the development will result in incremental increases in particulate matter and dust deposition at surrounding residential receivers that will achieve the DECCW assessment criteria.

The contemporaneous assessment indicated that the development will result in up to two (2) additional exceedances per year of the 24-hour PM¹⁰ criterion (daily concentrations). Advitech conclude that these exceedances can be attributed to elevated background concentrations rather than a significant incremental contribution from the proposed development.

The modelling makes the assumption that dust suppression measures will be implemented along the unsealed haul roads between the extraction 'face' and processing plant and also factors in the sealed access road from the processing plant and Janet Parade. As such dust suppression measures (water tanker) will be required to be implemented during the construction and operational phase of the project to ensure the development achieves compliance with the regulatory requirements for air emissions.

The MOD 4 EA (November 2017) update predicted:

The findings of the revised impact assessment are based on modelling the two worst-case scenarios for the proposed modification to the Redisand Salt Ash sand quarry to assess the potential particulate impacts to sensitive receivers. The results of the AUSPLUME modelling indicate that operation of the modified (400,000 tonnes of sand per year) Redisand sand extraction quarry will result in incremental increases in particulate matter and dust deposition at surrounding sensitive receivers. However, predicted dust concentrations and deposition rates will be below the NSW EPA assessment criteria.

A Level 2 contemporaneous assessment indicated that the Salt Ash Quarry operations will not have any additional exceedances of the 24-hour PM^{10} and $PM^{2.5}$ criterion as a result of cumulative impacts. Any exceedances that may occur will be likely attributed to elevated background concentrations rather than a significant incremental contribution from the proposed development.

6.3.2. Approved Criteria

Schedule 3, Condition 8 of the Project Approval requires that ‘the Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in the table below at any residence on privately-owned land.’ The approved air quality criteria are outlined in **Table 15**.

Table 15: Air Quality Criteria for Redisand (PA 07_0094)

Pollutant	Average period	Criterion	
Particulate matter $<10_{\mu m}$ (PM^{10})	Annual	^{a, c} 25 $\mu g/m^3$	
	24 hours	^b 50 $\mu g/m^3$	
Particulate matter $<2.5_{\mu m}$ ($PM^{2.5}$)	Annual	^{a, c} 8 $\mu g/m^3$	
	24 hours	^b 25 $\mu g/m^3$	
Total suspended particulate (TSP) matter	Annual	^{a, c} 90 $\mu g/m^3$	
^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 activities agreed by the Planning Secretary.

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

6.3.3. Key Environmental Performance

PM^{2.5}, PM¹⁰ and TSP Monitoring

Schedule 3, Condition 8 (PM^{2.5}, PM¹⁰ and TSP)

In 2024, the HVAS monitors were temporarily relocated after power to the original location was disconnected by the neighbouring property. A new HVAS location was proposed to DPHI on 26 August 2024, and Redisand committed to formalising the relocation through an update to the Air Quality Management Plan (AQMP).

On 18 February 2025, DPHI requested submission of a revised AQMP, including an updated monitoring location figure reflecting the HVAS relocation. The updated monitoring location figure was subsequently submitted to the EPA for consultation in accordance with Project Approval Schedule 2, Condition 14, and EPA endorsement was received on 14 April 2025. The AQMP was updated accordingly and approved by DPHI 2 June 2025.

Monitoring results have been collected over a 12-month period starting on 4 January 2025. The results are recorded in **Table 16** and **Table 17**.

Table 16: 2025 Dust Monitoring (PM^{2.5} and PM¹⁰ and TSP) Results at Redisand (VGT, 2025)

Date	HVAS Pollutant (µg/m ³)			Compliance
	PM ^{2.5}	PM ¹⁰	TSP	
04/01/2025	8	10	21	Compliant
10/01/2025	6	12	28	Compliant
16/01/2025	-	-	-	Non-Compliant for missed sample _A
22/01/2025	23	43	84	Compliant
28/01/2025	26	38	80	Non-Compliant for PM ^{2.5} exceedance _B
03/02/2025	8	14	41	Compliant
09/02/2025	11	10	23	Compliant
15/02/2025	<2	13	40	Compliant
21/02/2025	10	14	30	Compliant
27/02/2025	11	23	45	Compliant
05/03/2025	5	25	45	Compliant
11/03/2025	<2	6	14	Compliant
17/03/2025	15	34	74	Compliant
23/03/2025	3	4	17	Compliant
29/03/2025	<2	<2	10	Compliant
04/04/2025	11	22	48	Compliant
10/04/2025	3	11	34	Compliant
16/04/2025	3	13	33	Compliant
22/04/2025	<2	10	19	Compliant
28/04/2025	<2	16	31	Compliant
04/05/2025	<2	5	11	Compliant
10/05/2025	<2	3	8	Compliant

Date	HVAS Pollutant (µg/m ³)			Compliance
	PM ^{2.5}	PM ¹⁰	TSP	
16/05/2025	<2	3	9	Compliant
22/05/2025	<2	6	16	Compliant
28/05/2025	2	3	18	Compliant
03/06/2025	<2	6	14	Compliant
09/06/2025	16	9	29	Compliant
15/06/2025	3	6	10	Compliant
21/06/2025	5	10	14	Compliant
27/06/2025	-	11	22	Non-Compliant for missed sample _C
03/07/2025	2	3	8	Compliant
09/07/2025	4	9	26	Compliant
15/07/2025	5	9	27	Compliant
21/07/2025	3	6	12	Compliant
27/07/2025	4	2	10	Compliant
02/08/2025	<2	11	25	Compliant
08/08/2025	2	8	15	Compliant
14/08/2025	<2	4	9	Compliant
20/08/2025	2	6	10	Compliant
26/08/2025	-	-	-	Non-Compliant for missed sample _D
01/09/2025	11	22	56	Compliant
07/09/2025	3	7	16	Compliant
13/09/2025	4	11	24	Compliant
19/09/2025	14	20	51	Compliant

Date	HVAS Pollutant (µg/m ³)			Compliance
	PM ^{2.5}	PM ¹⁰	TSP	
25/09/2025	21	24	54	Compliant
1/10/2025	17	23	51	Compliant
07/10/2025	<2	10	20	Compliant
13/10/2025	11	21	45	Compliant
19/10/2025	6	13	24	Compliant
25/10/2025	10	22	37	Compliant
31/10/2025	6	21	47	Compliant
06/11/2025	13	30	61	Compliant
12/11/2025	19	24	49	Compliant
18/11/2025	15	30	60	Compliant
24/11/2025	7	12	24	Compliant
30/11/2025	12	23	46	Compliant
6/12/2025	63	71	95	PM ^{2.5} and PM ¹⁰ elevated levels influenced by bushfire in area ^E
12/12/2025	5	11	23	Compliant
18/12/2025	16	20	41	Compliant
24/12/2025	9	25	41	Compliant

Date	HVAS Pollutant (µg/m ³)			Compliance
	PM ^{2.5}	PM ¹⁰	TSP	
Average	9.1	14.5	31.2	
Minimum	<2	<2	8	
Maximum	63	71	95	

Notes:

Exceedances have been highlighted in **BOLD**.

Values of <2 were used as 2 for calculations

^A Power outage caused a missed monitoring event, DPHI and EPA notified

^B PM^{2.5} exceedance, DPHI and EPA notified

^C Cable damage caused missed monitoring of PM^{2.5}, DPHI and EPA notified

^D No filter paper led to missed monitoring, DPHI and EPA notified

^E Elevated levels caused by bushfires in area, DPHI and EPA notified. Letter received 17 March 2026 (see **Appendix H**) from DPHI determined that "this monitoring result should be excluded due to extraordinary events (bushfires) influencing background dust levels. This incident will not be recorded as a non-compliance". These values have not been included in the average calculation.

During the 2025 reporting period, there were three missed monitoring events, one exceedance of the air quality PM^{2.5} criteria and one exceedance of the annual criteria. The 2025 exceedances and missed monitoring events are detailed in the following tables. Note on 6 December 2025, air quality monitoring results at site recorded a PM¹⁰ reading of 71 µg/m³ and a PM^{2.5} reading of 63 µg/m³. The elevated levels coincided with a large bushfire near Bulahdelah, with smoke transported toward the site during the monitoring period. The site was not operational, and no truck movements occurred, indicating the elevated levels were due to regional bushfire smoke. DPHI confirmed the event as an 'extraordinary event' (**Appendix H**) and the result was excluded from compliance assessment; therefore, it is not considered a non-compliance.

Missed Monitoring Events in 2025

Date	Issue	Further Details/Actions
15 and 17 January 2025	Redisand lost power to their HVAS monitors between 15 and 17 January 2025 due to a natural disaster event. Therefore, there was no air quality data collected on 16 January 2025 (TSP, PM ¹⁰ , or PM ^{2.5}). DPHI was notified on 28 January 2025.	In future Redisand would notify DPHI of any missed monitoring events in line with the Project Approval requirements.
2 July 2025	On 2 July 2025, Redisand identified that the monitoring event scheduled for 27 June 2025 did not proceed due to cable damage to the PM ^{2.5} HVAS monitor. TSP and PM ¹⁰ monitoring were completed successfully. Site inspections indicated evidence of wildlife activity near the monitor location.	The damaged cable was replaced, and DPHI was notified on 8 July 2025. In future Redisand would notify DPHI of any missed monitoring events in line with the Project Approval requirements.
25 September 2025	The monitoring event scheduled for 26 August 2025 did not proceed because filter papers were removed before replacement papers were delivered. Redisand identified the missed measurements on 25 September 2025 and notified DPHI on 26 September 2025.	As a corrective action, Redisand arranged for additional filter papers to be purchased and stored on site to always maintain a surplus stock.

24 Hour Exceedance Events in 2025

Date	Issue	Further Details/Actions
28 January 2025	On 28 January 2025, PM ^{2.5} was recorded at 26 µg/m ³ . The exceedance was reported to DPHI on 15 April 2025. Redisand became aware of the exceedance on 11 April 2025 during a routine website data upload, after identifying that the air quality consultant had not provided the January 2025 results until prompted that day. This delay in reporting was outside the notification timeframe requirement outlined in PA 07_0094 Schedule 5, Condition 7 (Non-Compliance Notification). Therefore, it was assessed as a non-compliance.	In future Redisand will notify DPHI of any missed monitoring events in line with the Project Approval requirements.

Annual Exceedance Event in 2025

Issue	Further Details/Actions
As shown in Table 16 , the annual PM ^{2.5} average for the 2025 reporting period exceeded the set criteria with a result of 9.1 µm/m ³ . This is likely due to the higher levels recorded in 2025.	Continued monitoring of PM ^{2.5} levels will be undertaken to track trends and assess compliance with relevant criteria. Potential contributing factors will be reviewed, and mitigation measures implemented where practicable

Depositional Dust Monitoring

Schedule 3, Condition 8 (Deposited Dust)

Depositional dust monitoring continued at three sites (D1, D2 and D3) along the perimeter of the site during the 2025 reporting period. Results of the monitoring are provided in **Table 17**.

Table 17: 2025 Dust Monitoring Results (Depositional Dust) (VGT, 2025)

Month	Insoluble Solids (g / m ² / month)		
	D1 (Gate)	D2 (Wisely)	D3 (2930 Nelson Bay Road)
January 2025	1.5	1.6	0.8
February 2025	4.0	3.2	1.4
March 2025	1.8	1.1	0.7
April 2025	3.0	4.9 _A	0.7
May 2025	2.5	4.4 _A	0.5
June 2025	2.5	3.2	0.6
July 2025	1.1	2.6	0.5
August 2025	1.1	14.4 _A	0.5
September 2025	1.9	39.0 _A	1.4
October 2025	1.8	7.9 _A	1.2
November 2025	2.3	6.4 _A	0.8
December 2025	2.6	1.7	31.7 _A
Annual Average	2.2	2.2	0.8
Minimum	1.1	1.1	0.5
Maximum	4.0	39	31.7
Results (Year to Date)	Compliant	Compliant	Compliant

Notes:

_A Deemed to be a contaminated sample. Removed from average calculation. See **Appendix C** for monitoring reports.

Results at D1 and D3 were generally low to moderate throughout the year. D2 recorded several elevated monthly deposition rates, with a pronounced increase during late winter/spring and again in early summer. Sampling comments indicating major sand/vegetation/insect material and track works adjacent to the depositional dust gauge (DDG), suggesting potential influence from localised disturbance and/or sample contamination at that location. The results deemed to be contaminated were removed from the annual average calculation as they are not representative of site conditions. D3 recorded an isolated elevated result in December with sampling comments noting insects and algae. This result was removed from the annual average as it was contaminated.

Redisand requested approval from DPHI on 18 December 2025 to discontinue the use of DDG monitoring at the site as outlined in PA 07_0094, Schedule 3, Condition 8 and EPL13406 Condition M2.2 Air Monitoring Requirements. The request was based on the limited reliability and representativeness of DDG in assessing potential dust impacts, particularly when compared to more effective and reliable monitoring methodologies already in place at site. Redisand will continue DDG monitoring until they have received approval from DPHI to remove this commitment.

Long-Term Trends

Air quality monitoring criteria changed with the approval of MOD 4 in October 2018. One of the new changes was to install a new HVAS monitor (PM^{2.5}). The following summarises a comparison of 2025 air quality monitoring results compared to previous years:

- The average PM^{2.5} level in 2025 (9.1 µg/m³) was higher than in 2024 (7.4 µg/m³) and exceeded the annual limit set by the Project Approval. The highest annual average over the past five years occurred in 2019 (15.0 µg/m³), likely due to extreme bushfire events in the region.
- The average PM¹⁰ level in 2025 (14.5 µg/m³) was slightly higher than in 2024 (14.2 µg/m³), continuing the trend of lower levels observed since 2020. One exceedance was recorded on 6 December 2025 (71 µg/m³) following a nearby bushfire; this event was classified by DPHI as an 'extraordinary event' and excluded from the annual average. The highest annual average over the past five years occurred in 2019 (20.2 µg/m³), likely due to dry conditions and extreme bushfires.
- The 2025 TSP annual average was 31.2 µg/m³ which was slightly lower than the 2024 TSP annual average of 32.9 µg/m³. Again, over the past six years, 2019 recorded the highest average at 36.9 µg/m³.

There have been numerous short-term exceedances of PM^{2.5} levels since 2019 which is reported in the respective Annual Reviews. Whilst the annual average for PM^{2.5} exceeded the set levels in the 2025 reporting period, the annual average PM¹⁰ and TSP levels have consistently been below the approved criteria, even with the extraordinary bushfire seasons. Complete air quality monitoring results for the 2025 reporting period are provided in **Appendix C**.

Long-term PM^{2.5} and PM¹⁰ results from 2018 to 2025 are outlined in **Table 18** and depositional dust results from 2018 to 2025 are outlined in **Table 19**. Note, PM^{2.5} monitoring did not start until February 2019.

Table 18: Long-term PM^{2.5} and PM¹⁰ Results

Monitoring Summary for Annual Review Period	Monitoring Results (µg/m ³)							
	2018	2019	2020	2021	2022	2023	2024	2025
Average PM ^{2.5}	-	15	7.6	9.8	8.9	8.3	7.4	9.1
Minimum PM ^{2.5}	-	<2	<2	<2	<2	<2	<2	<2
Maximum PM ^{2.5}	-	54	19	37	43	21	28	26*
Average PM ¹⁰	16.6	20.2	12.2	11.9	13.4	12.8	14.2	14.5
Minimum PM ¹⁰	<2	<2	<2	<2	<2	<2	<3	<2
Maximum PM ¹⁰	59	58	34	34	58	29	38	43*

Note: Averages were calculated by removing < from the sample.

*Following DPHI's decision to deem the results recorded on 6 December 2025 to be excluded due extraordinary events (bushfire) these results represent the maximum recorded values in 2025.

Table 19: Long-term Depositional Dust Results

Dust Depositional Gauge	Monitoring Result Averages (g/m ² /month)							
	2018	2019	2020	2021	2022	2023	2024	2025
D1	2.4	2.3	2.2	2.6	3.2	2.6	3.1	2.2
D2	1.7	2.7	2.2	3.9	4.3	1.2	1.5	2.2
D3	0.9	1.7	1.3	2.8	2.0	1.1	1.6	0.8

Note: 2019 and 2020 averages were calculated from 13 samples. 2018 averages were calculated from 9 samples. No monitoring results completed for May, July and October 2018.

Comparison to EA Predictions

All monitoring data, including the few exceedances, were consistent with the EA predictions. The Air Quality Assessment attached as Appendix B of the EA states "any exceedances that may occur will be likely attributed to elevated background concentrations rather than emissions from the Redisand sand quarry". The exceedances during the 2025 reporting period were associated with heightened winds and limited rainfall and the occurrence of a large bushfire, not site operations.

6.3.4. Management Measures

Key air quality management procedures are detailed in the *Air Quality Management Plan* and include:

- Prompt rehabilitation of extinguished extraction areas;
- Damping down potential dust generating material;
- Wind breaks and bunds;
- Water down unsealed haul routes prior to use;
- Speed limit restricted to 30 km/h;
- Covering trucks when leaving premises with potential dust generating material; and
- Sprinkler system and reduction of activities during prolonged hot, dry, and windy periods.

6.3.5. Proposed Improvements

The 2024 IEA identified an area of improvement regarding notification of relevant landholders following an air quality exceedance (as discussed in **Section 6.3.3**). Redisand is committed to minimising the impact of operations on the environment and surrounding residences. For any air quality exceedances moving forward, Redisand will aim distribute a copy of the NSW Health fact sheet entitled “*Mine Dust and You*” to any affected landowners and/or tenants.

6.4. Traffic Management

6.4.1. EA Predictions

The original 2010 EA estimated that during the peak hourly flow, the site would only have six vehicle trips per hour (including ‘heavy’ vehicles and passenger vehicles used by staff). The low level of traffic flow associated with the site would not have any adverse impacts on the existing road network. However, due to the use of heavy vehicles, there would likely be a requirement to upgrade the Janet Parade and Nelson Bay Road intersection.

A Traffic Impact Assessment completed by SECA Solution for the 2017 MOD 4 indicated that despite an increase in traffic due to expanding operations there would still be relatively low impact on the existing traffic conditions.

6.4.2. Approved Criteria

In MOD 5, Schedule 2, Conditions 7-7B provide specific truck movement requirements based on the condition of the intersection between Nelson Bay Road and Janet Parade. As of 2023, truck movements are to be in accordance with the following:

Schedule 2, Condition 7: *Until such time as the road upgrades required under either condition 29 or condition 29A of Schedule 3 are completed, the Applicant must not transport more than:*

- a) 30 laden trucks per day, Monday to Friday between 7:00 am and 5:00 pm; and
- b) 15 laden trucks per day on Saturdays between 8:00 am and 1:00 pm.

Truck movements can be increased as soon as the intersection of Nelson Bay Road and Janet Parade gets upgraded. Based on the intersection upgrade, truck movements will be in accordance with one of the following conditions:

- If the intersection is upgraded to a **Basic Right Turn (BAR)**, the following truck movements will be permissible under Schedule 3, Condition 29:

Schedule 2, Condition 7A: *Following the completion of the road upgrades required under condition 29 of Schedule 3, the Applicant must not transport more than:*

- a) 36 laden trucks per day, Monday to Friday between 6:00 am and 6:00 pm; and
- b) 15 laden trucks per day on Saturdays between 8:00 am and 1:00 pm.

- If the intersection is upgraded to a **Channelised Right Turn (CHR)** the following truck movements are permissible under Schedule 3, Condition 29A:

Schedule 2, Condition 7B: *Following the completion of the road upgrades required under condition 29A of Schedule 3, the Applicant must not transport more than:*

- a) 4 laden trucks per hour;*
- b) 42 laden trucks per day, Monday to Friday between 6:00 am and 6:00 pm; and*
- c) 18 laden trucks per day on Saturdays between 8:00 am and 1:00 pm.*

Trucks movements must also always comply with the following condition no matter the status of the intersection:

Schedule 3, Condition 31: *The Applicant must ensure that:*

- a) All vehicles do not exceed a speed of 40 km/h on the site;*
- b) All loaded vehicles entering or leaving the site are covered; and*
- c) All loaded vehicles leaving the site are cleaned of sand and other materials that may fall on the road, before they leave the site.*

6.4.3. Key Environmental Performance

Truck monitoring was completed in the 2025 reporting period using data from the weighbridge log. There was a total of 3,439 truck movements, a reduction from the 4,305 movements recorded in 2024. All truck movements complied with the approved criteria. A copy of the truck movements is recorded within **Appendix D**.

There have been historical issues with truck movements being non-compliant as Redisand was operating with the criteria outlined in MOD 4 up until 2019. Upon noting that the MOD 4 criteria only applied after the intersection of Nelson Bay Road and Janet Parade was upgraded to a CHR type intersection, truck movements were corrected in 2020. This also triggered the development of MOD 5 which clarified truck movement numbers dependent on the condition of the intersection. The number of trucks has not been exceeded since. An extraction summary is provided in **Section 4.1**.

6.4.4. Management Measures

Traffic and transport impacts are managed in accordance with specific strategies and procedures outlined in the Redisand *Traffic Management Plan*.

6.4.5. Proposed Improvements

Redisand will continue to comply with Schedule 2, Condition 7 of PA 07_0094.

6.5. Biodiversity

6.5.1. EA Predictions

The 2010 EA undertook a comprehensive Ecological Assessment to determine the nature and extent of environmental issues on the subject site. The assessment presented potential constraints presented by ecological issues under the *Threatened Species Conservation Act 1995 (TSC Act)* and matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act (EPBC Act)*, including threatened migratory species.

The proposed activity will remove approximately 28 ha of Supplementary Habitat for Koalas in the short term. A *Comprehensive Koala Plan of Management (CKPoM)* has been prepared to address this issue. However, it should be noted that as extraction activities will move along in stages, the Supplementary Habitat (mined area) will be rehabilitated, and koala movement corridors are not likely to be compromised.

6.5.2. Approved Criteria / Site Boundary Issue

Offset and buffer zone criteria is outlined in Schedule 3 Condition 19-21 of PA 07_0094. There have been historical non-compliances regarding buffer zone boundaries and since 2020. Redisand has been consulting with DPHI to modify their original EA and is hoping to address the issues through the EIS for MOD 6 of PA 07_0094.

6.5.3. Key Environmental Performance

Flora and Fauna Monitoring

Emergent Ecology was engaged by Redisand to undertake flora and fauna monitoring in accordance with the current *Landscape and Rehabilitation Management Plan* (LRMP) and the BioBanking agreement. Monitoring included reporting on the *Diuris arenaria* (Sand Doubletail) population and the BioBanking agreement.

Diuris arenaria (Sand Doubletail)

A targeted *D. arenaria* survey within the easement of the site was undertaken on 22 September 2025 in accordance with the LRMP. Plants have been grouped into seven 'clusters'. Data recorded within each cluster included the number of individual plants, stem heights for each individual plant, and number of flowers for each plant. Mean stem heights and mean number of flowers were calculated for each cluster.

Table 20, Table 21 and **Table 22** provide a comparison from 2016 – 2025. The variation in *D. arenaria* patch numbers has been consistent over the years indicating they are not impacted by quarrying operations. The 2025 total count for individuals was higher than average, and the stem height and the number of flowers per stem was slightly higher than average. A total of 204 (78%) individuals set seed within the survey area in the 2025 reporting period and predation occurred on 84 (32%) individuals. The population is persisting with no evidence of decline or impacts from mining activity.

Table 20: Number of *D. arenaria* (Sand Doubletail) from 2016 – 2025

Cluster No	Number of Orchids									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	21	8	13	9	10	9	4	10	32	8
2	100	113	40	73	42	40	56	52	102	49
3	20	12	5	16	28	17	73	11	26	15
4	47	55	8	53	64	25	92	27	37	20
5	34	11	7	14	36	26	25	10	43	46
6	50	48	4	40	40	35	36	20	38	97
7	27	10	8	7	13	32	41	7	22	28
Total	299	257	85	212	233	184	327	137	300	263

Table 21: Comparison of 2016 – 2025 *D. arenaria* (Sand Doubletail) Stem Height Data

Cluster Number	Mean Stem Height (m)									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.4
2	0.3	0.3	0.3	0.3	0.2	0.5	0.5	0.4	0.3	0.4
3	0.3	0.2	0.3	0.2	0.3	0.6	0.4	0.4	0.3	0.4
4	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.4
5	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.4
6	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.3	0.4
7	0.3	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.3

Note: Results rounded to one decimal point.

Table 22: Comparison of 2016 – 2025 D. arenaria (Sand Doubletail) Mean No. of Flowers Data

Cluster Number	Mean No. of Flowers									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	4.9	3.1	3.0	4.1	4.3	4.2	4.5	3.2	3.3	3.9
2	4.0	3.9	4.0	3.8	3.7	4.1	3.5	3.5	3.6	3.7
3	4.0	3.2	3.0	3.1	4.1	5.0	3.5	3.4	4.1	4.2
4	4.1	3.5	3.0	3.5	4.3	3.7	3.2	3.9	3.9	4.9
5	3.6	3.5	4.0	3.6	4.3	4.5	2.5	3.1	3.9	5.2
6	3.8	3.9	3.0	3.7	4.4	4.2	3.4	4.3	4.3	4.3
7	5.0	4.8	3.0	4.3	4.1	5.2	3.0	2.7	4.4	3.1

Note: Results rounded to one decimal point.

Nest Box Monitoring

DPHI issued a Show Cause Notice on 27 August 2025 (See **Section 13.1**) to Redisand regarding a non-compliance with Schedule 3, Condition 23 of the Project Approval, stating that biennial (every two years) nest box monitoring had not been completed within the prescribed timeframe between 2022 and 2024 as required under the LRMP. It was requested that a field assessment be completed by a qualified ecologist by 24 September 2025.

Redisand acknowledged the non-compliance and engaged Emergent Ecology to undertake the assessment on 15 September 2025, which involved a comprehensive nest box and hollow-bearing tree survey with all assets GPS-mapped and recorded in a central register. DPHI was also informed that the previous missed monitoring events were due to safety concerns associated with unstable nest boxes in 2023, and delayed report submission from the engaged ecologist in 2024.

The field assessment showed a total of 95 nest boxes were inspected and all nest boxes were installed between four and five metres from ground level. Of the 95 nest boxes monitored, 27 (28%) showed evidence of usage, including three (3%) nest boxes being occupied during the inspections.

The Feathertail and Glider/Parrot nest box designs provided the greatest usage rate at 100%, followed by the Brushtail Possum (33%) and Salvaged Hollow (21%). The Salvaged Hollow box provided the highest species diversity with three species recorded, followed by the Parrot/Glider box design with two species recorded. *Antechinus* were the most abundant species found using the nest boxes with evidence of these species recorded in 12 (13%) nest boxes in three different box types and two individuals observed during the inspections. Gliders were recorded in 10 (11%) nest boxes in two different box types, with one individual Squirrel Glider (*Petaurus norfolcensis*) observed during the inspections (see **Photo 1**).



Photo 1: Squirrel Glider recorded in Box 30 (Emergent Ecology, 2025)

Micro-bats were not recorded using bat boxes during the 2025 monitoring program. However, this does not indicate that the boxes were unsuccessful in providing refuge for bats, and other fauna species. The monitoring event found that nest boxes were generally in good order and securely positioned. Maintenance during the monitoring program included repositioning less than five boxes. There were no recommendations to undertake further maintenance of boxes monitored in 2025.

The results demonstrated that Redisand met and exceeded the hollow-replacement commitments under Project Approval MP07_0094, delivering 272 hollow resources (95 nest boxes and 177 stag trees) to compensate for the approved removal of up to 212 hollow-bearing trees. During the field surveys reptile and bird species were observed utilising the installed stag trees (refer to **Photo 2**).



Photo 2: Lace Monitor and Galah in installed stag tree (Emergent Ecology, 2025)

Redisand continues to expand and monitor this program and is updating key management plans following the 2024 Independent Environmental Audit. Emergent Ecology has been engaged to undertake future biodiversity monitoring to ensure that monitoring is completed within the required timeframes.

BioBanking Agreement – Tomalla Offset Site – 2025 Monitoring Results

Redisand notes that correspondence received in 2025 from the NSW Biodiversity Conservation Trust (BCT) clarified that the BCT Annual Report must be submitted using the BCT template by 18 February each year. During the passive phase of the agreement, only the completed template is required, and it must be signed, dated for the February reporting period, and include monitoring photographs. No report was submitted in February 2025 (2024 – 2025 reporting period), however, Redisand commits to submitting this report by the required due date moving forward.

The three-month inspection was undertaken by the landowner on 24 February 2025. The six-month inspection was undertaken by the landowner on 26 August 2025. The annual inspection was undertaken by Emergent Ecology on 22 January 2026.

Key findings of the three-month, six-month and annual site inspection of the Tomalla Offset Site were as follows:

- The biodiversity stewardship site is generally stable and largely undisturbed.
- The area is mostly inaccessible due to terrain, which likely limits human disturbance and livestock access.
- Livestock were not observed during inspections, but cow dung was found in several locations, indicating possible occasional cattle access.
- Existing fencing is old but mostly functional. Gate access to Photo Point G needs replacing (see **Photo 3**)
- Blackberry weeds were sprayed along the creek during inspections in February and August 2025.
- No evidence of fire was observed.
- Existing access tracks were observed to be in a reasonable condition.
- No evidence of human disturbance or unauthorised activities.
- No native vegetation clearing or timber removal observed.



Photo 3: The gate to access Photo Point G is in disrepair and needs to be replaced



Photo 4: Photo-point number: F_E



Photo 5: Photo-point number: G_E

The following recommendations were provided by the landowner who undertook the three month and six month inspections, and the ecologist who undertook the annual inspection to ensure that management actions in Annexure C of the BioBanking agreement continue to be implemented:

- Review and repair fencing, gates, and cattle grids to prevent livestock access.
- Replace the damaged gate near Photo Point G (see **Photo 3**).
- Install biobanking signage at designated locations.
- Maintain access tracks (e.g. clearing regrowth near Photo Point I_N in **Appendix E**).
- Continue periodic weed control along the creek.

See **Appendix E** for the full 2025 Tomalla Offset Annual Management Report which includes the three and six-monthly site inspection checklists completed by the landowner and the annual site inspection checklist completed by Emergent Ecology. Note, Redisand has since retired the 1,857 ecosystem credits in the Tomalla offset site as required under Schedule 3, Condition 19 of the project approval.

6.5.4. Management Measures

Biodiversity will continue to be managed in accordance with the strategies in the LRMP. This will mainly include progressive rehabilitation, compliance with clearing protocols and weed management.

6.5.5. Proposed Improvements

Redisand aims to review their monitoring process in the next reporting period to improve their overall compliance regarding biodiversity management.

The 2024 IEA also identified areas that required improvement regarding vegetation management, biodiversity monitoring and compliance. It acknowledged that there was no *Vegetation Management Plan* in place for the Tomalla Offset site and proposed additional items to be included in future Annual Reviews. Proposed improvements included:

- Complete and implement a Vegetation Management Plan for the Tomalla Offset Site, however, it is in process of finalisation.
 - Include a summary of nest boxes and salvaged hollows, their location and condition in future Annual Reviews.
 - Provide evidence in future Annual Reviews of buffer management, including mapping and photographs where appropriate, to demonstrate compliance with the commitment to buffers.
-

6.6. Heritage

6.6.1. EA Predictions

6.6.1.1. Aboriginal Archaeology

An Aboriginal Heritage Impact Assessment was carried out by AHMS for the original 2010 EA. The study assessed the Potential Archaeological Deposits (PAD) to identify and describe areas with potential sub-surface Aboriginal objects or sites. The assessment divided the study area into three landscapes based on their PAD levels, with PAD 1 being areas of high archaeological potential and PAD 3 being areas of low or no archaeological potential.

The *Aboriginal Cultural Heritage Management Plan* (ACHMP) prepared for MOD 4 will continue to be reviewed and updated, if necessary. A search of the Aboriginal Heritage Information Management System revealed 59 previously recorded sites in the area. The Aboriginal heritage assessment will be updated to include sites listed between then and now and the likelihood of the operations impacting the identified sites.

6.6.1.2. Historic Heritage

No known items of historic heritage occur within the Redisand project area.

6.6.2. Approved Criteria

There are no specific criteria relating to heritage for the site.

6.6.3. Key Environmental Performance

Ongoing consultation with the Registered Aboriginal Parties (RAPs) is evidenced through e-mail correspondence. All extracted material greater than 1 mm is set aside for inspection by RAPs. Items salvaged by the RAPs are tagged, labelled, and kept on site.

A site inspection was conducted by Murrooma Incorporated (Murrooma) on 6 March 2025 to identify any cultural material requested by Redisand as per the ACHMP. A walkover of the overburden and screened spoil material that has been re-spread was completed. Several cultural heritage objects were identified which were photographed and will be kept onsite at Redisand for future reburial. See **Appendix F** for the full Cultural Heritage Report.

6.6.4. Management Measures

Heritage and Aboriginal archaeology will be managed in accordance with the strategies and programs detailed in the ACHMP. This includes:

- Employees and contractors undergoing Aboriginal Heritage Awareness Induction Training;
- Completing heritage surveys in line with Stage 2a monitoring. This includes monitoring areas of the site containing PAD 1 and PAD 2 and will continue into Stage 2b monitoring; and
- Storing recovered artefacts in a safe and secure location for one year. After one year, artefacts will be reburied at a keeping place located within the mine buffer.

6.6.5. Proposed Improvements

Continued consultation with the identified Aboriginal community stakeholder groups should continue throughout the life of the project. Any changes to current agreements will be updated in the ACHMP.

7. WATER AND SOIL MANAGEMENT

7.1. EA Predictions

7.1.1. Surface Water

There are no identified permanent or semi-permanent water bodies in the site area. As mentioned in the *Erosion and Sediment Control Management Plan* (ESCMP), surface stormwater is expected to runoff from the site and be infiltrated into the highly permeable subsurface. There are two dams on site, however these are used for groundwater storage.

7.1.2. Groundwater

The 2010 EA suggested that the aquifer underlying the site is likely part of the Tomago Sand Beds Aquifer which is used for potable water extraction and several private bores. The proposed extraction rate of 100 kilolitres (kL) per day for the site will not have any impacts on groundwater levels and therefore would not result in salt intrusion or other adverse impacts to the aquifer. However, because of operations, groundwater geochemistry may see an increase in oxidation of iron and arsenic and therefore should be monitored during operations.

As of the 2017 MOD 4 EA, it has been identified the site contains extensive resources well above the water table that have been successfully extracted.

7.1.3. Acid Sulfate Soils

The 2010 EA determined that it was unlikely that Acid Sulfate Soils would be present in the soil units above the water table. Potential Acid Sulfate Soils (PASS) were present below RL 2 m Australian Height Datum (AHD), and below the level of extraction. Provided appropriate management and monitoring occurs during operations, Acid Sulfate Soils (ASS) are not considered a major constraint to the development.

7.2. Approved Criteria

There are no approved criteria for surface water quality under EPL 13406.

Under EPL 13406 Condition M2.3 Redisand is required to complete groundwater monitoring every six months from four access points being SB1/MW1, BH6, BH1, and BH4. The required pollutant, unit of measure and sampling method are detailed in **Table 23**.

Table 23: Groundwater Monitoring Requirements (Redisand EPL 13406)

POINT 4,5,6,7			
Pollutant	Units of measure	Frequency	Sampling Method
Arsenic	micrograms per litre	Every 6 months	Grab sample
Conductivity	millisiemens per centimetre	Every 6 months	Grab sample
Depth	metres	Every 6 months	Probe
Iron	milligrams per litre	Every 6 months	Grab sample
Manganese	milligrams per litre	Every 6 months	Grab sample
pH	pH	Every 6 months	Grab sample
Turbidity	nephelometric turbidity units	Every 6 months	Grab sample

As per the Statement of Commitments in the MOD 5 Project Approval:

No excavation is permitted to into the sand bed lower than 1 metre above the highest predicted groundwater table for the extraction area.

Table 24 summarises the approved groundwater quality and level trigger values based on baseline data collected from 2011 to 2016. **Table 25** provides the groundwater monitoring requirements based on the *Groundwater Monitoring Plan* (GMP) and EPL 13406.

Table 24: Approved Groundwater Quality and Level Trigger Values

Key Parameters	Water Quality Criteria
Arsenic	<0.001 – 1.5 µg/L
Total Iron	0.001 – 14 mg/L
pH	3.0 – 6.5
Water Level	3.0 m AHD (upper level) At or above existing levels (lower level)

Table 25: Groundwater Sampling Requirements

Monitoring Wells	Required Under	Sampling Frequency	Sampling Requirements
BH1, BH3 – BH6 and MW1 – MW7	Groundwater Monitoring Program	Every six months	pH, EC, TDS, DO, Temperature, Redox, Sulfate, Chloride, Arsenic, and Iron
BH1 and BH3 – BH6	Groundwater Monitoring Program	Daily	Water level
MW1, BH1, BH4, and BH6	EPL 13406	Every six months	Arsenic, conductivity, depth, Iron, Manganese, pH and turbidity

Groundwater monitoring results for the 2025 reporting period are summarised in **Table 28** to **Table 31**. Complete water monitoring data is provided as **Appendix G**. Groundwater, surface water and ASS monitoring consistency has improved over the past few years. Redisand aims to collect this data to inform long-term monitoring trends.

Surface water is managed and monitored in accordance with the *Soil and Water Management Plan*. Two surface water ponds have been constructed at the site which are used as sediment dams for extracted groundwater. A drainage line from pre-quarry operations also exists along the haul road. This filters sediment that runs from the haul road to the highly saturated environment which runs along the haulage route.

Testing at the sediment dams and the drainage line is detailed in **Table 26**. As there are no criteria for surface water monitoring, adopted criteria has been based on the *ANZECC (2000) Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters* and baseline data collected from January 2016 to April 2018.

Table 26: Surface Water Sampling Requirements

Surface Water Ponds	Sampling Frequency	Sampling Requirements
Plant Sediment Dams	Every six months	pH, EC, TSS, TDS, DO, Temperature, Redox
Drainage Line ^b	Every six months	pH, EC, TSS, TDS, DO, Temperature, Redox

Notes:

EC = Electrical Conductivity

TSS = Total Suspended Solids

TDS = Total Dissolved Solids

DO = Dissolved Oxygen

^a Subject to agreement by DPHI following the collection of comprehensive baseline data for two years.

^b Monitoring of the drainage line will be undertaken at the site boundary.

Surface water quality trigger values based on baseline data for pH and dissolved oxygen at the feed pond settled pond and drainage line at the site boundary is summarised in **Table 27**.

Table 27: Adopted Surface Water Quality Criteria

Parameter	Adopted Criteria
pH	5.3 – 7.2
Dissolved Oxygen	90 – 110% saturation ¹

Notes:

1. ANZECC (2000) *Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters* – Table 3.3.2

7.3. Key Environmental Performance

7.3.1. Groundwater Results

See **Table 28** and **Table 29** below for the groundwater quality monitoring results collected by VGT in March and December 2025. The minimum, maximum, and average daily water levels for each monitoring well for the 2025 reporting period are shown in **Table 30** below. The manual water levels data is shown in **Table 31**.

Table 28: Groundwater Monitoring Results for 2025 (BH1, BH3 - BH6)

	Units	BH1		BH3		BH4		BH5		BH6	
		06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25
Sampling Parameter											
Depth to Water	m(bTOfRef)	3.57	3.06	19.22	18.36	13.48	12.59	6.60	5.77	No access	18.89
Standing Water Level	m(AHD)	2.70	3.25	1.47	2.35	1.14	2.03	2.25	3.12	No access	4.39
Temperature	°C	22.7	20.5	20.5	19.4	Almost dry	NT	20.2	19.4	No access	NT
pH	pH Units	5.4	5.7	5.0	4.9	Almost dry	NT	5.2	5.4	No access	NT
Electrical Conductivity	µS/cm	120	54.0	282	328	Almost dry	NT	226	104	No access	NT
Dissolved Oxygen	Mg/L	4.2	5.3	4.1	5.4	Almost dry	NT	1.5	2.8	No access	NT
Oxidation Reduction Potential	mV	80	103	147	191	Almost dry	NT	64	140	No access	NT
Turbidity	NTU	370	-	1.2	-	Almost dry	NT	550	-	No access	NT
Total Dissolved Solids	Mg/L	70	58	160	220	Almost dry	NT	270	260	No access	NT
Metals – Dissolved											
Arsenic	Mg/L	<0.001	0.001	<0.001	<0.001	Almost dry	NT	0.035	0.007	No access	DRY
Iron	Mg/L	0.21	0.40	0.09	0.03	Almost dry	NT	9.5	1.5	No access	DRY
Manganese	Mg/L	<0.010	-	0.006	-	Almost dry	-	0.072	-	No access	-
Anions and Cations											
Chloride (Cl)	Mg/L	24	13	65	81	Almost dry	NT	58	32	No access	DRY
Sulfate (SO4)	Mg/L	4	2	16	16	Almost dry	NT	3	1	No access	DRY

Table 29: Groundwater Monitoring Results for 2025 (MW1, MW3 – MW7)

	Units	MW1		MW3		MW4		MW5		MW6		MW7	
		06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25	06/03/25	11/12/25
Sampling Parameter													
Depth to Water	m(bTORef)	1.64	0.88	3.09	1.92	13.15	12.48	1.53	1.00	3.44	2.94	3.44	2.09
Standing Water Level	m(AHD)	2.10	2.86	1.58	2.82	2.02	2.50	1.53	2.18	1.89	2.42	1.64	2.98
Temperature	°C	21.1	19.9	20.0	18.0	20.2	19.0	21.4	21.3	23.8	21.9	20.9	18.8
pH	pH Units	4.4	3.9	4.4	4.1	5.3	5.4	5.0	5.0	5.5	5.7	4.9	4.8
Electrical Conductivity	µS/cm	226	290	211	155	570	395	213	374	215	205	56	<50.0
Dissolved Oxygen	Mg/L	1.8	1.2	1.9	1.4	2.9	2.1	1.6	1.0	1.7	1.4	1.6	1.2
Oxidation Reduction Potential	mV	-19	115	-11	143	-64	78	-34	78	-75	63	-32	89
Turbidity	NTU	6.9	-	45	-	37	-	6.8	-	45	-	12	-
Total Dissolved Solids	Mg/L	270	250	210	340	490	320	240	490	320	270	78	64
Metals – Dissolved													
Arsenic	Mg/L	0.004	0.004	<0.001	<0.001	0.003	0.004	<0.001	0.001	0.023	0.051	<0.001	<0.001
Iron	Mg/L	0.49	0.84	0.53	0.44	2.9	2.9	0.35	1.3	9.5	11	0.1	0.07
Manganese	Mg/L	<0.005	-	<0.005	-	0.078	-	<0.005	-	0.072	-	<0.005	-
Anions and Cations													
Chloride (Cl)	Mg/L	46	71	49	39	140	100	39	110	42	40	11	11
Sulfate (SO4)	Mg/L	9	<1	1	<1	34	13	1	<1	2	<1	1	<1

Table 30: Summary of 2025 Daily Groundwater Levels

	MW1	MW3	MW4	MW5	MW6	MW7
Standing Water Level (m(AHD))						
Minimum	2.00	1.57	1.74	1.55	1.87	1.64
Maximum	3.32	3.87	3.33	2.55	3.52	3.99
Average	2.81	2.75	2.53	2.21	2.58	2.86

Note: Standing Water Levels were measured in accordance with AS 5667.22 – the Australian Standard for Water Quality – Sampling – Part 11: Guidance on sampling of groundwater.

Table 31: 2025 Manual Groundwater Water Levels

Monitoring Well	BH1	BH3	BH4	BH5	BH6	MW1	MW3	MW4	MW5	MW6	MW7
Date: 6/03/2025											
Standing Water Level (m(AHD))	2.70	1.47	1.14	2.25	NT	2.10	1.58	2.02	1.53	1.89	1.64
Date: 30/12/2025											
Standing Water Level (m(AHD))	3.25	2.35	2.03	3.12	4.39	2.86	2.82	2.50	2.18	2.42	2.98

BH6 had insufficient water to sample and only collected water depth levels. MW2 could not be accessed due to previous mining on an adjacent property. Turbidity and Manganese were not monitored during the December monitoring event. They are required to be monitored every six months under Condition M2.3 of EPL 13406. This has been noted in **Section 1** and will be rectified in future monitoring.

Results compared to approved trigger values are summarised below:

- pH: The minimum recorded pH value for the 2025 reporting period was 3.9, recorded at MW1 during the December monitoring event. The maximum recorded pH value for the 2025 reporting period was 5.7, recorded at BH1 and MW6 during the December monitoring event. The overall average pH level was 5.0 which is within the approved trigger values. This has become slightly more acidic since 2024, and 2023 recording an average pH of 5.06, and pH 5.04 respectively.
- Arsenic: There are several occurrences where arsenic results were above the approved trigger level. This is consistent with the EA as the EA noted that arsenic level may increase as a result of operations however these elevated levels are minimal and will not likely have detrimental impacts on the environment. Note, arsenic is currently being measured with the incorrect unit of measurement. This will be resolved in future monitoring. The Groundwater Management Plan requires arsenic to be measured in µg/L, however this is being measured in mg/L. Redisand will ensure the correct unit of measurement is used in future monitoring.
- Total Iron: The minimum recorded iron value for the 2025 reporting period was 0.03 mg/L, recorded at BH3 during the December monitoring event. The maximum recorded iron value for the 2025 reporting period was 11 mg/L, recorded at MW6 during the December monitoring event. All readings were within the approved trigger values in the 2025 reporting period.
- Daily Water Levels: The minimum water level was measured at 1.55 m (AHD) at MW5, and the maximum water level was measured at 3.99 m (AHD) at MW7. The results exceeded the daily criteria of 3.0 m (AHD) several times during 2025, however the yearly average for all locations remained under 3.0 m (AHD). The high levels are likely due to the high amount of rainfall recorded in 2025, with a total of 1721.8 mm of rain recorded at the RAAF Williamtown weather station, an increase from both 2024 and 2023.
- Manual Water Levels: Water levels were checked manually using an interface probe during the quarterly monitoring event and the six-monthly groundwater data logger download as per the GMP.

The GMP was updated and approved following the 2021 Annual Review. At the beginning of 2025, Redisand undertook groundwater monitoring quarterly, then transitioned to six monthly as per the GMP. Water level will continue to be monitored daily in accordance with their current monitoring program.

Long-term Trends

Groundwater monitoring results have generally been below the approved trigger values, however there is insufficient data for BH6, which continues to be a trend. Groundwater monitoring will continue in 2026 as the site aims for more consistent sampling and to develop longer term data.

Comparison to EA Predictions

There was no evidence of any detrimental impact from the site on groundwater. This is consistent with the EA predictions.

7.3.2. Surface Water Results

A summary of the 2025 surface water monitoring results is provided in **Table 32**.

Table 32: Surface Water Monitoring Results (2025)

Sampling Requirements	Plant Sediment Dams (Groundwater Storage)				Drainage Line	
	Feed Pond		Settled Pond		Creek	
	26/6/25	11/12/25	26/06/25	11/12/25	26/06/25	11/12/25
pH	5.3	6.1	6.2	6.5	5.7	5.9
EC (µS/cm)	218	268	245	257	261	227
TSS (mg/L)	4200	820	<5	10	<5	<5
TDS (mg/L)	1050	460	210	160	250	140
DO ¹ (mg/L)	8.5	6.5	8.3	8.7	2.8	1.4
DO (%)	80.2	74.9	78.8	102.4	26.0	15.5
Temperature (°C)	13.6	23.3	13.8	23.5	12.7	20.1
Redox (mV)	143	136	144	120	97	40

¹ Dissolved Oxygen (%) calculated off mg/L.

The required monitoring frequency is every six months, however Redisand completed this every month for the first six months of 2025. There were seven samples collected during 2025. Moving forward, Redisand will complete their monitoring six monthly to be in accordance with their monitoring program.

The maximum recorded pH value in 2025 was 6.5 at Settled Pond which remains within the adopted trigger values. This is an increase from 2024, which recorded a maximum pH of 6.3. The minimum record pH value in 2025 was 5.3 which remains within the adopted trigger levels and is an increase to the 2024 minimum which was 5.1.

When compared to a conversion factor, the DO results in mg/L compared to % saturation did vary considerably. In general, the average DO % at all sites, excluding Settled Pond, were below the adopted trigger values, with the Feed Pond recording an average DO of 77.5%, Settled Pond recording an average DO of 90.6%, and the Drainage Line Creek recording an average DO of 20.8%.

Long-term Trends

As there are no discharge points on site, there is no EPL surface water criteria. However, Redisand was generally within the adopted pH levels since 2018. The pH levels from 2018 to 2025 are provided in **Table 33**.

Table 33: Long-term Surface Water Results (2018 – 2025)

Year	pH Levels								
	Feed Pond (Groundwater Storage)			Settled Pond (Groundwater Storage)			Creek		
	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
2018	6.1	5.5	7.2	6.1	5.5	7.2	6.2	5.5	7.2
2019	6.2	5.6	6.2	6.4	5.9	6.9	6.2	5.6	7.8
2020	5.9	5.5	6.4	6.9	5.8	7.5	5.8	5.4	6.0
2021	6.0	5.4	6.4	7.3	6.1	8.8	5.9	5.5	7.4
2022	6.0	5.3	6.4	6.4	6.1	7.5	5.8	5.3	6.1

Year	pH Levels								
	Feed Pond (Groundwater Storage)			Settled Pond (Groundwater Storage)			Creek		
	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
2023	5.85	5.8	5.9	6.45	6.4	6.5	6.25	5.8	6.4
2024	5.6	5.1	6.3	6.5	6.0	6.7	5.9	5.4	6.5
2025	5.7	5.3	6.1	6.35	6.2	6.5	5.8	5.7	5.9

Note: No monitoring results obtained for October 2018. 2019 results are based on six samples. Missed monitoring dates included March, September, October, November, and December 2019. April 2019 monitoring results provided; however, it was not in the correct format. February 2019 monitoring did not include the Creek.

Comparison to EA Predictions

There was no evidence of any detrimental impact from the site on surface water. This is consistent with the EA predictions.

7.3.3. Acid Sulfate Soils Results

ASS is managed in accordance with the *Acid Sulfate Soil Management Plan (ASSMP)*. Regular acid sulfate testing is completed by VGT Laboratories with the 2025 results shown in **Table 34** and attached as **Appendix G**.

There is no EPL criteria for ASS. However, action criteria ASS assessments are based on the *Acid Sulfate Soils Assessment Guidelines (1998)*.

Table 34: Acid Sulfate Soil Results for 2025

Date	Location	pH Oxidised	ASS Potential
09/01/2025	Sand 1	5.7	Highly Unlikely
06/02/2025	Sand 1	5.7	Highly Unlikely
06/03/2025	Sand 1	6.2	Highly Unlikely
03/04/2025	Sand 1	6.1	Highly Unlikely
29/05/2025	Sand 1	5.8	Highly Unlikely
26/06/2025	Sand 1	5.8	Highly Unlikely
	Sand 2	5.8	Highly Unlikely
18/09/2025	Sand 1	5.6	Highly Unlikely
	Sand 2	5.4	Highly Unlikely
11/12/2025	Sand 1	6.1	Highly Unlikely
	Sand 2	6.0	Highly Unlikely

During the 2025 reporting period, Redisand undertook a total of 11 soil sampling events, with results indicating no evidence of ASS at the site. In accordance with Section 5.2 of the ASSMP, monitoring is required on a quarterly basis. From June 2025, Redisand aligned its monitoring program with the ASSMP by transitioning to quarterly sampling, comprising two composite samples.

Long-term Trends

Results from the 2025 reporting period continued to indicate no evidence of ASS at the site, and the likelihood of ASS occurrence remains highly unlikely. Redisand will continue to monitor in accordance with the requirements of the approved ASSMP.

Comparison to EA Predictions

There was no evidence of any detrimental impact from the site on the presence of Acid Sulfate in the soil. This is consistent with the EA predictions.

7.4. Proposed Improvements

The 2024 IEA identified an area that required improvement regarding the inclusion of groundwater modelling in the ASSMP. All management plans will be reviewed and revised as required to align with MOD 6 requirements. Redisand will revise the ASSMP to include groundwater modelling in line with MOD 6.

7.5. Water Usage and Storage

Sediment basins have been constructed in the processing plant area in accordance with Landcom’s *Managing Urban Stormwater – Soils and Construction*. The primary use is to store pumped groundwater as most surface water will infiltrate the sand rather than report to the sediment retention basins.

7.6. Water Take

Redisand operates under Water Access Licence 36627. Water take is reported by financial year. Water extraction limits for FY2025 are outlined in **Table 35**.

Table 35: Water Take for FY2025 (July 2024 – June 2025)

Water Licence Number	Water Sharing Plan, Source and Management Zone (as applicable)	Entitlement for Water Take (ML)	Water Take/Use (ML)
WAL36627	North Coast Coastal Sands Groundwater Sources, Stockton Groundwater Source, and Whole Water Source	40 units/year	7,730 ML

8. REHABILITATION

8.1. Rehabilitation Performance during the Reporting Period

In accordance with the *LRMP*, Redisand is required to progressively rehabilitate and stabilise areas disturbed by operations. Activities undertaken during the 2025 reporting period are summarised in **Table 36**.

Table 36: Rehabilitation Update for 2025

Guideline Requirement	Site Comment
Extent of the operations and rehabilitation at completion of the reporting period	The total mine area is currently 12.9 ha. Rehabilitation works continued in 2025, increasing the total rehabilitation area 10.12 ha. The use of habitat trees and nest boxes continued at site.
Agreed post-rehabilitation land use	In accordance with the rehabilitation of disturbed areas (Extraction Area and Plant Area) uses a seed mix consistent with some of the key flora species from the EA (Coastal Sands Blackbutt).
Key rehabilitation performance indicators	Key rehabilitation indicators are outlined within Section 4.6 of the LRMP. Note there has not been any assessment against these criteria.
Renovation or removal of buildings	No building removal occurred during the Annual Review period. None proposed.
Any other rehabilitation taken including: • Exploration activities; • Infrastructure; • Dams; and • the installation or maintenance of fences, bunds and any other works.	Progressive rehabilitation works continued in 2025.
Any rehabilitation areas which have received formal sign off	No rehabilitation received signoff during the 2025 reporting period. There are no areas of rehabilitation that are expected to receive sign off in the near future.
Variations to activities undertaken to those proposed (including why there were variations and whether NSW Mining, Exploration and Geoscience (MEG) was notified).	No specific variations to the way rehabilitation is completed are proposed under the LRMP.
Outcomes of trials, research projects and other initiatives	No trials were conducted during the 2025 reporting period.
Key issues that may affect successful rehabilitation	There are several potential issues that can affect rehabilitation including availability of material, weeds and pests, seed stock, climatic events, and rehabilitation methodology.

Table 37 summarises the rehabilitation status at the end of the reporting period for 2025. **Photos 6** and **Photo 7** show the status of rehabilitation at site. **Figure 2** and **Figure 3** show the disturbance and rehabilitation at the site as of January 2026. Rehabilitation is proposed to continue in 2026.

Table 37: Rehabilitation Status at the End of the 2025 Reporting Period

Mine Area Type	Last Reporting Period (Actual) (2024)	This Reporting Period (Actual) (2025)	Next Reporting Period (Forecasted) (2026)
Total mine footprint (ha)	11.2	12.9	13.66
Disturbance* (ha)	2.3	2.5	2.5
Land Being Prepared for Rehabilitation	1.2	0.28	1.04
Land under Active Rehabilitation	7.7	10.12	10.12
Completed Rehabilitation ¹	0	0	0

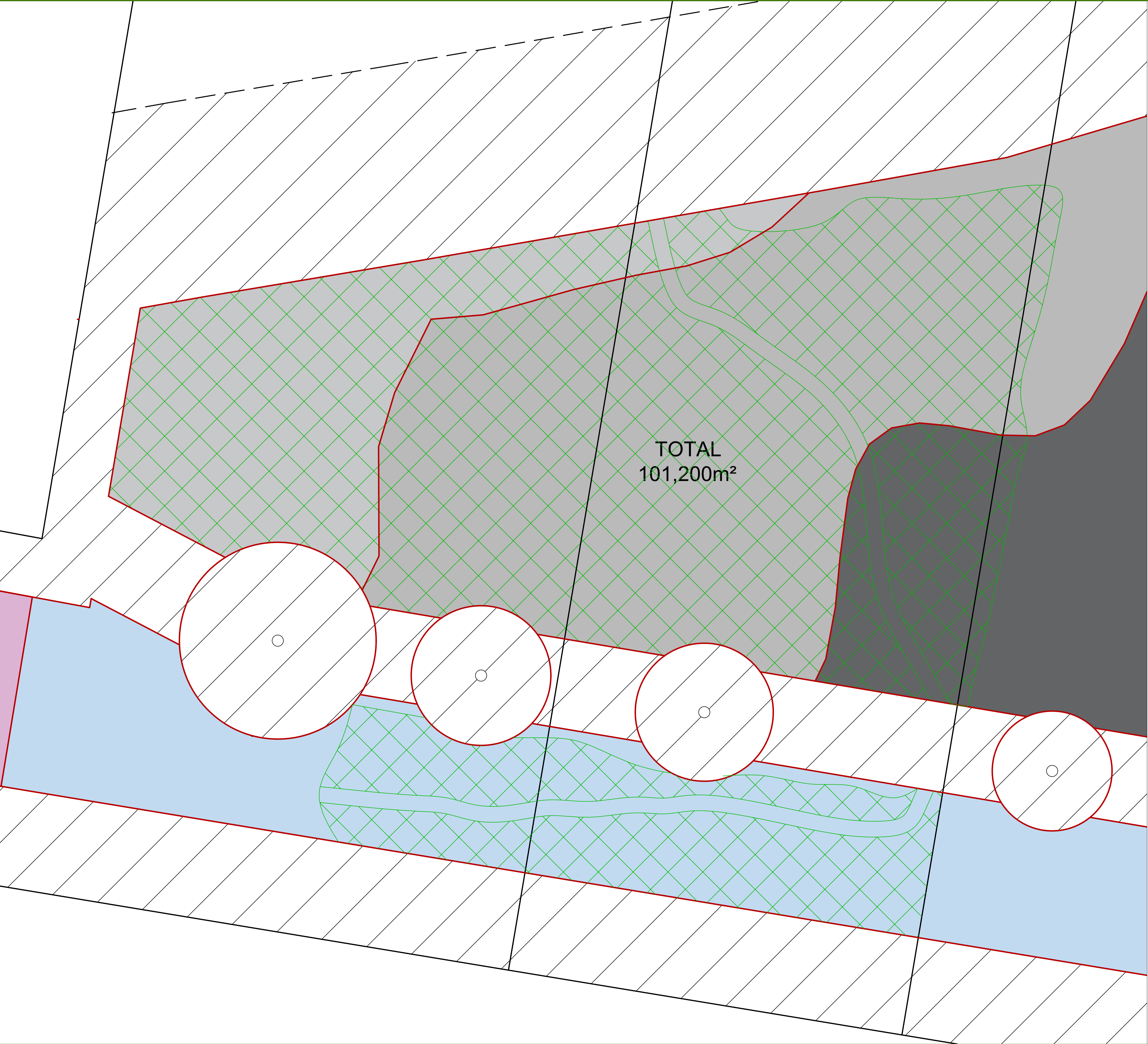
¹ Site updated Table 34 in 2024 and identified that no rehabilitation was complete (signed off by DPHI).



Photo 6: Rehabilitation Status at Site



Photo 7: Rehabilitation Status at Site

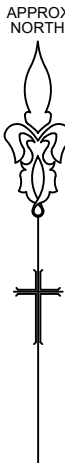


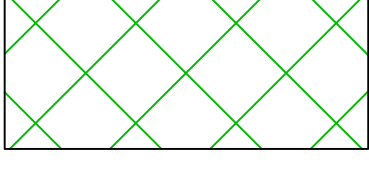
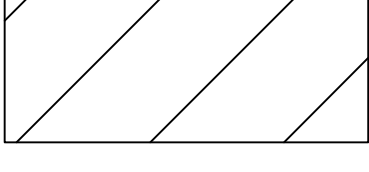
SKETCH

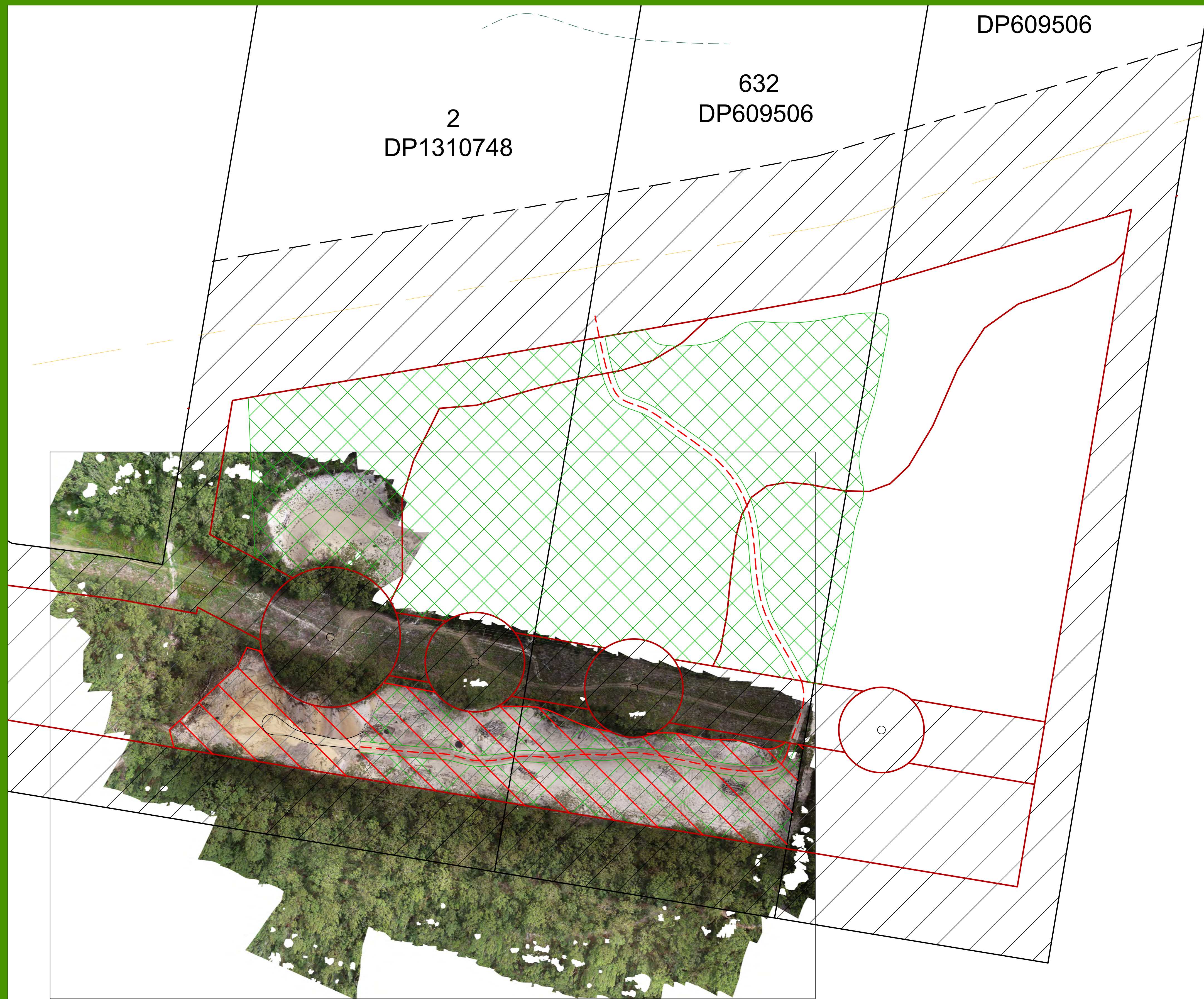
A.R. Nodab

.....SURVEYOR
REGISTERED UNDER THE SURVEYING ACT

DATE: 23.01.2026



-  STAGE 1
-  STAGE 2
-  STAGE 4
-  REHABILITATION AREA
-  BUFFER ZONE

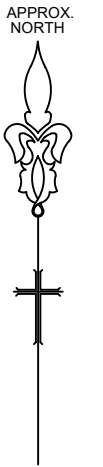


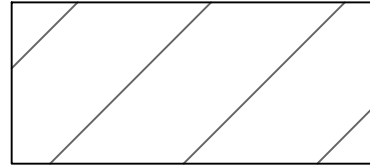
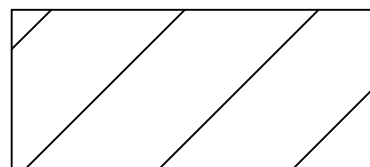
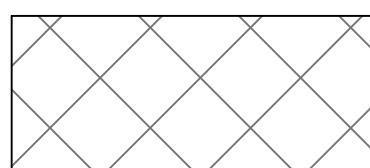
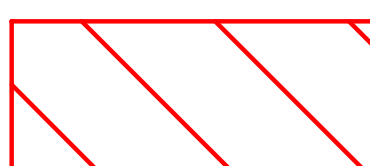
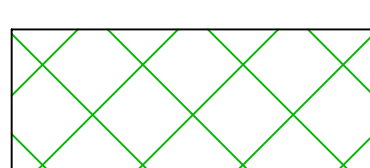
SKETCH

A.R. Nodah

.....SURVEYOR
REGISTERED UNDER THE SURVEYING ACT

DATE: 23.01.2026



- HAUL ROAD
- ECOLOGICAL BOUNDARY
-  STAGE 4
-  BUFFER ZONE
-  ACTIVE EXTRACTION
-  DISTURBANCE AREA
-  REHABILITATION AREA

L.G.A.: PORT STEPHENS
Parish:
Locality: SALT ASH
Client: ATB MORTON

Ratio: 1:750 (A1)
Datum:
Origin:
Drawn: AM

Date Surveyed: 23.01.2026
Date Printed: 23.01.2026
Reference: 50119
Drawing: 50119_60.dwg

SITE PLAN - AERIAL OVERLAY
LOTS 632 & 633 DP609506, LOT 2 DP1172862
NELSON BAY ROAD, SALT ASH



EARTH SURVEYING
CONSULTING SURVEYORS
PO Box 4, NEWCASTLE NSW 2300
02 4929 1900 0405 223133
andrew@earthsurveying.com.au

9. SUMMARY OF ENVIRONMENTAL PERFORMANCE

A summary of the performance of environmental management measures and sampling results for the 2025 reporting period are summarised in **Table 38**.

Table 38: Environmental Performance for Redisand in 2025

Aspect	Approval Criteria / EA Prediction	Performance during 2025 reporting period	Trend / key management implications	Implemented / proposed management actions
Noise	EA predictions are below the Development Consent criteria.	Compliant. Monitoring has occurred at all required receivers since 2021. Redisand will continue to undertake noise monitoring in 2026.	Noise monitoring at all receivers has been completed starting in 2021. It is recognised that monitoring at receivers NB1 – NB4 may eventually be able to stop as noise from the site is inaudible. Redisand will continue to monitor at these receivers until approval from DPHI and the NSW EPA to omit these locations.	Continue management of noise impacts in accordance with the NMP.
Air Quality	See Development Consent and EPL criteria.	Non-compliant. One short-term PM ^{2.5} exceedance. Annual PM ^{2.5} average exceeded criteria. Three missed monitoring events.	Annual PM ^{2.5} average exceeded criteria. PM ¹⁰ and TSP annual averages were compliant and remained similar when compared to 2024. Deposited Dust was within criteria, noting D2 had a lot of contamination. Note non-compliances as discussed in Section 6.3 .	Redisand is committed to improving data collection. Redisand has requested approval in 2025 to cease depositional dust gauge monitoring. Redisand consulted with DPHI about classifying the bushfire event which affected results recorded 6 December 2025 as an extraordinary day. DPHI agreed that this monitoring result should be excluded due to extraordinary events (bushfires) influencing background dust levels. Thus, this incident was not recorded as a non-compliance.
Traffic Management	See Development Consent Criteria.	Compliant. There were no truck movement exceedances in 2025.	MOD 5 approved in August 2022 which clarified the number of permissible truck movements in relation to the status of the intersection between Nelson Bay Road and Janet Parade.	Redisand will continue to comply with Schedule 2, Condition 7 of the Project Approval.

Aspect	Approval Criteria / EA Prediction	Performance during 2025 reporting period	Trend / key management implications	Implemented / proposed management actions
Biodiversity	See commitments within the Landscape and Rehabilitation Management Plan.	All monitoring that was conducted within the reporting period was compliant. New ecologist engaged in 2025 to complete monitoring going forward. BCT Annual Report completed but not submitted by set due date.	Ongoing issues with timely reporting of biodiversity monitoring results.	Redisand aims to review their monitoring process in the next reporting period to improve their overall compliance regarding biodiversity management.
Heritage	No proposed impacts. No Project Approval criteria.	Compliant. No issues identified.	Redisand continues to liaise with RAPs and engages Murrooma Incorporated to complete site walk overs when required.	Continue to consult with Aboriginal RAPs and DPHI and update the ACHMP as needed.
Water Management	Surface water monitoring results were consistent with EA predictions and met the adopted criteria, with no evidence of detrimental impacts on site surface water. Groundwater monitoring also generally aligned with EA predictions and approved criteria, although some minor inconsistencies were observed. ASS monitoring data remained consistent with expectations.	Surface water results were compliant with the adopted criteria. There was no evidence of any detrimental impact from the site on surface water. Groundwater monitoring results were generally consistent with the EA predictions and approved criteria. Average pH remained within trigger values. Arsenic was reported in the incorrect unit of measurement and occasionally exceeded trigger levels, which is consistent with EA predictions and is not expected to result in environmental impacts. Total iron concentrations remained within trigger values. While daily water levels occasionally exceeded the 3.0 m (AHD) criterion, likely due to increased rainfall, the annual average level remained compliant. Manual water level monitoring was undertaken in accordance with the Groundwater Management Plan. There was no evidence of ASS at the site during 2025.	Surface water results were compliant with the adopted criteria. The required monitoring frequency is every six months, however Redisand completed monitoring every month for the first six months of 2025. Moving forward, Redisand will complete their monitoring six monthly to be in accordance with their monitoring program. Groundwater monitoring results have generally been below the adopted criteria, however there is insufficient data for BH6, which continues to be a trend. MW2 could not be accessed due to previous mining on an adjacent property. Turbidity and Manganese were not monitored during the December monitoring event. Arsenic was measured in the wrong unit of measurement. At the beginning of 2025, Redisand undertook groundwater monitoring quarterly, then transitioned to six monthly as per the GMP. Moving forward Redisand will follow the correct monitoring procedures. Results from the 2025 reporting period continued to indicate no evidence of ASS at the site, and the likelihood of ASS occurrence remains highly unlikely.	Redisand will continue the implementation of the SWMP and will continue to undertake surface water, groundwater and ASS monitoring in 2026.

10. WASTE MANAGEMENT

10.1. Waste Management

General waste is collected and stored on site, where it is then collected weekly by the Port Stephens Shire Council.

Waste oil is taken off site to the ATB Morton workshop where it gets collected by a waste oil recycler.

There was one collection of scrap metal in the 2025 reporting period.

There were no waste issues during the 2025 reporting period.

11. COMMUNITY

Redisand submitted a request to DPHI on 9 August 2024 for the Planning Secretary's approval to suspend the Salt Ash Sand Quarry Community Consultative Committee (CCC) until such time as a need arises to reconvene it. DPHI responded with a letter dated 8 October 2024 stating that they *'advise that the Planning Secretary approves the suspension of Salt Ash Sand Quarry CCC, subject to the proponent providing ongoing project updates to members via emails and/ or newsletters'*.

11.1. Community Engagement Activities

There were no community engagement activities in the 2025 reporting period.

11.2. Complaints

There were no complaints received in the 2025 reporting period.

In the past 5 years the only complaint received was in July 2024, which revolved around a truck pulling out in front of the complainant on Nelson Bay Road out of Janet Parade. There was no return number left so Redisand could not follow up. Redisand spoke with the driver in question, but they reported they were unaware of the situation.

An up-to-date Complaints Register can be found on the Redisand website.

12. INDEPENDENT AUDIT

In accordance with Schedule 5, Condition 9 of PA 07_0094, Redisand is required to undertake an IEA by 31 December 2013 and every 3 years thereafter. The most recent IEA was completed in April 2024 by the APP Group and covered the period from 14 October 2020 to 23 April 2024.

The audit was conducted by The APP Group – HSEQ Systems and Auditing (APP) on 22 and 23 April 2024 with a review of the conditions of PA78_0094 and EPL13406. The audit assessed the operation of the site against the conditions contained within each approval. The main activities observed during the audit were extraction, screening, washing, and loading of quarried sand material.

The outcome of the audit demonstrated that Redisand maintain good controls to address environmental impacts. The IEA assessed a total of 109 conditions, comprising of a review of documents and records, interviews of key personnel and a site inspection.

The Audit Action Plan from this IEA can be found in **Appendix A**.

The next IEA is due by October 2026, as this will realign with the original three-year period.

13. INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

Incidents and non-compliances at site in the 2025 reporting period are summarised in **Table 39**.

Table 39: Summary of Non-Compliances

Date	Incident/Non-Compliance	Explanation / Comments
17 January 2025	Air Quality Non-Compliance	Redisand discovered a monitoring event had been scheduled for 16 January 2025, however, severe thunderstorms and intense rainfall between 15 and 17 January 2025 (declared a natural disaster event) resulted in a power outage in the Port Stephens area for this entire period. Therefore, the HVAS monitor was non-operational, and the sampling was not carried out. Notification was provided to DPHI 28 January 2025.
14 April 2025	Air Quality Non-Compliance	Continuous particulate matter (PM ^{2.5}) monitoring results from 28 January 2025 showed a reading of 26 ug/m ³ . On this day, the site was operating normally. Regional weather conditions were windy (67 km/h SSW) and there had not been any rainfall since 20 January. These dry and windy conditions caused a blowout on the haul road, directing excessive amounts of dust into the car park near the HVAS monitor locations. Redisand only became aware of the exceedance on 11 April 2025 during a routine data upload to their company website after discovering that the air quality monitoring consultancy had not sent the January 2025 monitoring data until prompted. Notification was sent to DPHI 15 April 2025.
27 June 2025	Air Quality Non-Compliance	On 2 July 2025, Redisand discovered a monitoring event had been scheduled for 27 June 2025. However, due to cable damage on the PM ^{2.5} HVAS monitor, it became non-operational and the sampling was not completed. TSP and PM ¹⁰ monitoring were successfully completed. Site confirmed that evidence of wildlife activity was observed near the monitor's location, it was possible that animals caused the cable damage. Since the incident, a new cable has been installed on the PM ^{2.5} HVAS monitor, which is now operating normally. Notification was sent to DPHI 8 July 2025.
25 September 2025	Air Quality Non-Compliance	On 25 September 2025, Redisand discovered a monitoring event had been scheduled for 26 August 2025. The monitoring was not completed as scheduled due to filter papers being removed before the delivery of new replacement papers. The operator inadvertently overlooked that new filter papers had not yet been installed, which prevented the monitoring from being carried out. As a corrective action, Redisand have arranged for additional filter papers to be purchased and stored on site. Notification was sent to DPHI 26 September 2025.

13.1. Summary of Agency Notices, Orders, Penalty Notices or Prosecutions

The following notices, orders, and prosecutions were issued to Redisand during the 2025 Annual Review period:

- Warning Letter - Breach of Section 4.2 of the Environmental Planning and Assessment Act 1979. Received 3 July 2025 in relation to a breach of Schedule 5 Condition 9 of the Consent. Schedule 5 Condition 9 of the Consent requires the site to commission and pay the full cost of an IEA of the development every three years. Redisand submitted an IEA report some six months after the required date. The breach was assessed in accordance with the NSW Planning Compliance Policy and it was determined to issue Redisand with a Warning Letter.

- Warning Letter - Breach of Section 4.2 of the Environmental Planning and Assessment Act 1979. Received 3 July 2025 in relation to a breach of Schedule 5 Condition 7 of the Consent which requires the site to notify DPHI of a non-compliance within seven days of becoming aware of a non-compliance. The breach was assessed in accordance with the NSW Planning Compliance Policy and it was determined to issue Redisand with a Warning Letter.
 - Notice to Furnish Information and Records received 6 August 2025 in relation to Section 3.1.1 of the Landscape and Rehabilitation Management Plan (LRMP) which describes the Nest Box Program undertaken at site. DPHI requested a series of information and records related to the Nest Box Program to be provided.
 - Show Cause received 27 August 2025 in relation to Schedule 3 Condition 23 of the Consent which requires the site to prepare and implement a LRMP for the development. The letter noted nest box monitoring or maintenance was not undertaken at the development at any time during the 3-year period 1 January 2022 to 31 December 2024. Therefore, it was alleged that Redisand failed to implement the LRMP.
 - Official Caution Breach of Section 4.2 of the Environmental Planning and Assessment Act 1979 received 29 October 2025 in relation to Schedule 3 condition 23 of the consent which requires the Applicant to prepare and implement a LRMP for the development. The breach has been assessed in accordance with the NSW DPHI Compliance Policy and the Attorney General's Caution Guidelines, and it was determined to issue Redisand with an Official Caution for the breach. Redisand was directed to undertake a review of the LRMP and submit a notification of confirmation of the review via the Major Projects portal by 29 January 2026.
-

14. ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

Staff at Redisand will undertake the following activities and improvement measures to ensure compliance with the Project Approval and EPL 13406. These actions are aimed to ensure that effective environmental management controls in place and operations are in accordance with the requirements and conditions of the Project Approval. A summary of the proposed activities is outlined in **Table 40**.

Table 40: Improvement Actions for 2026

Improvement Measure	Activities
Complete actions from 2024 IEA Action Plan	Redisand will continue to work towards completing the actions from the 2024 IEA Action Plan (see Appendix A).
Continue improvement of compliance with Project Approval and EPL 13406.	Continue to improve environmental compliance across the site.
Review and revise all management plans in line with the MOD 6 application.	Redisand will review and revise all management plans in line with MOD 6 requirements.
Undertake an IEA	In accordance with Schedule 5, Condition 9 of PA 07_0094, Redisand is required to undertake an IEA by October 2026.

**Appendix A –
2024 IEA Action Plan**

Table 1 2024 Redisand - Independent Environmental Audit Action Plan

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
Non-Compliance Recommendations						
PA 07_0094						
NC01	Schedule 3 Condition 2	Impact Assessment Criteria The Applicant must ensure that the operational noise generated by the development does not exceed the noise impact assessment criteria in Table 1 at any residence on privately-owned land. Notes: (a) Receiver locations are shown in the Figure in Appendix 2; and (b) Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.	Locations NB 1-4 were not monitored during calendar year 2020, and therefore Table 1 Noise Impact Criteria for NB1 during 2020 cannot be verified.	This was nominated in the Annual Review and has since been addressed, therefore no recommendation.	Not applicable as per recommendation.	N/A
NC02	Schedule 3 Condition 7	Noise Monitoring Program The Applicant must prepare a Noise Monitoring Program for the development's construction activities and quarrying operations to the satisfaction of the Secretary. This program must: (a) be submitted to the Secretary for approval prior to carrying out any construction activities;	Locations NB 1-4 were not monitored during calendar year 2020 (refer NC02 above), which includes the audit scope period. The Applicant has not therefore implemented the program as approved by the Secretary.	No recommendation	Not applicable as per recommendation.	N/A

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		(b) include quarterly attended noise monitoring on a day on which truck dispatches meet or exceed the daily average; and (c) include details of how the noise performance of the development would be monitored and include a noise monitoring protocol for evaluating compliance with the noise criteria in this consent. The Applicant must implement the program as approved by the Secretary.				
NC03	Schedule 3 Condition 8	Impact Assessment Criteria The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 3 at any residence on privately-owned land. Note: • Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources). • Incremental impact (i.e. incremental increase in concentrations due to the development on its own). • Excludes extraordinary events such as bushfires, prescribed	Multiple exceedances during the audit period	No recommendation.	Not applicable as per recommendation.	N/A

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary. • 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.				
NC04	Schedule 3 Condition 10	Air Quality Management Plan Within 3 months of approval of Modification 4, the Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared by a suitably qualified and experienced person/s; (b) be prepared in consultation with the EPA; (c) describe the measures to be implemented to ensure: (i) compliance with the air quality criteria and operating conditions in this consent; (ii) best practice management is being employed; and (iii) air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;	The Air Quality Management Plan was not implemented appropriately due to the missed monitoring events across the audit period, as detailed in C8 above.	No recommendation.	Not applicable as per recommendation.	N/A

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		(d) describe the air quality management system; and (e) include an air quality monitoring program that: (i) is capable of evaluating the performance of the development against the air quality criteria; (ii) adequately supports the air quality management system; and (iii) includes a protocol for identifying any air quality related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of these events. The Applicant must implement the plan as approved by the Secretary.				
NC05	Schedule 3 Condition 17	Groundwater Monitoring Program The Ground Water Monitoring Program must include: (a) detailed baseline data on groundwater levels and quality, based on statistical analysis; (b) groundwater impact assessment criteria; (c) a program to monitor ground water levels and quality. (d) a program to monitor ground water level effects on groundwater dependent vegetation, and (e) a protocol for the investigation, notification and mitigation of identified exceedances	Monitoring does not include groundwater levels, but rather depth to water, measured from the Monument Height (bTOM). Therefore, noncompliance with Schedule 3, Condition 17(c). Additionally, Redisand failed to notify DPHI and EPA of arsenic levels above criteria levels in June and September 2023 monitoring reports	REC01: Change the method to measure GW level.	The depth of piezometer casing will be resurveyed by surveyor. The monitoring consultant will be notified that "GW level" is preferred to "Depth to Water" for future monitoring and reporting events.	Redisand consulted with the monitoring specialists for site (VGT) to confirm depths on the lab reports and the loggers will be reported to standing water level going forward in March 2025

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
NC06	Schedule 3 Condition 18	Acid Sulfate Soils Management Plan The Acid Sulfate Soils Management Plan must include: (a) the outcome of groundwater modelling to establish the maximum predicted groundwater level for the site (b) measures to avoid the extraction of acid sulfate soils and potentially acid sulfate soils; and (c) a contingency plan to manage any acid sulfate soils and potentially acid sulfate soils inadvertently encountered during extraction and processing operations.	Groundwater modelling information not found within the ASSMP.	REC02: Include reference to the Groundwater Monitoring Program to address this.	A small update will be completed in the ASSMP to mention groundwater modelling.	Redisand has been completing updates to all site management plans throughout 2025. As part of the Acid Sulphate Soils Management Plan, reference was made to groundwater modelling information.
NC07	Schedule 4 Condition 2	Notification of Landowners If the results of the monitoring required in schedule 3 identify that the impacts generated by the development on site are greater than the relevant impact assessment criteria, and there is no negotiated agreement in place to allow the impact, then within 2 weeks of obtaining the monitoring results the Applicant must: (a) notify the Secretary, the affected landowners and tenants (including tenants of quarry-owned properties) accordingly, and provide monitoring results to each of these parties until the results show	There have been criteria exceedances in groundwater and air quality results during the IEA period which have not been notified to residents. For landowners affected by the air quality criteria exceedances, a copy of the NSW Health fact sheet entitled "Mine Dust and You" has not been distributed	REC03: Distribute the fact sheet to adjacent stakeholders.	If there are exceedances of criteria for air or noise, then the site will notify residents as per the required condition. This will include distributing a fact sheet.	If triggered

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		that the development is complying with the relevant criteria in schedule 3; and in the case of exceedances of the relevant air quality criteria, send the affected landowners and/or tenants a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time).				
NC08	Schedule 5 Condition 4	Revision of Strategies, Plans & Programs Within 3 months of: (a) the submission of an audit report under condition 8 below; the Applicant shall review, and if necessary, revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. (b) the submission of an incident report under condition 6 below; (c) the submission of an audit report under condition 8 below; and (d) any modifications to this approval, the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary.	The Surface Water Management Plan V4 September 2021 was not updated within 3 months of the submission of the previous IEA (January 2021)	No recommendation.	Not applicable as per recommendation.	N/A
NC09	Schedule 5 Condition 7	Non-Compliance Notification Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the noncompliance. The notification must be in writing	Two instances where non compliances were not reported as per this condition.	No recommendation.	Not applicable as per recommendation.	N/A

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		via the Major Projects Website and identify the development (including the development consent 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.				
NC10	Schedule 5 Condition 9	Independent Environmental Audit By 31 December 2013, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: (a) be conducted by 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 relevant requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);	This audit is overdue. The IEA should have been undertaken 3 years after the previous audit however was postponed to early 2024.	No recommendation.	Not applicable as per recommendation.	Redisand will undertake an IEA by October 2026 to align with Project Approval requirements.

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		(d) review the adequacy of strategies, plans or programs required under the abovementioned consents, licences or leases; (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; and (f) be completed within 2 months of the approval of the audit team. Note: This audit team must be led by a suitably qualified				
NC11	Schedule 5 Condition 11	Access to Information From 1 November 2011, the Applicant must: (a) make the following information publicly available on its website: • a copy of all approved strategies, plans and programs; • a summary of all monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this approval; • a complaints register, updated on a quarterly basis; • copies of the minutes of CCC meetings; • copies of any Annual Reviews (over the last 5 years);	A review of publicly available information determined that the complaints register and minutes for the Community Consultative Committee were last updated in March 2022, which is non-compliant with part b of this condition.	REC04: Recommend updating all publicly available documentation.		Redisand regularly uploads information to the website, so it is publicly available.

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		• copies of any Independent Environmental Audit, and the Applicant's response to the recommendations in any audit; and • any other matter required by the Secretary; and (b) keep this information up-to-date, to the satisfaction of the Secretary.				
NC12	Appendix 3 Condition 3	Vegetation Management – Offset Site A vegetation management plan shall be prepared for the Offset Site. This Plan shall be endorsed by Office of Environment and Heritage prior to the commencement of clearing on the Salt Ash site. The plan shall give regard to the following: • Weed Management and monitoring; • Management of retained native vegetation and habitat; • Feral animal control; • Fire management; • Public access management; • Minimisation of edge effects and fragmentation; • Long term monitoring commitments; • Details of rehabilitation programs / measures; • Measures to ensure conservation in perpetuity; and • Funding details of long term financial commitment to any	There is no evidence of a Vegetation Management Plan for the Offset Site at Tomalla. The auditor notes however, that there is evidence of monitoring having been undertaken on site.	REC05: Complete a Vegetation Management Plan for the Tomalla offset site.	The Tomalla Biodiversity Offset Management Plan is currently being developed and will be complete/made publicly available on the Redisand website by 01/10/2024.	The Tomalla Biodiversity Offset Management Plan continued to be developed in 2025. Due to complications in recent ecology monitoring the updates were on hold and the original proposed date was not met. Updates will continue with accurate data once new ecology reports come available.

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		proposed conservation measures.				
NC13	Appendix 3 Condition 9	Management Plans Required The following management plans shall be prepared and endorsed by the relevant authority prior to the commencement of works / operations: • Vegetation Management Plan (Extraction Site); • Vegetation Management Plan (Offset Site) • Aboriginal Cultural Heritage Management Plan; • Groundwater Management Plan and Impact Model; • Construction and Operational Noise Management Plan Continued monitoring of mosquitos within the site in addition to the identification and reduction of aquatic breeding sites will be undertaken. Measures will include not allowing irrigation water to lie undisturbed and checking irrigation lines for leaks.	There is no evidence of a Vegetation Management Plan for the Offset Site at Tomalla.	Recommendation as per NC12.	Action as per NC12.	Date as per NC12.
EPL 13406						
NC14	Section 2 Condition P1.2	The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.	Monitoring does not include groundwater levels, but rather depth to water.	Recommendation as per NC05.	Action as per NC05	Date as per NC05
NC15	Section 2 Condition L3.1	Noise limits	Location NB1 was not monitored during calendar year 2020, and therefore Noise	No recommendation.	Not applicable as per recommendation.	

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		Operational noise generated at the premises must not exceed the noise limits in the table below at any time. The locations referred to in the table below are indicated by 'Appendix 2: Noise Receiver Locations' in the project approval report Development Consent MP07_0094, dated 29 October 2010. A copy of this plan is filed on EPA file LIC08/1232-02.	Impact Criteria cannot be verified.			
NC16	Section 2 Condition L3.1	Air Monitoring Requirements	Missed monitoring on 13 February and 16 November 2022.	No recommendation.	Not applicable as per recommendation.	
Improvement Recommendations						
PA07_0094						
OFI01	Schedule 5 Condition 4	Revision of Strategies, Plans & Programs Within 3 months of: (a) the submission of an annual review under condition 3 above; (b) the submission of an incident report under condition 6 below; (c) the submission of an audit report under condition 8 below; and (d) any modifications to this approval, the Applicant shall review, and if necessary, revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary.	All Management Plans have a 'change details section' to ensure that document edits are tracked.	REC06: It may be beneficial for each plan to include a revision history table at the front of the document to assist with checking update history.	A revision history table will be utilised for future documents from this point on.	To be completed in future management plan reviews.
OFI02	Schedule 5 Condition 5	The Applicant shall establish and operate a Community Consultative Committee (CCC) for the	The Chair is recommending disbanding the CCC and	REC07: Follow up with the	Follow up consultation with the Chair of the	In correspondence dated 8 October

Item Number	Condition Number	Compliance Requirements	Independent Audit Findings	Independent Audit Recommendation	Proponent's Proposed Action/Action Taken/Response	December 2025 Update
		development in general accordance with the Community Consultative Committee Guidelines: State Significant Projects (2016, or its latest version), and to the satisfaction of the Secretary. This committee must be operating prior to the commencement of any construction activities on site. Note: The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this approval. In accordance with the Guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the general community in the area of the development.	minutes that they would write to DPE.	Chair of the CCC whether this has been progressed any further.	CCC will be done by 01/10/2024	2024 the DPHI formally suspended the CCC until such a time as needed arises to reconvene it.

**Appendix B –
Quarterly Noise Monitoring Reports (2025)**



24 March 2025

Ref: 12727/10764

Mr Grant Stevenson

Redisand

9 Old Punt Road

TOMAGO NSW 2322

RE: 26 FEBRUARY 2025 OPERATIONAL NOISE MONITORING RESULTS – REDISAND SALT ASH

This letter report presents the results of attended noise monitoring conducted for the Redisand sand quarry at Salt Ash (RSA) on Wednesday 26th of February 2025. Noise monitoring was carried out in accordance with the conditions of the SASM Project Approval (PA 07-0094) and Environment Protection Licence (EPL) No. 13406.

A Noise Monitoring Program (NMP) for RSA was approved by the Minister for Planning in 2011. The NMP forms part of the Project Approval and provides noise monitoring protocols and noise criteria for construction and operational phases of RSA. At the time of monitoring RSA was in its operational phase. The relevant noise criteria, taken from the PA, are shown in **Table 1**.

Table 1	
Noise Impact Assessment Criteria	
Receiver Location	Noise Criterion Leq (15 min)
JP1	40
JP2	43
JP3	39
JP4	37
NB1	36
All other receivers	35

NOISE MONITORING CONDITIONS

Condition M7.2 of the EPL states “the licensee must undertake noise monitoring on a quarterly basis at noise monitoring locations JP1, JP2, JP3, JP4 and NB5. Monitoring must occur at a period of normal or peak operations and in the case of monitoring at locations JP3 and JP4 must include at least three truck passbys”.

The monitoring locations referred to within the EPL are shown in **Figure 1**.

Additional noise monitoring was also undertaken at the locations marked with circles on Figure 1 (and denoted “1”, “2” and “3”).

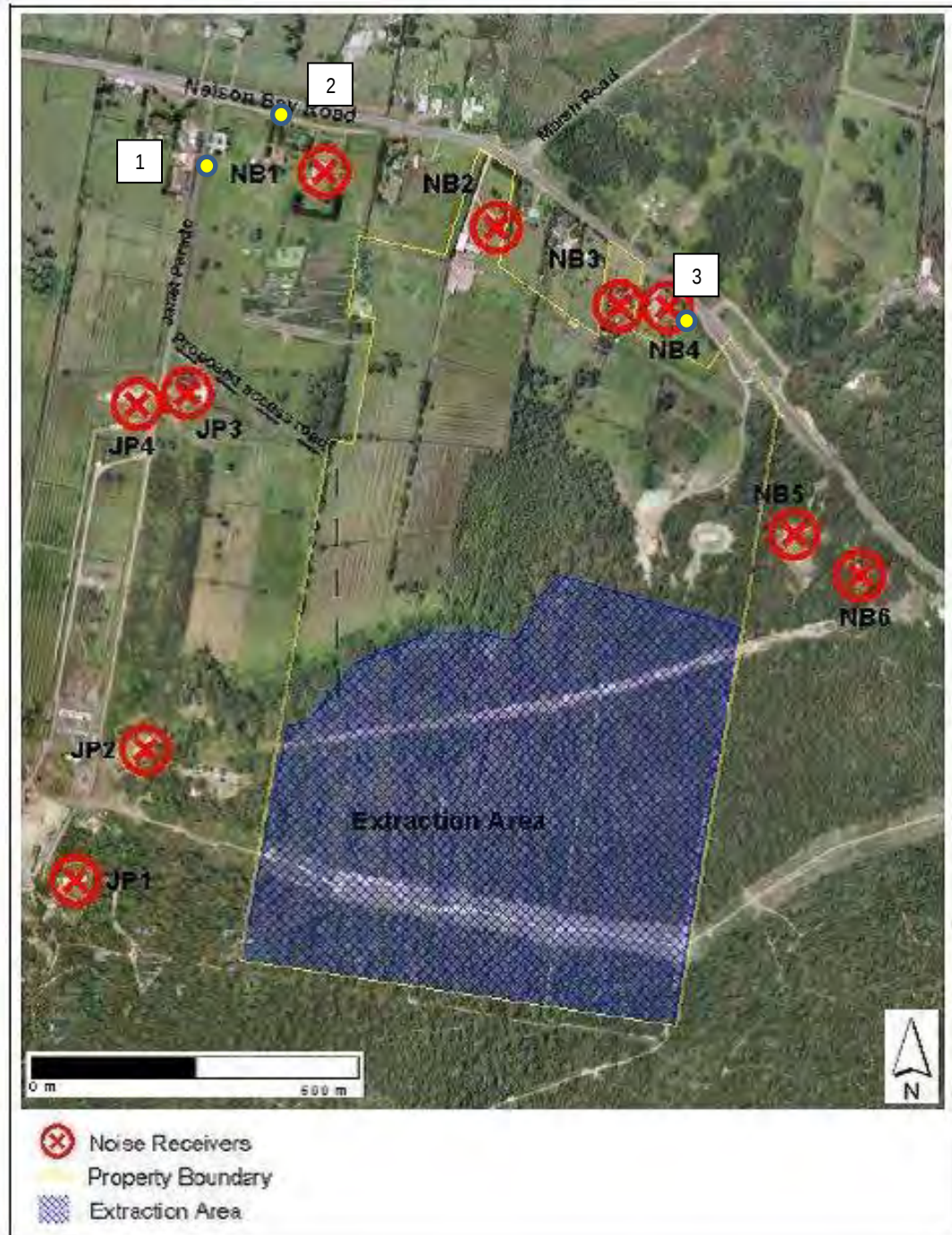


Figure 1 – Noise Monitoring Locations

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the Bureau of Meteorology weather station at Nobbys Head and supplemented by a hand-held weather station with measurements made at approximately 2m above ground level.

The weather throughout the survey was cool with mostly cloudy skies and a moderate north-westerly wind throughout the beginning of the monitoring period. The wind generally remained from the northwest during the latter part of the survey period, with cloudy skies.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified. Noise levels were recorded for each of the L10, Leq(15 min), Lmax, L1, L90 and Lmin percentiles. As detailed in the EPL the noise criterion for RSA is based on an Leq(15 min) noise level.

The results shown in **Table 2** represent the total 15 minute Leq noise level for all noise sources at the compliance monitoring locations. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Noise from RSA is shown in bold type. Where noise from RSA is listed as inaudible, this means the maximum levels from the operational activities were at least 10 dB below the ambient noise level during the measurement and, therefore, not audible or measurable.

Table 2 Redisand Salt Ash - Noise Monitoring Results – 26 February 2025					
Location	Time	dB(A) Leq (15 min)	Criterion dB(A) Leq (15 min)	Wind speed (m/s) / direction	Identified Noise Sources
JP1	9:06am	43	40	1.0 / WSW	Birds & insects (41), traffic (36), aeroplanes (34), RSA (29)
JP2	9:29am	46	43	1.5 / W	Birds & insects (43), aeroplanes (42), traffic (36), RSA inaudible
JP3	7:46am	50	39	2.5 / NW	Traffic (49), birds & insects (42), RSA (30)¹
JP4	8:03am	45	37	2.0 / WNW	Traffic (44), birds & insects (37), RSA (22)¹
NB5	9:50am	51	36	2.5 / W	Birds & insects (49), aeroplanes (46), traffic (40), RSA inaudible

1. Noise from trucks on access road.

The results shown in Table 2 show that, under the operational and atmospheric conditions at the time of monitoring, noise emissions from RSA were below the relevant criteria at all monitoring locations.

With the exception of the noise from trucks on the haul road, the operational noise from RSA was not audible at any of the monitoring locations, except for JP1, where noise from RSA was attributable to a general 'hum' from activities at the site. RSA noise at JP1 was below the relevant noise criterion.

At locations JP3 and JP4 the noise from RSA was attributable to emissions from trucks on the access road. Noise measurement results at JP3 and JP4 are summarised in **Table 3**. The EPL requires that the monitoring at these locations should include at least three truck pass-bys.

The results in Table 3 only include the results of a detailed analysis of individual truck pass-bys on the RSA access road and do not include extraneous noises which were filtered out of the measured signals. The analysis shows the condition of the truck (laden or empty) and the duration of each passing truck and the Leq (i.e., average) levels for that duration period. This is then averaged into a 15-minute assessment period. As more than one truck has been measured in a 15-minute period, their individual 15-minute levels are logarithmically added together to give total 15-minute levels for comparison with the noise criterion.

On the day of monitoring, truck movements to the site were sporadic. To ensure sufficient vehicle movements were made to satisfy the EPL condition an RSA truck was utilised to undertake a series of run throughs (x 3 of the truck movements in total).

Table 3 Redisand Salt Ash - Noise Monitoring Results – Truck Noise – 26 February 2025				
Location	Truck condition	Duration, seconds	L _{Aeq} (duration)	L _{Aeq} (15min)
JP 3 7:46 am	Empty	17	41	24
	Empty	17	38	21
	Laden	18	45	28
	TOTAL L _{Aeq} for 15 minute period			30
JP 4 8:03 am	Empty	19	35	18
	Empty	20	32	15
	Laden	23	35	19
	TOTAL L _{Aeq} for 15 minute period			22

The results shown in Table 3 show that the Leq (15 min) noise levels for truck movements were compliant at both monitoring locations.

The results of the additional noise monitoring, at the locations shown in Figure 1, are shown in **Table 4**.

Table 4 Redisand Salt Ash - Noise Monitoring Results – 26 February 2025					
Location	Time	dB(A) L _{eq} (15 min)	Criterion dB(A) L _{eq} (15 min)	Wind speed/ direction	Identified Noise Sources
1/NB1	8:43am	60	35	0.2 / N	Traffic (60), birds & insects (32), RSA inaudible
2/NB1	8:24am	67	35	1.5 / WNW	Traffic (67), birds & insects (39), RSA inaudible
3/NB4	10:11am	70	35	1.5 / NW	Traffic (70), RSA inaudible

Location 1 was chosen to be approximately the same distance from the extraction area as the rear of residence NB1, whilst also being a similar distance from the traffic on Nelson Bay Road. This measurement was dominated by traffic noise. RSA was not audible.

Location 2 was at the front (road side) of residence NB1. This measurement was dominated by traffic noise. RSA was not audible.

Location 3 was at the front (road side) of residence NB4. This measurement was dominated by traffic noise. RSA was not audible.

Data from those times where RSA operations were consistently audible were analysed using the “*Evaluator*” software. This analysis showed the noise did not contain any tonal or impulsive components as per definitions in the Noise Policy for Industry (NPfI).

As the general quarry noise from RSA was at least 10dB below the applicable criterion there is no requirement to analyse the data for the low frequency noise modifying factor correction in the NPfI.

At the time of the measurements the acoustic environment of most of the monitoring sites was dominated by noise from traffic on Nelson Bay Road. At various locations, the measurements were also influenced by noise from military aircraft. These noise sources are relatively broad band and also contribute significantly to the low frequency component of the overall noise spectrum.

Noise from RSA was associated with the trucks on the haul road and operational noise. Truck noise was present for a relatively brief duration throughout the 15 minute monitoring period at Locations JP3 and JP4. This noise was not consistent enough to make any significant contribution to the overall low frequency noise levels in the area.

The results presented have shown that noise emissions from RSA were compliant with the relevant criterion at all locations and times throughout the noise monitoring survey.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on (02) 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED



Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director



5 June 2025

Ref: 12727/10844

Mr Grant Stevenson

Redisand

9 Old Punt Road

TOMAGO NSW 2322

RE: 14 MAY 2025 OPERATIONAL NOISE MONITORING RESULTS – REDISAND SALT ASH

This letter report presents the results of attended noise monitoring conducted for the Redisand sand quarry at Salt Ash (RSA) on Wednesday 14th of May 2025. Noise monitoring was carried out in accordance with the conditions of the SASM Project Approval (PA 07-0094) and Environment Protection Licence (EPL) No. 13406.

A Noise Monitoring Program (NMP) for RSA was approved by the Minister for Planning in 2011. The NMP forms part of the Project Approval and provides noise monitoring protocols and noise criteria for construction and operational phases of RSA. At the time of monitoring RSA was in its operational phase. The relevant noise criteria, taken from the PA, are shown in **Table 1**.

Table 1	
Noise Impact Assessment Criteria	
Receiver Location	Noise Criterion Leq (15 min)
JP1	40
JP2	43
JP3	39
JP4	37
NB1	36
All other receivers	35

NOISE MONITORING CONDITIONS

Condition M7.2 of the EPL states “the licensee must undertake noise monitoring on a quarterly basis at noise monitoring locations JP1, JP2, JP3, JP4 and NB5. Monitoring must occur at a period of normal or peak operations and in the case of monitoring at locations JP3 and JP4 must include at least three truck passbys”.

The monitoring locations referred to within the EPL are shown in **Figure 1**.

Additional noise monitoring was also undertaken at the locations marked with circles on Figure 1 (and denoted “1”, “2” and “3”).

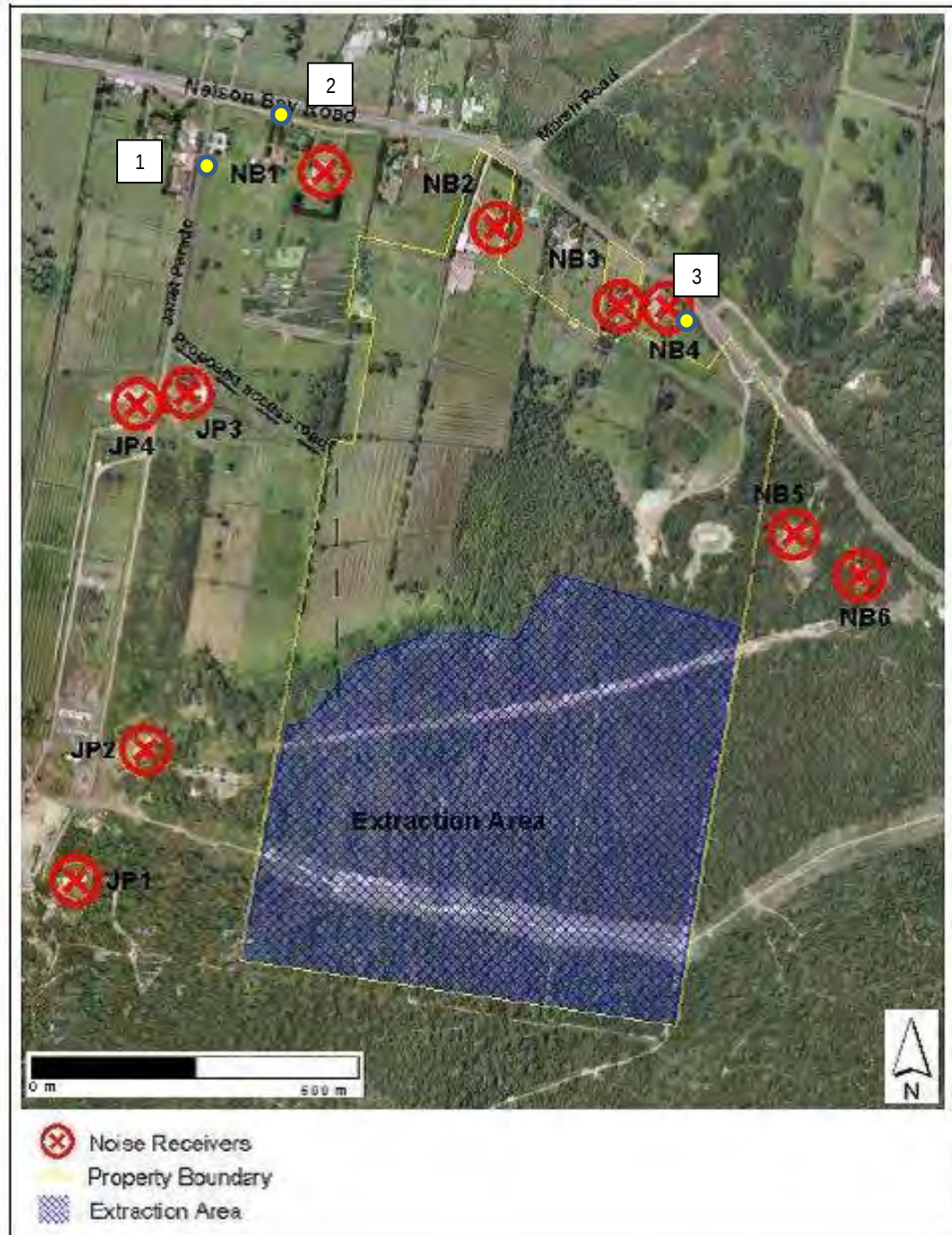


Figure 1 – Noise Monitoring Locations

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the Bureau of Meteorology weather station at Nobbys Head and supplemented by a hand-held weather station with measurements made at approximately 2m above ground level.

The weather throughout the survey was cool with mostly cloudy skies and a light north-westerly wind throughout the beginning of the monitoring period. The wind generally remained from the northwest during the latter part of the survey period, with cloudy skies.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified. Noise levels were recorded for each of the L10, Leq(15 min), Lmax, L1, L90 and Lmin percentiles. As detailed in the EPL the noise criterion for RSA is based on an Leq(15 min) noise level.

The results shown in **Table 2** represent the total 15 minute Leq noise level for all noise sources at the compliance monitoring locations. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Noise from RSA is shown in bold type. Where noise from RSA is listed as inaudible, this means the maximum levels from the operational activities were at least 10 dB below the ambient noise level during the measurement and, therefore, not audible or measurable.

Table 2 Redisand Salt Ash - Noise Monitoring Results – 14 May 2025					
Location	Time	dB(A) Leq (15 min)	Criterion dB(A) Leq (15 min)	Wind speed (m/s) / direction	Identified Noise Sources
JP1	7:57am	48	40	1.0 / NW	Birds & insects (46), traffic (44), RSA (28)
JP2	8:17am	55	43	2.0 / NW	Birds & insects (55), traffic (41), aeroplanes (38), RSA inaudible
JP3	7:10am	48	39	0.5 / NW	Traffic (46), birds & insects (44), RSA (31)¹
JP4	7:31am	50	37	0.5 / NW	Birds & insects (49), traffic (43), RSA (31)¹
NB5	9:21am	45	36	1.5 / WNW	Birds & insects (43), traffic (38), aeroplanes (36), RSA inaudible

1. Noise from trucks on access road.

The results shown in Table 2 show that, under the operational and atmospheric conditions at the time of monitoring, noise emissions from RSA were below the relevant criteria at all monitoring locations.

With the exception of the noise from trucks on the haul road, the operational noise from RSA was not audible at any of the monitoring locations, except for JP1, where noise from RSA was attributable to a general 'hum' from activities at the site. RSA noise at JP1 was below the relevant noise criterion.

At locations JP3 and JP4 the noise from RSA was attributable to emissions from trucks on the access road. Noise measurement results at JP3 and JP4 are summarised in **Table 3**. The EPL requires that the monitoring at these locations should include at least three truck pass-bys.

The results in Table 3 only include the results of a detailed analysis of individual truck pass-bys on the RSA access road and do not include extraneous noises which were filtered out of the measured signals. The analysis shows the condition of the truck (laden or empty) and the duration of each passing truck and the Leq (i.e., average) levels for that duration period. This is then averaged into a 15-minute assessment period. As more than one truck has been measured in a 15-minute period, their individual 15-minute levels are logarithmically added together to give total 15-minute levels for comparison with the noise criterion.

On the day of monitoring, truck movements to the site were sporadic. To ensure sufficient vehicle movements were made to satisfy the EPL condition an RSA truck was utilised to undertake a series of run throughs (x 3 of the truck movements in total).

Table 3 Redisand Salt Ash - Noise Monitoring Results – Truck Noise – 14 May 2025				
Location	Truck condition	Duration, seconds	L _{Aeq} (duration)	L _{Aeq} (15min)
JP 3 7:10 am	Laden	27	40	25
	Empty	20	39	22
	Empty	25	45	29
	TOTAL L _{Aeq} for 15 minute period			31
JP 4 7:31 am	Empty	21	41	25
	Empty	42	39	26
	Empty	34	42	28
	TOTAL L _{Aeq} for 15 minute period			31

The results shown in Table 3 show that the Leq (15 min) noise levels for truck movements were compliant at both monitoring locations.

The results of the additional noise monitoring, at the locations shown in Figure 1, are shown in **Table 4**.

Table 4 Redisand Salt Ash - Noise Monitoring Results – 14 May 2025					
Location	Time	dB(A) L _{eq} (15 min)	Criterion dB(A) L _{eq} (15 min)	Wind speed/ direction	Identified Noise Sources
1/NB1	8:58am	60	35	1.5 / WNW	Traffic (60), birds & insects (44), RSA inaudible
2/NB1	8:39am	66	35	1.5 / NW	Traffic (66), birds & insects (42), RSA inaudible
3/NB4	9:40am	69	35	1.5 / NW	Traffic (69), RSA inaudible

Location 1 was chosen to be approximately the same distance from the extraction area as the rear of residence NB1, whilst also being a similar distance from the traffic on Nelson Bay Road. This measurement was dominated by traffic noise. RSA was not audible.

Location 2 was at the front (road side) of residence NB1. This measurement was dominated by traffic noise. RSA was not audible.

Location 3 was at the front (road side) of residence NB4. This measurement was dominated by traffic noise. RSA was not audible.

Data from those times where RSA operations were consistently audible were analysed using the “Evaluator” software. This analysis showed the noise did not contain any tonal or impulsive components as per definitions in the Noise Policy for Industry (NPfI).

As the general quarry noise from RSA was at least 10dB below the applicable criterion there is no requirement to analyse the data for the low frequency noise modifying factor correction in the NPfI.

At the time of the measurements the acoustic environment of most of the monitoring sites was dominated by noise from traffic on Nelson Bay Road. At various locations, the measurements were also influenced by noise from military aircraft. These noise sources are relatively broad band and also contribute significantly to the low frequency component of the overall noise spectrum.

Noise from RSA was associated with the trucks on the haul road and operational noise. Truck noise was present for a relatively brief duration throughout the 15 minute monitoring period at Locations JP3 and JP4. This noise was not consistent enough to make any significant contribution to the overall low frequency noise levels in the area.

The results presented have shown that noise emissions from RSA were compliant with the relevant criterion at all locations and times throughout the noise monitoring survey.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on (02) 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED



Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director



16 September 2025

Ref: 12727/10965

Mr Grant Stevenson

Redisand

9 Old Punt Road

TOMAGO NSW 2322

RE: 18 AUGUST 2025 OPERATIONAL NOISE MONITORING RESULTS – REDISAND SALT ASH

This letter report presents the results of attended noise monitoring conducted for the Redisand sand quarry at Salt Ash (RSA) on Monday 18th of August 2025. Noise monitoring was carried out in accordance with the conditions of the SASM Project Approval (PA 07-0094) and Environment Protection Licence (EPL) No. 13406.

A Noise Monitoring Program (NMP) for RSA was approved by the Minister for Planning in 2011. The NMP forms part of the Project Approval and provides noise monitoring protocols and noise criteria for construction and operational phases of RSA. At the time of monitoring RSA was in its operational phase. The relevant noise criteria, taken from the PA, are shown in **Table 1**.

Table 1	
Noise Impact Assessment Criteria	
Receiver Location	Noise Criterion Leq (15 min)
JP1	40
JP2	43
JP3	39
JP4	37
NB1	36
All other receivers	35

NOISE MONITORING CONDITIONS

Condition M7.2 of the EPL states “the licensee must undertake noise monitoring on a quarterly basis at noise monitoring locations JP1, JP2, JP3, JP4 and NB5. Monitoring must occur at a period of normal or peak operations and in the case of monitoring at locations JP3 and JP4 must include at least three truck passbys”.

The monitoring locations referred to within the EPL are shown in **Figure 1**.

Additional noise monitoring was also undertaken at the locations marked with circles on Figure 1 (and denoted “1”, “2” and “3”).

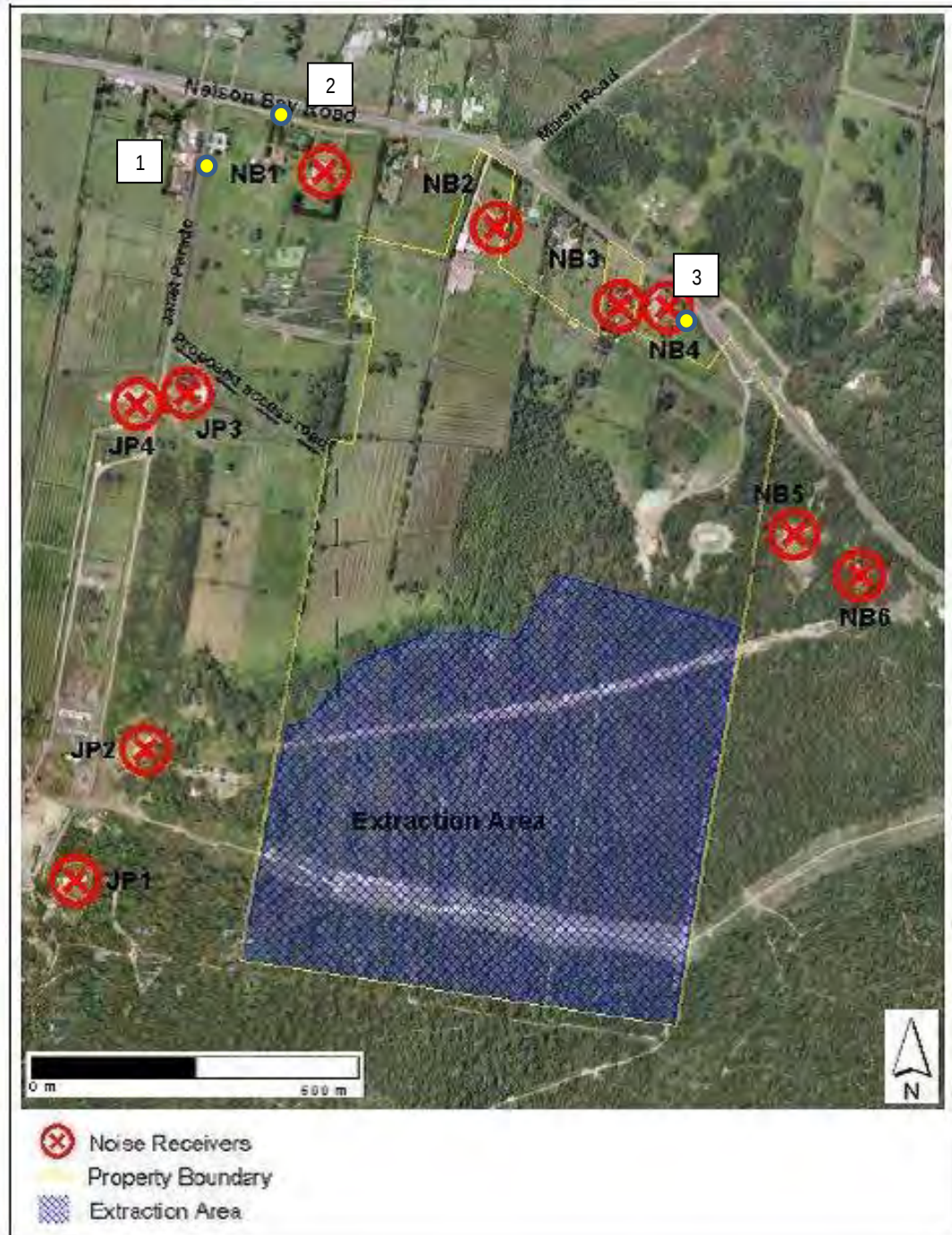


Figure 1 – Noise Monitoring Locations

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the Bureau of Meteorology weather station at Nobbys Head and supplemented by a hand-held weather station with measurements made at approximately 2m above ground level.

The weather throughout the survey was cool with mostly cloudy skies and a mild north-westerly wind throughout the beginning of the monitoring period. The wind generally came from the west during the latter part of the survey period, with clear skies.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified. Noise levels were recorded for each of the L10, Leq(15 min), Lmax, L1, L90 and Lmin percentiles. As detailed in the EPL the noise criterion for RSA is based on an Leq(15 min) noise level.

The results shown in **Table 2** represent the total 15 minute Leq noise level for all noise sources at the compliance monitoring locations. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Noise from RSA is shown in bold type. Where noise from RSA is listed as inaudible, this means the maximum levels from the operational activities were at least 10 dB below the ambient noise level during the measurement and, therefore, not audible or measurable.

Table 2 Redisand Salt Ash - Noise Monitoring Results – 18 August 2025					
Location	Time	dB(A) Leq (15 min)	Criterion dB(A) Leq (15 min)	Wind speed (m/s) / direction	Identified Noise Sources
JP1	9:07am	42	40	2.0 / W	Traffic (40), birds & insects (35), frogs (30), aeroplanes (27), RSA inaudible
JP2	9:27am	50	43	2.5 / W	Birds & insects (49), aeroplanes (41), traffic (38), RSA inaudible
JP3	7:09am	55	39	3.0 / NW	Traffic (54), birds & insects (45), RSA (38)¹
JP4	7:28am	62	37	2.5 / NW	Traffic (62), birds & insects (45), RSA (36)¹
NB5	8:32am	47	36	3.5 / WNW	Birds & insects (45), traffic (42), aeroplanes (34), RSA inaudible

1. Noise from trucks on access road.

The results shown in Table 2 show that, under the operational and atmospheric conditions at the time of monitoring, noise emissions from RSA were below the relevant criteria at all monitoring locations.

With the exception of the noise from trucks on the haul road, the operational noise from RSA was not audible at any of the monitoring locations.

At locations JP3 and JP4 the noise from RSA was attributable to emissions from trucks on the access road. Noise measurement results at JP3 and JP4 are summarised in **Table 3**. The EPL requires that the monitoring at these locations should include at least three truck pass-bys.

The results in Table 3 only include the results of a detailed analysis of individual truck pass-bys on the RSA access road and do not include extraneous noises which were filtered out of the measured signals. The analysis shows the condition of the truck (laden or empty) and the duration of each passing truck and the Leq (i.e., average) levels for that duration period. This is then averaged into a 15-minute assessment period. As more than one truck has been measured in a 15-minute period, their individual 15-minute levels are logarithmically added together to give total 15-minute levels for comparison with the noise criterion.

On the day of monitoring, truck movements to the site were sporadic. To ensure sufficient vehicle movements were made to satisfy the EPL condition an RSA truck was utilised to undertake a series of run throughs (x 3 of the truck movements in total).

Table 3 Redisand Salt Ash - Noise Monitoring Results – Truck Noise – 18 August 2025				
Location	Truck condition	Duration, seconds	L _{Aeq} (duration)	L _{Aeq} (15min)
JP 3 7:09 am	Empty	26	50	35
	Empty	21	49	33
	Laden	15	49	31
	TOTAL L _{Aeq} for 15 minute period			38
JP 4 7:31 am	Empty	23	49	33
	Empty	19	45	28
	Laden	24	47	31
	TOTAL L _{Aeq} for 15 minute period			36

The results shown in Table 3 show that the Leq (15 min) noise levels for truck movements were compliant at both monitoring locations.

The results of the additional noise monitoring, at the locations shown in Figure 1, are shown in **Table 4**.

Table 4 Redisand Salt Ash - Noise Monitoring Results – 18 August 2025					
Location	Time	dB(A) L _{eq} (15 min)	Criterion dB(A) L _{eq} (15 min)	Wind speed/ direction	Identified Noise Sources
1/NB1	8:07am	63	35	3.5 / WNW	Traffic (63), RSA inaudible
2/NB1	7:50am	68	35	3.5 / NW	Traffic (68), RSA inaudible
3/NB4	10:00am	66	35	3.5 / SW	Traffic (66), RSA inaudible

Location 1 was chosen to be approximately the same distance from the extraction area as the rear of residence NB1, whilst also being a similar distance from the traffic on Nelson Bay Road. This measurement was dominated by traffic noise. RSA was not audible.

Location 2 was at the front (road side) of residence NB1. This measurement was dominated by traffic noise. RSA was not audible.

Location 3 was at the front (road side) of residence NB4. This measurement was dominated by traffic noise. RSA was not audible.

Data from those times where RSA operations were consistently audible were analysed using the “*Evaluator*” software. This analysis showed the noise did not contain any tonal or impulsive components as per definitions in the Noise Policy for Industry (NPfI).

As the general quarry noise from RSA was at least 10dB below the applicable criterion there is no requirement to analyse the data for the low frequency noise modifying factor correction in the NPfI.

At the time of the measurements the acoustic environment of most of the monitoring sites was dominated by noise from traffic on Nelson Bay Road. At various locations, the measurements were also influenced by noise from military aircraft. These noise sources are relatively broad band and also contribute significantly to the low frequency component of the overall noise spectrum.

Noise from RSA was associated with the trucks on the haul road and operational noise. Truck noise was present for a relatively brief duration throughout the 15 minute monitoring period at Locations JP3 and JP4. This noise was not consistent enough to make any significant contribution to the overall low frequency noise levels in the area.

The results presented have shown that noise emissions from RSA were compliant with the relevant criterion at all locations and times throughout the noise monitoring survey.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on (02) 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED



Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal / Director



23 December 2025

Ref: 12727/11086

Mr Grant Stevenson

Redisand

9 Old Punt Road

TOMAGO NSW 2322

RE: 25 NOVEMBER 2025 OPERATIONAL NOISE MONITORING RESULTS – REDISAND SALT ASH

This letter report presents the results of attended noise monitoring conducted for the Redisand sand quarry at Salt Ash (RSA) on Tuesday 25th of November 2025. Noise monitoring was carried out in accordance with the conditions of the SASM Project Approval (PA 07-0094) and Environment Protection Licence (EPL) No. 13406.

A Noise Monitoring Program (NMP) for RSA was approved by the Minister for Planning in 2011. The NMP forms part of the Project Approval and provides noise monitoring protocols and noise criteria for construction and operational phases of RSA. At the time of monitoring RSA was in its operational phase. The relevant noise criteria, taken from the PA, are shown in **Table 1**.

Table 1	
Noise Impact Assessment Criteria	
Receiver Location	Noise Criterion Leq (15 min)
JP1	40
JP2	43
JP3	39
JP4	37
NB1	36
All other receivers	35

NOISE MONITORING CONDITIONS

Condition M7.2 of the EPL states “the licensee must undertake noise monitoring on a quarterly basis at noise monitoring locations JP1, JP2, JP3, JP4 and NB5. Monitoring must occur at a period of normal or peak operations and in the case of monitoring at locations JP3 and JP4 must include at least three truck passbys”.

The monitoring locations referred to within the EPL are shown in **Figure 1**.

Additional noise monitoring was also undertaken at the locations marked with circles on Figure 1 (and denoted “1”, “2” and “3”).

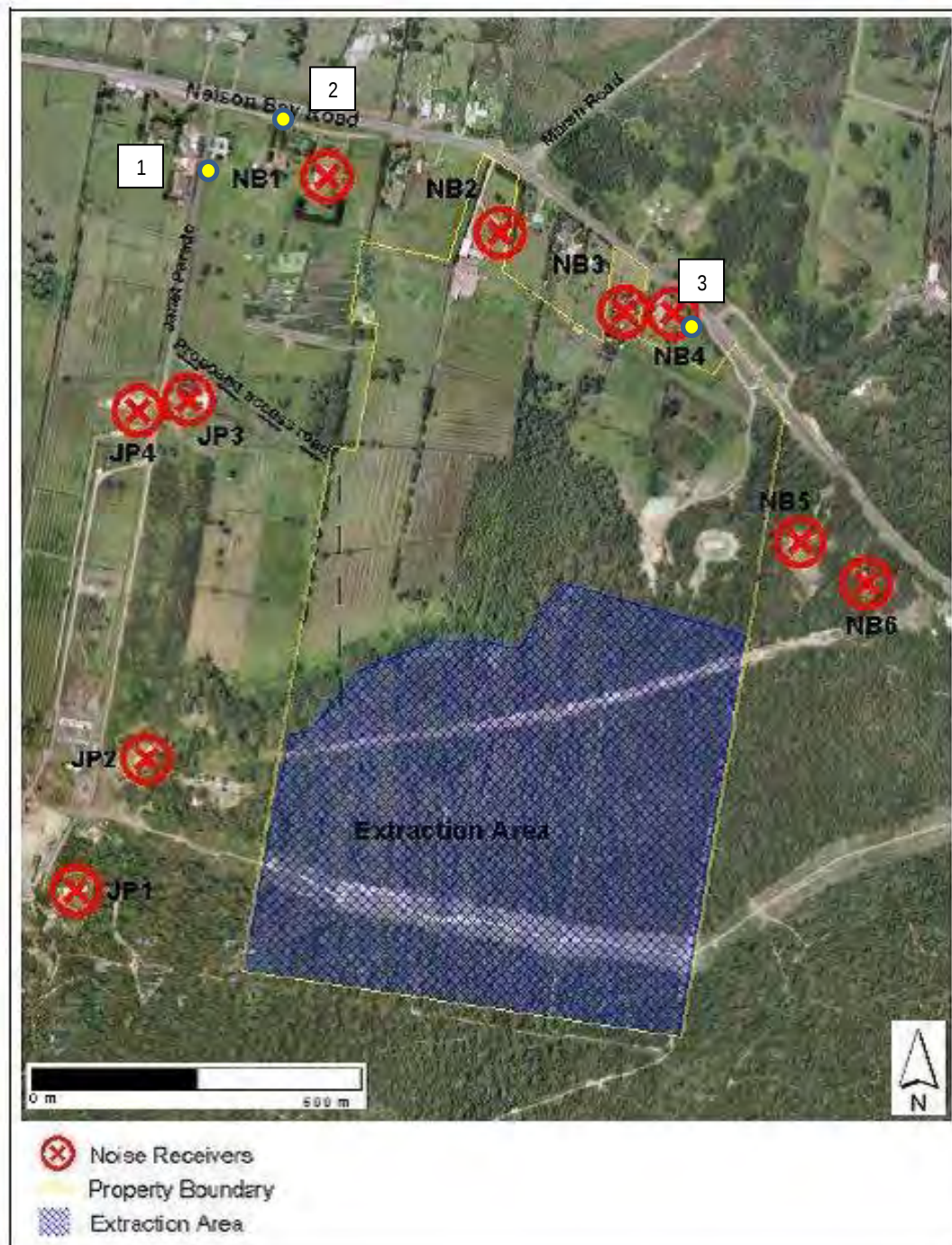


Figure 1 – Noise Monitoring Locations

NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2250 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from the Bureau of Meteorology weather station at Nobbys Head and supplemented by a hand-held weather station with measurements made at approximately 2m above ground level.

The weather throughout the survey was cool with mostly clear skies and a mild north-easterly wind throughout the beginning of the monitoring period. The wind generally came from the north-west during the latter part of the survey period, with clear skies.

RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the quarry and other significant noise sources to the overall to be quantified. Noise levels were recorded for each of the L10, Leq(15 min), Lmax, L1, L90 and Lmin percentiles. As detailed in the EPL the noise criterion for RSA is based on an Leq(15 min) noise level.

The results shown in **Table 2** represent the total 15 minute Leq noise level for all noise sources at the compliance monitoring locations. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Noise from RSA is shown in bold type. Where noise from RSA is listed as inaudible, this means the maximum levels from the operational activities were at least 10 dB below the ambient noise level during the measurement and, therefore, not audible or measurable.

Table 2 Redisand Salt Ash - Noise Monitoring Results – 25 November 2025					
Location	Time	dB(A) Leq (15 min)	Criterion dB(A) Leq (15 min)	Wind speed (m/s) / direction	Identified Noise Sources
JP1	8:51am	59	40	2.5 / N	Aeroplanes (59), dogs (44), traffic (40), birds & insects (40), RSA (28)
JP2	9:12am	45	43	1.5 / N	Aeroplanes (42), birds & insects (41), traffic (37), RSA inaudible
JP3	7:30am	50	39	1.5 / NE	Traffic (50), birds & insects (38), RSA (32)¹
JP4	7:46am	49	37	2.1 / NE	Traffic (49), birds & insects (36), RSA (27)¹
NB5	9:33am	54	36	1.5 / NW	Birds & insects (54), traffic (39), aeroplanes (33), RSA inaudible

1. Noise from trucks on access road.

The results shown in Table 2 show that, under the operational and atmospheric conditions at the time of monitoring, noise emissions from RSA were below the relevant criteria at all monitoring locations.

With the exception of the noise from trucks on the haul road, the operational noise from RSA was not audible at any of the monitoring locations except for at JP1 where RSA noise emissions were attributed to general operational 'hum' and machine revs.

At locations JP3 and JP4 the noise from RSA was attributed to emissions from trucks on the access road. Noise measurement results at JP3 and JP4 are summarised in **Table 3**. The EPL requires that the monitoring at these locations should include at least three truck pass-bys.

The results in Table 3 only include the results of a detailed analysis of individual truck pass-bys on the RSA access road and do not include extraneous noises which were filtered out of the measured signals. The analysis shows the condition of the truck (laden or empty) and the duration of each passing truck and the Leq (i.e., average) levels for that duration period. This is then averaged into a 15-minute assessment period. As more than one truck has been measured in a 15-minute period, their individual 15-minute levels are logarithmically added together to give total 15-minute levels for comparison with the noise criterion.

On the day of monitoring, truck movements to the site were sporadic. To ensure sufficient vehicle movements were made to satisfy the EPL condition an RSA truck was utilised to undertake a series of run throughs (x 3 of the truck movements in total).

Table 3 Redisand Salt Ash - Noise Monitoring Results – Truck Noise – 25 November 2025				
Location	Truck condition	Duration, seconds	L _{Aeq} (duration)	L _{Aeq} (15min)
JP 3 7:30 am	Empty	25	42	26
	Empty	24	43	27
	Empty	26	42	27
	TOTAL L _{Aeq} for 15 minute period			32
JP 4 7:46 am	Empty	21	39	23
	Empty	35	35	21
	Empty	23	38	22
	TOTAL L _{Aeq} for 15 minute period			27

The results shown in Table 3 show that the Leq (15 min) noise levels for truck movements were compliant at both monitoring locations.

The results of the additional noise monitoring, at the locations shown in Figure 1, are shown in **Table 4**.

Table 4 Redisand Salt Ash - Noise Monitoring Results – 25 November 2025					
Location	Time	dB(A) L _{eq} (15 min)	Criterion dB(A) L _{eq} (15 min)	Wind speed/ direction	Identified Noise Sources
1/NB1	8:27am	63	35	1.5 / N	Traffic (63), birds & insects (45), RSA inaudible
2/NB1	8:08am	68	35	2.0 / NE	Traffic (68), birds & insects (46), RSA inaudible
3/NB4	9:49am	72	35	2.1 / NW	Traffic (72), birds & insects (34), RSA inaudible

Location 1 was chosen to be approximately the same distance from the extraction area as the rear of residence NB1, whilst also being a similar distance from the traffic on Nelson Bay Road. This measurement was dominated by traffic noise. RSA was not audible.

Location 2 was at the front (road side) of residence NB1. This measurement was dominated by traffic noise. RSA was not audible.

Location 3 was at the front (road side) of residence NB4. This measurement was dominated by traffic noise. RSA was not audible.

Data from those times where RSA operations were consistently audible were analysed using the “*Evaluator*” software. This analysis showed the noise did not contain any tonal or impulsive components as per definitions in the Noise Policy for Industry (NPfI).

As the general quarry noise from RSA was at least 10dB below the applicable criterion there is no requirement to analyse the data for the low frequency noise modifying factor correction in the NPfI.

At the time of the measurements the acoustic environment of most of the monitoring sites was dominated by noise from traffic on Nelson Bay Road. At various locations, the measurements were also influenced by noise from military aircraft. These noise sources are relatively broad band and also contribute significantly to the low frequency component of the overall noise spectrum.

Noise from RSA was associated with the trucks on the haul road and operational noise. Truck noise was present for a relatively brief duration throughout the 15 minute monitoring period at Locations JP3 and JP4. This noise was not consistent enough to make any significant contribution to the overall low frequency noise levels in the area.

The results presented have shown that noise emissions from RSA were compliant with the relevant criterion at all locations and times throughout the noise monitoring survey.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on (02) 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:



Matthew Pennington

B.Env.Sc.Mgt

Project Consultant

Review:



Neil Pennington MAIP, MAAS, MASA

B. Sc., B.Math. (Hons)

Principal/Director

**Appendix C –
Air Quality Monitoring Results (2025)**

Report Number: 17300

Date Issued: 17/01/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 9/01/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	12/12/2024 10:10	9/1/2025 09:37	17300/1	Dust	
D2 Wisely	12/12/2024 8:36	9/1/2025 10:07	17300/2	Dust	
D3 2930 Nelson Bay Rd	12/12/2024 7:56	9/1/2025 09:28	17300/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 17/01/2025.

Test Report Number: 17300

Date Issued: 17/01/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	17300/1 9/01/2025 D1 Gate	17300/2 9/01/2025 D2 Wisely	17300/3 9/01/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	15/01/2025	15/01/2025	15/01/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	1.5	1.6	0.8
Ash	AS 3580.10.1	g/m2/mth	1.1	0.8	0.4
Combustible Matter	AS 3580.10.1	g/m2/mth	0.4	0.8	0.4
Calculated Rain	AS 3580.10.1	mm	88	97	101

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Where applicable, results in **bold** indicate an exceedance of the relevant guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17300

Date Issued: 17/01/2025

Revision No: 00

Sampling Conditions: Raining, 20 - 21 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17300/1	D1 Gate	13406-1	D.Walker	9/1/2025 09:37	AS3580.10.1	CuSO4
17300/2	D2 Wisely	13406-2	D.Walker	9/1/2025 10:07	AS3580.10.1	CuSO4
17300/3	D3 2930 Nelson Bay Rd	13406-3	D.Walker	9/1/2025 09:28	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17300/1	D1 Gate	0399631	6371312	Minor sand
17300/2	D2 Wisely	0399795	6370861	Minor insects
17300/3	D3 2930 Nelson Bay Rd	0400324	6371296	

Sampling procedures have been approved and report finalised on 17/01/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17494

Date Issued: 11/02/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 6/02/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	9/01/2025 9:37	6/2/2025 09:31	17494/1	Dust	
D2 Wisely	9/01/2025 10:07	6/2/2025 11:39	17494/2	Dust	
D3 2930 Nelson Bay Rd	9/01/2025 9:28	6/2/2025 09:28	17494/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Liane Peyra
Technical Officer

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 11/02/2025.

Test Report Number: 17494

Date Issued: 11/02/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	17494/1 6/02/2025 D1 Gate	17494/2 6/02/2025 D2 Wisely	17494/3 6/02/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	7/02/2025	7/02/2025	7/02/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	4.0	3.2	1.4
Ash	AS 3580.10.1	g/m2/mth	2.7	1.3	0.6
Combustible Matter	AS 3580.10.1	g/m2/mth	1.3	1.9	0.8
Calculated Rain	AS 3580.10.1	mm	114	115	114

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17494

Date Issued: 11/02/2025

Revision No: 00

Sampling Conditions: Cloudy, 25 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17494/1	D1 Gate	13406-1	D.Walker	6/2/2025 09:31	AS3580.10.1	CuSO4
17494/2	D2 Wisely	13406-2	D.Walker	6/2/2025 11:39	AS3580.10.1	CuSO4
17494/3	D3 2930 Nelson Bay Rd	13406-3	D.Walker	6/2/2025 09:28	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17494/1	D1 Gate	0399631	6371312	Full
17494/2	D2 Wisely	0399795	6370861	Full
17494/3	D3 2930 Nelson Bay Rd	0400324	6371296	Full

Sampling procedures have been approved and report finalised on 11/02/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17556

Date Issued: 14/02/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 7/02/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	10/01/2025	17556/1	HVAS	06/01/2025 09:00	13/01/2025 07:00	69	343,608
PM 10	10/01/2025	17556/2	HVAS	06/01/2025 09:00	13/01/2025 07:00	69	343,609
PM 2.5	10/01/2025	17556/3	HVAS	06/01/2025 09:00	13/01/2025 07:00	69	343,610
TSP	16/01/2025	17556/4	HVAS	13/01/2025 07:00	21/01/2025 07:00	69	343,614
PM 10	16/01/2025	17556/5	HVAS	13/01/2025 07:00	21/01/2025 07:00	69	343,615
PM 2.5	16/01/2025	17556/6	HVAS	13/01/2025 07:00	21/01/2025 07:00	69	343,616
TSP	22/01/2025	17556/7	HVAS	21/01/2025 07:00	24/01/2025 07:00	69	343,689
PM 10	22/01/2025	17556/8	HVAS	21/01/2025 07:00	24/01/2025 07:00	69	343,690
PM 2.5	22/01/2025	17556/9	HVAS	21/01/2025 07:00	24/01/2025 07:00	69	343,691
TSP	28/01/2025	17556/10	HVAS	24/01/2025 07:00	28/01/2025 07:00	69	343,692
PM 10	28/01/2025	17556/11	HVAS	24/01/2025 07:00	28/01/2025 07:00	69	343,693
PM 2.5	28/01/2025	17556/12	HVAS	24/01/2025 07:00	28/01/2025 07:00	69	343,694
TSP	03/02/2025	17556/13	HVAS	29/01/2025 07:00	04/02/2025 07:00	69	343,695
PM 10	03/02/2025	17556/14	HVAS	29/01/2025 07:00	04/02/2025 07:00	69	343,696
PM 2.5	03/02/2025	17556/15	HVAS	29/01/2025 07:00	04/02/2025 07:00	69	343,697

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 14/02/2025.

Test Report Number: 17556

Date Issued: 14/02/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	17556/1	17556/4	17556/7	17556/10	17556/13
Date of Operation			10/01/2025	16/01/2025	22/01/2025	28/01/2025	03/02/2025
Date Tested	VGT-WI/44	--	10/01/2025	16/01/2025	22/01/2025	28/01/2025	03/02/2025
Particulates per filter	VGT-WI/44	µg/filter	42,600	[NT]	126,400	120,000	61,200
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	28	[NT]	84	80	41

HVAS - PM10	Method	Units	17556/2	17556/5	17556/8	17556/11	17556/14
Date of Operation			10/01/2025	16/01/2025	22/01/2025	28/01/2025	03/02/2025
Date Tested	VGT-WI/44	--	10/01/2025	16/01/2025	22/01/2025	28/01/2025	03/02/2025
Particulates per filter	VGT-WI/44	µg/filter	18,600	[NT]	64,500	56,700	21,100
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	12	[NT]	43	38	14

HVAS - PM2.5	Method	Units	17556/3	17556/6	17556/9	17556/12	17556/15
Date of Operation			10/01/2025	16/01/2025	22/01/2025	28/01/2025	03/02/2025
Date Tested	VGT-WI/44	--	10/01/2025	16/01/2025	22/01/2025	28/01/2025	03/02/2025
Particulates per filter	VGT-WI/44	µg/filter	8,300	[NT]	34,800	38,900	11,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	6	[NT]	23	26	8

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 17556

Date Issued: 14/02/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
17556/1	TSP	P.Perry	Unknown	Truck movements.
17556/2	PM 10	P.Perry	Unknown	Truck movements.
17556/3	PM 2.5	P.Perry	Unknown	Truck movements.
17556/4	TSP	P.Perry	Unknown	Power outage. No sample
17556/5	PM 10	P.Perry	Unknown	Power outage. No sample
17556/6	PM 2.5	P.Perry	Unknown	Power outage. No sample
17556/7	TSP	P.Perry	Unknown	Truck movements. Loading trucks.
17556/8	PM 10	P.Perry	Unknown	Truck movements. Loading trucks.
17556/9	PM 2.5	P.Perry	Unknown	Truck movements. Loading trucks.
17556/10	TSP	P.Perry	Unknown	Truck movements. Loading trucks.
17556/11	PM 10	P.Perry	Unknown	Truck movements. Loading trucks.
17556/12	PM 2.5	P.Perry	Unknown	Truck movements. Loading trucks.
17556/13	TSP	Leo	Unknown	Truck movements. Loading trucks.
17556/14	PM 10	Leo	Unknown	Truck movements. Loading trucks.
17556/15	PM 2.5	Leo	Unknown	Truck movements. Loading trucks.

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
17556/1	TSP	1.13	1,439	21.0	101.3	1,509	Fine
17556/2	PM 10	1.13	1,439	21.0	101.3	1,509	Fine
17556/3	PM 2.5	1.13	1,439	21.0	101.3	1,509	Fine
17556/4	TSP	1.13	0	21.0	101.3	0	Fine
17556/5	PM 10	1.13	0	21.0	101.3	0	Fine
17556/6	PM 2.5	1.13	0	21.0	101.3	0	Fine
17556/7	TSP	1.13	1,439	21.0	101.3	1,509	Fine
17556/8	PM 10	1.13	1,439	21.0	101.3	1,509	Fine
17556/9	PM 2.5	1.13	1,439	21.0	101.3	1,509	Fine
17556/10	TSP	1.13	1,439	23.5	101.3	1,496	Overcast
17556/11	PM 10	1.13	1,439	23.5	101.3	1,496	Overcast
17556/12	PM 2.5	1.13	1,439	23.5	101.3	1,496	Overcast
17556/13	TSP	1.13	1,439	22.5	101.3	1,501	Sunny
17556/14	PM 10	1.13	1,439	22.5	101.3	1,501	Sunny
17556/15	PM 2.5	1.13	1,439	22.5	101.3	1,501	Sunny

Report Number: 17656

Date Issued: 12/03/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 7/03/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	09/02/2025	17656/1	HVAS	04/02/2025 07:00	10/02/2025 07:00	69	343,698
PM 10	09/02/2025	17656/2	HVAS	04/02/2025 07:00	10/02/2025 07:00	69	343,699
PM 2.5	09/02/2025	17656/3	HVAS	04/02/2025 07:00	10/02/2025 07:00	69	343,700
TSP	15/02/2025	17656/4	HVAS	10/02/2025 07:00	17/02/2025 07:00	70	376,001
PM 10	15/02/2025	17656/5	HVAS	10/02/2025 07:00	17/02/2025 07:00	70	376,002
PM 2.5	15/02/2025	17656/6	HVAS	10/02/2025 07:00	17/02/2025 07:00	70	376,003
TSP	21/02/2025	17656/7	HVAS	17/02/2025 07:00	24/02/2025 07:00	70	376,035
PM 10	21/02/2025	17656/8	HVAS	17/02/2025 07:00	24/02/2025 07:00	70	376,036
PM 2.5	21/02/2025	17656/9	HVAS	17/02/2025 07:00	24/02/2025 07:00	70	376,037
TSP	27/02/2025	17656/10	HVAS	24/02/2025	03/03/2025 07:00	70	376,038
PM 10	27/02/2025	17656/11	HVAS	24/02/2025	03/03/2025 07:00	70	376,039
PM 2.5	27/02/2025	17656/12	HVAS	24/02/2025	03/03/2025 07:00	70	376,040
TSP	05/03/2025	17656/13	HVAS	03/03/2025 07:00	06/03/2025 07:00	70	376,041
PM 10	05/03/2025	17656/14	HVAS	03/03/2025 07:00	06/03/2025 07:00	70	376,042
PM 2.5	05/03/2025	17656/15	HVAS	03/03/2025 07:00	06/03/2025 07:00	70	376,043

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 12/03/2025.

Test Report Number: 17656

Date Issued: 12/03/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	17656/1	17656/4	17656/7	17656/10	17656/13
Date of Operation			09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Date Tested	VGT-WI/44	--	09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Particulates per filter	VGT-WI/44	µg/filter	34,300	59,900	45,900	68,000	67,300
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	23	40	30	45	45

HVAS - PM10	Method	Units	17656/2	17656/5	17656/8	17656/11	17656/14
Date of Operation			09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Date Tested	VGT-WI/44	--	09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Particulates per filter	VGT-WI/44	µg/filter	14,600	19,000	20,700	35,200	38,200
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	10	13	14	23	25

HVAS - PM2.5	Method	Units	17656/3	17656/6	17656/9	17656/12	17656/15
Date of Operation			09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Date Tested	VGT-WI/44	--	09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Particulates per filter	VGT-WI/44	µg/filter	17,000	2,300	15,000	17,200	7,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	11	<2	10	11	5

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 17656

Date Issued: 12/03/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
17656/1	TSP	P.Perry	Unknown	No truck movements
17656/2	PM 10	P.Perry	Unknown	No truck movements
17656/3	PM 2.5	P.Perry	Unknown	No truck movements
17656/4	TSP	P.Perry	Unknown	Truck movements
17656/5	PM 10	P.Perry	Unknown	Truck movements
17656/6	PM 2.5	P.Perry	Unknown	Truck movements
17656/7	TSP	P.Perry	Unknown	Truck loading and movements
17656/8	PM 10	P.Perry	Unknown	Truck loading and movements
17656/9	PM 2.5	P.Perry	Unknown	Truck loading and movements
17656/10	TSP	P.Perry	Unknown	Truck loading and movements
17656/11	PM 10	P.Perry	Unknown	Truck loading and movements
17656/12	PM 2.5	P.Perry	Unknown	Truck loading and movements
17656/13	TSP	P.Perry	Unknown	Truck loadings
17656/14	PM 10	P.Perry	Unknown	Truck loadings
17656/15	PM 2.5	P.Perry	Unknown	Truck loadings

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
17656/1	TSP	1.13	1,439	21.0	101.3	1,509	Fine
17656/2	PM 10	1.13	1,439	21.0	101.3	1,509	Fine
17656/3	PM 2.5	1.13	1,439	21.0	101.3	1,509	Fine
17656/4	TSP	1.13	1,439	20.5	101.3	1,512	Overcast
17656/5	PM 10	1.13	1,439	20.5	101.3	1,512	Overcast
17656/6	PM 2.5	1.13	1,439	20.5	101.3	1,512	Overcast
17656/7	TSP	1.13	1,439	20.5	101.3	1,512	Overcast
17656/8	PM 10	1.13	1,439	20.5	101.3	1,512	Overcast
17656/9	PM 2.5	1.13	1,439	20.5	101.3	1,512	Overcast
17656/10	TSP	1.13	1,439	23.0	101.3	1,499	Fine
17656/11	PM 10	1.13	1,439	23.0	101.3	1,499	Fine
17656/12	PM 2.5	1.13	1,440	23.0	101.3	1,500	Fine
17656/13	TSP	1.13	1,439	23.0	101.3	1,499	Overcast
17656/14	PM 10	1.13	1,439	23.0	101.3	1,499	Overcast
17656/15	PM 2.5	1.13	1,439	23.0	101.3	1,499	Overcast

Report Number: 17656

Date Issued: 12/03/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 7/03/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	09/02/2025	17656/1	HVAS	04/02/2025 07:00	10/02/2025 07:00	69	343,698
PM 10	09/02/2025	17656/2	HVAS	04/02/2025 07:00	10/02/2025 07:00	69	343,699
PM 2.5	09/02/2025	17656/3	HVAS	04/02/2025 07:00	10/02/2025 07:00	69	343,700
TSP	15/02/2025	17656/4	HVAS	10/02/2025 07:00	17/02/2025 07:00	70	376,001
PM 10	15/02/2025	17656/5	HVAS	10/02/2025 07:00	17/02/2025 07:00	70	376,002
PM 2.5	15/02/2025	17656/6	HVAS	10/02/2025 07:00	17/02/2025 07:00	70	376,003
TSP	21/02/2025	17656/7	HVAS	17/02/2025 07:00	24/02/2025 07:00	70	376,035
PM 10	21/02/2025	17656/8	HVAS	17/02/2025 07:00	24/02/2025 07:00	70	376,036
PM 2.5	21/02/2025	17656/9	HVAS	17/02/2025 07:00	24/02/2025 07:00	70	376,037
TSP	27/02/2025	17656/10	HVAS	24/02/2025	03/03/2025 07:00	70	376,038
PM 10	27/02/2025	17656/11	HVAS	24/02/2025	03/03/2025 07:00	70	376,039
PM 2.5	27/02/2025	17656/12	HVAS	24/02/2025	03/03/2025 07:00	70	376,040
TSP	05/03/2025	17656/13	HVAS	03/03/2025 07:00	06/03/2025 07:00	70	376,041
PM 10	05/03/2025	17656/14	HVAS	03/03/2025 07:00	06/03/2025 07:00	70	376,042
PM 2.5	05/03/2025	17656/15	HVAS	03/03/2025 07:00	06/03/2025 07:00	70	376,043

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 12/03/2025.

Test Report Number: 17656

Date Issued: 12/03/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	17656/1	17656/4	17656/7	17656/10	17656/13
Date of Operation			09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Date Tested	VGT-WI/44	--	09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Particulates per filter	VGT-WI/44	µg/filter	34,300	59,900	45,900	68,000	67,300
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	23	40	30	45	45

HVAS - PM10	Method	Units	17656/2	17656/5	17656/8	17656/11	17656/14
Date of Operation			09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Date Tested	VGT-WI/44	--	09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Particulates per filter	VGT-WI/44	µg/filter	14,600	19,000	20,700	35,200	38,200
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	10	13	14	23	25

HVAS - PM2.5	Method	Units	17656/3	17656/6	17656/9	17656/12	17656/15
Date of Operation			09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Date Tested	VGT-WI/44	--	09/02/2025	15/02/2025	21/02/2025	27/02/2025	05/03/2025
Particulates per filter	VGT-WI/44	µg/filter	17,000	2,300	15,000	17,200	7,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	11	<2	10	11	5

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 17656

Date Issued: 12/03/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
17656/1	TSP	P.Perry	Unknown	No truck movements
17656/2	PM 10	P.Perry	Unknown	No truck movements
17656/3	PM 2.5	P.Perry	Unknown	No truck movements
17656/4	TSP	P.Perry	Unknown	Truck movements
17656/5	PM 10	P.Perry	Unknown	Truck movements
17656/6	PM 2.5	P.Perry	Unknown	Truck movements
17656/7	TSP	P.Perry	Unknown	Truck loading and movements
17656/8	PM 10	P.Perry	Unknown	Truck loading and movements
17656/9	PM 2.5	P.Perry	Unknown	Truck loading and movements
17656/10	TSP	P.Perry	Unknown	Truck loading and movements
17656/11	PM 10	P.Perry	Unknown	Truck loading and movements
17656/12	PM 2.5	P.Perry	Unknown	Truck loading and movements
17656/13	TSP	P.Perry	Unknown	Truck loadings
17656/14	PM 10	P.Perry	Unknown	Truck loadings
17656/15	PM 2.5	P.Perry	Unknown	Truck loadings

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
17656/1	TSP	1.13	1,439	21.0	101.3	1,509	Fine
17656/2	PM 10	1.13	1,439	21.0	101.3	1,509	Fine
17656/3	PM 2.5	1.13	1,439	21.0	101.3	1,509	Fine
17656/4	TSP	1.13	1,439	20.5	101.3	1,512	Overcast
17656/5	PM 10	1.13	1,439	20.5	101.3	1,512	Overcast
17656/6	PM 2.5	1.13	1,439	20.5	101.3	1,512	Overcast
17656/7	TSP	1.13	1,439	20.5	101.3	1,512	Overcast
17656/8	PM 10	1.13	1,439	20.5	101.3	1,512	Overcast
17656/9	PM 2.5	1.13	1,439	20.5	101.3	1,512	Overcast
17656/10	TSP	1.13	1,439	23.0	101.3	1,499	Fine
17656/11	PM 10	1.13	1,439	23.0	101.3	1,499	Fine
17656/12	PM 2.5	1.13	1,440	23.0	101.3	1,500	Fine
17656/13	TSP	1.13	1,439	23.0	101.3	1,499	Overcast
17656/14	PM 10	1.13	1,439	23.0	101.3	1,499	Overcast
17656/15	PM 2.5	1.13	1,439	23.0	101.3	1,499	Overcast

Report Number: 17496

Date Issued: 13/02/2025

Revision Number: 00

Site/Job: Redisand HVAS Calibration February 2025

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 3 High Volume Air Samplers were serviced in situ by D.Walker:

HVAS Size Selective Inlet	Date Serviced	Lab ID	Serial Number	Service Comments
TSP	6/02/2025 9:50 AM	17496/1	13-0949	
PM 10	6/02/2025 10:16 AM	17496/2	13-0950	
PM 2.5	6/02/2025 10:40 AM	17496/3	18-1446	

The unit(s) have been tested onsite and the following reports are included:

- Service Report: Results relate to Unit(s) as tested onsite



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 13/02/2025.

Service Report Number: 17496

Date Issued: 13/02/2025

Revision No: 00

Results

HVAS Pressure Sensor Check		Lab ID	17496/1	17496/2	17496/3
	Method	Sample Date Inlet Units	6/02/2025 TSP	6/02/2025 PM 10	6/02/2025 PM 2.5
Ref Pressure	AS3580.9.3/6/14	mm H ₂ O	760.5	760.6	760.6
HVAS Pressure	AS3580.9.3/6/14	mm H ₂ O	761.3	758.3	765.1
Difference	AS3580.9.3/6/14	%	0.8	-2.2	4.5
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Temperature Sensor Check		Lab ID	17496/1	17496/2	17496/3
	Method	Sample Date Inlet Units	6/02/2025 TSP	6/02/2025 PM 10	6/02/2025 PM 2.5
Ref Temperature	AS3580.9.3/6/14	°C	25.1	27.4	27.1
HVAS Temperature	AS3580.9.3/6/14	°C	25.9	26.7	27.2
Difference	AS3580.9.3/6/14	%	0.8	-0.7	0.1
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Check		Lab ID	17496/1	17496/2	17496/3
	Method	Sample Date Inlet Units	6/02/2025 TSP	6/02/2025 PM 10	6/02/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	158.0	157.0	158.0
Measured	AS3580.9.3/6/14	mm H ₂ O	144.0	154.0	172.0
Difference	AS3580.9.3/6/14	%	9.0	2.0	-9.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Recalibration		Lab ID	17496/1	17496/2	17496/3
	Method	Sample Date Inlet Units	6/02/2025 TSP	6/02/2025 PM 10	6/02/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	158.0	157.0	158.0
Measured	AS3580.9.3/6/14	mm H ₂ O	157.0	158.0	158.0
Difference	AS3580.9.3/6/14	%	1.0	0.0	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

Report Comments:

[NT]: Not tested

Location Analysed : Tested On Site.

All High Volume Air Sampler components inspected and serviced as per manual

Report Number: 17591

Date Issued: 12/03/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 6/03/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	6/02/2025 9:31	6/3/2025 09:56	17591/1	Dust	
D2 Wisely	6/02/2025 11:39	6/3/2025 11:39	17591/2	Dust	
D3 2930 Nelson Bay Rd	6/02/2025 9:28	6/3/2025 09:44	17591/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 12/03/2025.

Test Report Number: 17591

Date Issued: 12/03/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	17591/1 6/03/2025 D1 Gate	17591/2 6/03/2025 D2 Wisely	17591/3 6/03/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	10/03/2025	10/03/2025	10/03/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	1.8	1.1	0.7
Ash	AS 3580.10.1	g/m2/mth	1.3	0.4	0.3
Combustible Matter	AS 3580.10.1	g/m2/mth	0.5	0.7	0.4
Calculated Rain	AS 3580.10.1	mm	52	51	50

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17591

Date Issued: 12/03/2025

Revision No: 00

Sampling Conditions: Showers, 23 - 24 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17591/1	D1 Gate	13406-1	T & D.Walker	6/3/2025 09:56	AS3580.10.1	CuSO4
17591/2	D2 Wisely	13406-2	T & D.Walker	6/3/2025 11:39	AS3580.10.1	CuSO4
17591/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	6/3/2025 09:44	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17591/1	D1 Gate	0399631	6371312	Minor sand
17591/2	D2 Wisely	0399795	6370861	Minor vegetation
17591/3	D3 2930 Nelson Bay Rd	0400324	6371296	

Sampling procedures have been approved and report finalised on 12/03/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17851

Date Issued: 11/04/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 12 HVAS Filter(s) were received on 3/04/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	11/03/2025	17851/1	HVAS	06/03/2025 07:00	13/03/2025 07:00	70	376,044
PM 10	11/03/2025	17851/2	HVAS	06/03/2025 07:00	13/03/2025 07:00	70	376,045
PM 2.5	11/03/2025	17851/3	HVAS	06/03/2025 07:00	13/03/2025 07:00	70	376,046
TSP	17/03/2025	17851/4	HVAS	13/03/2025 07:00	18/03/2025 07:00	70	376,047
PM 10	17/03/2025	17851/5	HVAS	13/03/2025 07:00	18/03/2025 07:00	70	376,049
PM 2.5	17/03/2025	17851/6	HVAS	13/03/2025 07:00	18/03/2025 07:00	70	376,050
TSP	23/03/2025	17851/7	HVAS	18/03/2025 07:00	24/03/2025 09:00	70	376,093
PM 10	23/03/2025	17851/8	HVAS	18/03/2025 07:00	24/03/2025 09:00	70	376,094
PM 2.5	23/03/2025	17851/9	HVAS	18/03/2025 07:00	24/03/2025 09:00	70	376,095
TSP	29/03/2025	17851/10	HVAS	24/03/2025 09:00	31/03/2025 07:00	70	376,096
PM 10	29/03/2025	17851/11	HVAS	24/03/2025 09:00	31/03/2025 07:00	70	376,097
PM 2.5	29/03/2025	17851/12	HVAS	24/03/2025 09:00	31/03/2025 07:00	70	376,098

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 11/04/2025.

Test Report Number: 17851

Date Issued: 11/04/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	17851/1	17851/4	17851/7	17851/10
Date of Operation			11/03/2025	17/03/2025	23/03/2025	29/03/2025
Date Tested	VGT-WI/44	--	11/04/2025	11/04/2025	11/04/2025	11/04/2025
Particulates per filter	VGT-WI/44	µg/filter	20,800	112,600	25,600	14,800
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	14	74	17	10

HVAS - PM10	Method	Units	17851/2	17851/5	17851/8	17851/11
Date of Operation			11/03/2025	17/03/2025	23/03/2025	29/03/2025
Date Tested	VGT-WI/44	--	11/04/2025	11/04/2025	11/04/2025	11/04/2025
Particulates per filter	VGT-WI/44	µg/filter	8,500	52,300	6,500	<400
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	6	34	4	<2

HVAS - PM2.5	Method	Units	17851/3	17851/6	17851/9	17851/12
Date of Operation			11/03/2025	17/03/2025	23/03/2025	29/03/2025
Date Tested	VGT-WI/44	--	11/04/2025	11/04/2025	11/04/2025	11/04/2025
Particulates per filter	VGT-WI/44	µg/filter	<400	23,500	4,600	<400
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	<2	15	3	<2

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 17851

Date Issued: 11/04/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
17851/1	TSP	P.Perry	Unknown	Truck movements and loading
17851/2	PM 10	P.Perry	Unknown	Truck movements and loading
17851/3	PM 2.5	P.Perry	Unknown	Truck movements and loading
17851/4	TSP	P.Perry	Unknown	Truck loading
17851/5	PM 10	P.Perry	Unknown	Truck loading
17851/6	PM 2.5	P.Perry	Unknown	Truck loading
17851/7	TSP	P.Perry	Unknown	No truck movements
17851/8	PM 10	P.Perry	Unknown	No truck movements
17851/9	PM 2.5	P.Perry	Unknown	No truck movements
17851/10	TSP	P.Perry	Unknown	Truck movements
17851/11	PM 10	P.Perry	Unknown	Truck movements
17851/12	PM 2.5	P.Perry	Unknown	Truck movements

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
17851/1	TSP	1.13	1,439	21.0	101.3	1,509	Rainy
17851/2	PM 10	1.13	1,439	21.0	101.3	1,509	Rainy
17851/3	PM 2.5	1.13	1,439	21.0	101.3	1,509	Rainy
17851/4	TSP	1.13	1,439	19.0	101.3	1,519	Fine
17851/5	PM 10	1.13	1,439	19.0	101.3	1,519	Fine
17851/6	PM 2.5	1.13	1,439	19.0	101.3	1,519	Fine
17851/7	TSP	1.13	1,439	18.0	101.3	1,525	Overcast
17851/8	PM 10	1.13	1,439	18.0	101.3	1,525	Overcast
17851/9	PM 2.5	1.13	1,439	18.0	101.3	1,525	Overcast
17851/10	TSP	1.13	1,440	18.0	101.3	1,526	Overcast
17851/11	PM 10	1.13	1,439	18.0	101.3	1,525	Overcast
17851/12	PM 2.5	1.13	1,439	18.0	101.3	1,525	Overcast

Report Number: 17713

Date Issued: 11/04/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 3/04/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	6/03/2025 9:56	3/4/2025 10:30	17713/1	Dust	
D2 Wisely	6/03/2025 11:39	3/4/2025 11:04	17713/2	Dust	
D3 2930 Nelson Bay Rd	6/03/2025 9:44	3/4/2025 10:18	17713/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 11/04/2025.

Test Report Number: 17713

Date Issued: 11/04/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	17713/1 3/04/2025 D1 Gate	17713/2 3/04/2025 D2 Wisely	17713/3 3/04/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	08/04/2025	08/04/2025	08/04/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	3.0	4.9	0.7
Ash	AS 3580.10.1	g/m2/mth	2.1	4.1	0.2
Combustible Matter	AS 3580.10.1	g/m2/mth	0.9	0.8	0.5
Calculated Rain	AS 3580.10.1	mm	115	115	115

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17713

Date Issued: 11/04/2025

Revision No: 00

Sampling Conditions: Cloudy, 19 - 22 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17713/1	D1 Gate	13406-1	T.Walker	3/4/2025 10:30	AS3580.10.1	CuSO4
17713/2	D2 Wisely	13406-2	T.Walker	3/4/2025 11:04	AS3580.10.1	CuSO4
17713/3	D3 2930 Nelson Bay Rd	13406-3	T.Walker	3/4/2025 10:18	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17713/1	D1 Gate	0399631	6371312	Full, minor sand, minor insects
17713/2	D2 Wisely	0399795	6370861	Full, vegetation, minor insects
17713/3	D3 2930 Nelson Bay Rd	0400324	6371296	Full, minor insects

Sampling procedures have been approved and report finalised on 11/04/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17971

Date Issued: 9/05/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 1/05/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	04/04/2025	17971/1	HVAS	31/03/2025 07:00	07/04/2025 07:00	70	376,099
PM 10	04/04/2025	17971/2	HVAS	31/03/2025 07:00	07/04/2025 07:00	70	376,100
PM 2.5	04/04/2025	17971/3	HVAS	31/03/2025 07:00	07/04/2025 07:00	71	353,302
TSP	10/04/2025	17971/4	HVAS	07/04/2025 07:00	14/04/2025 07:00	71	353,303
PM 10	10/04/2025	17971/5	HVAS	07/04/2025 07:00	14/04/2025 07:00	71	353,305
PM 2.5	10/04/2025	17971/6	HVAS	07/04/2025 07:00	14/04/2025 07:00	71	353,306
TSP	16/04/2025	17971/7	HVAS	14/04/2025 07:00	17/04/2025 07:00	71	353,304
PM 10	16/04/2025	17971/8	HVAS	14/04/2025 07:00	17/04/2025 07:00	71	353,307
PM 2.5	16/04/2025	17971/9	HVAS	14/04/2025 07:00	17/04/2025 07:00	71	353,308
TSP	22/04/2025	17971/10	HVAS	17/04/2025 07:00	23/04/2025 11:00	71	353,351
PM 10	22/04/2025	17971/11	HVAS	17/04/2025 07:00	23/04/2025 11:00	71	353,352
PM 2.5	22/04/2025	17971/12	HVAS	17/04/2025 07:00	23/04/2025 11:00	71	353,353
TSP	28/04/2025	17971/13	HVAS	23/04/2025 11:00	29/04/2025 07:00	71	353,354
PM 10	28/04/2025	17971/14	HVAS	23/04/2025 11:00	29/04/2025 07:00	71	353,355
PM 2.5	28/04/2025	17971/15	HVAS	23/04/2025 11:00	29/04/2025 07:00	71	353,356

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 9/05/2025.

Test Report Number: 17971

Date Issued: 9/05/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	17971/1	17971/4	17971/7	17971/10	17971/13
Date of Operation			04/04/2025	10/04/2025	16/04/2025	22/04/2025	28/04/2025
Date Tested	VGT-WI/44	--	04/04/2025	10/04/2025	16/04/2025	22/04/2025	28/04/2025
Particulates per filter	VGT-WI/44	µg/filter	74,500	53,000	50,300	28,700	47,800
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	48	34	33	19	31

HVAS - PM10	Method	Units	17971/2	17971/5	17971/8	17971/11	17971/14
Date of Operation			04/04/2025	10/04/2025	16/04/2025	22/04/2025	28/04/2025
Date Tested	VGT-WI/44	--	04/04/2025	10/04/2025	16/04/2025	22/04/2025	28/04/2025
Particulates per filter	VGT-WI/44	µg/filter	34,100	17,200	19,800	15,100	25,000
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	22	11	13	10	16

HVAS - PM2.5	Method	Units	17971/3	17971/6	17971/9	17971/12	17971/15
Date of Operation			04/04/2025	10/04/2025	16/04/2025	22/04/2025	28/04/2025
Date Tested	VGT-WI/44	--	04/04/2025	10/04/2025	16/04/2025	22/04/2025	28/04/2025
Particulates per filter	VGT-WI/44	µg/filter	16,800	5,100	5,300	2,900	2,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	11	3	3	<2	<2



Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 17971

Date Issued: 9/05/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
17971/1	TSP	P.Perry	Unknown	Truck movements
17971/2	PM 10	P.Perry	Unknown	Truck movements
17971/3	PM 2.5	P.Perry	Unknown	Truck movements
17971/4	TSP	P.Perry	Unknown	Truck movements
17971/5	PM 10	P.Perry	Unknown	Truck movements
17971/6	PM 2.5	P.Perry	Unknown	Truck movements
17971/7	TSP	P.Perry	Unknown	Truck movements
17971/8	PM 10	P.Perry	Unknown	Truck movements
17971/9	PM 2.5	P.Perry	Unknown	Truck movements
17971/10	TSP	P.Perry	Unknown	Trucks loading
17971/11	PM 10	P.Perry	Unknown	Trucks loading
17971/12	PM 2.5	P.Perry	Unknown	Trucks loading
17971/13	TSP	P.Perry	Unknown	Trucks loading
17971/14	PM 10	P.Perry	Unknown	Trucks loading
17971/15	PM 2.5	P.Perry	Unknown	Trucks loading

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
17971/1	TSP	1.13	1,457	16.5	101.3	1,552	Rainy
17971/2	PM 10	1.13	1,451	16.5	101.3	1,545	Rainy
17971/3	PM 2.5	1.13	1,454	16.5	101.3	1,549	Rainy
17971/4	TSP	1.13	1,439	14.0	101.3	1,546	Fine
17971/5	PM 10	1.13	1,439	14.0	101.3	1,546	Fine
17971/6	PM 2.5	1.13	1,439	14.0	101.3	1,546	Fine
17971/7	TSP	1.13	1,439	14.5	101.3	1,543	Clear
17971/8	PM 10	1.13	1,439	14.5	101.3	1,543	Clear
17971/9	PM 2.5	1.13	1,439	14.5	101.3	1,543	Clear
17971/10	TSP	1.13	1,439	15.5	101.3	1,538	Rainy
17971/11	PM 10	1.13	1,439	15.5	101.3	1,538	Rainy
17971/12	PM 2.5	1.13	1,439	15.5	101.3	1,538	Rainy
17971/13	TSP	1.13	1,439	16.0	101.3	1,535	Rainy
17971/14	PM 10	1.13	1,439	16.0	101.3	1,535	Rainy
17971/15	PM 2.5	1.13	1,439	16.0	101.3	1,535	Rainy

Report Number: 17714

Date Issued: 8/04/2025

Revision Number: 00

Site/Job: Redisand HVAS Calibration April 2025

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 3 High Volume Air Samplers were serviced in situ by T.Walker:

HVAS Size Selective Inlet	Date Serviced	Lab ID	Serial Number	Service Comments
TSP	3/04/2025 11:40 AM	17714/1	13-0949	
PM 10	3/04/2025 12:05 PM	17714/2	13-0950	
PM 2.5	3/04/2025 12:40 PM	17714/3	18-1446	

The unit(s) have been tested onsite and the following reports are included:

- Service Report: Results relate to Unit(s) as tested onsite



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 8/04/2025.

Service Report Number: 17714

Date Issued: 8/04/2025

Revision No: 00

Results

HVAS Pressure Sensor Check	Method	Lab ID	17714/1	17714/2	17714/3
		Sample Date Inlet Units	3/04/2025 TSP	3/04/2025 PM 10	3/04/2025 PM 2.5
Ref Pressure	AS3580.9.3/6/14	mm H ₂ O	758.4	758.3	758.3
HVAS Pressure	AS3580.9.3/6/14	mm H ₂ O	758.3	755.0	762.2
Difference	AS3580.9.3/6/14	%	-0.1	-3.3	3.9
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Temperature Sensor Check	Method	Lab ID	17714/1	17714/2	17714/3
		Sample Date Inlet Units	3/04/2025 TSP	3/04/2025 PM 10	3/04/2025 PM 2.5
Ref Temperature	AS3580.9.3/6/14	°C	23.5	24.8	25.8
HVAS Temperature	AS3580.9.3/6/14	°C	24.3	25.7	26.6
Difference	AS3580.9.3/6/14	%	0.8	0.9	0.8
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Check	Method	Lab ID	17714/1	17714/2	17714/3
		Sample Date Inlet Units	3/04/2025 TSP	3/04/2025 PM 10	3/04/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	158.0	156.0	157.0
Measured	AS3580.9.3/6/14	mm H ₂ O	163.8	163.0	157.0
Difference	AS3580.9.3/6/14	%	-4.0	-4.0	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Recalibration	Method	Lab ID	17714/1	17714/2	17714/3
		Sample Date Inlet Units	3/04/2025 TSP	3/04/2025 PM 10	3/04/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	161.0	156.0	158.0
Measured	AS3580.9.3/6/14	mm H ₂ O	161.0	156.0	158.0
Difference	AS3580.9.3/6/14	%	0.0	0.0	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

Report Comments:

[NT]: Not tested

Location Analysed : Tested On Site.

All High Volume Air Sampler components inspected and serviced as per manual

Report Number: 17894

Date Issued: 8/05/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 1/05/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	3/04/2025 10:30	1/5/2025 09:42	17894/1	Dust	
D2 Wisely	3/04/2025 11:04	1/5/2025 10:19	17894/2	Dust	
D3 2930 Nelson Bay Rd	3/04/2025 10:18	1/5/2025 09:28	17894/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Authorised by:

Results have been approved and report finalised on 8/05/2025.

Test Report Number: 17894

Date Issued: 8/05/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	17894/1 1/05/2025 D1 Gate	17894/2 1/05/2025 D2 Wisely	17894/3 1/05/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	7/05/2025	7/05/2025	7/05/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	2.5	4.4	0.5
Ash	AS 3580.10.1	g/m2/mth	1.3	3.0	0.3
Combustible Matter	AS 3580.10.1	g/m2/mth	1.2	1.4	0.2
Calculated Rain	AS 3580.10.1	mm	116	116	115

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17894

Date Issued: 8/05/2025

Revision No: 00

Sampling Conditions: 100% Cloudcover, 14 - 16 °C. Recent heavy rain.

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17894/1	D1 Gate	13406-1	T.Walker	1/5/2025 09:42	AS3580.10.1	CuSO4
17894/2	D2 Wisely	13406-2	T.Walker	1/5/2025 10:19	AS3580.10.1	CuSO4
17894/3	D3 2930 Nelson Bay Rd	13406-3	T.Walker	1/5/2025 09:28	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17894/1	D1 Gate	0399631	6371312	Full, insects
17894/2	D2 Wisely	0399795	6370861	Full, insects, algae
17894/3	D3 2930 Nelson Bay Rd	0400324	6371296	Full

Sampling procedures have been approved and report finalised on 8/05/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18059

Date Issued: 5/06/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 29/05/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	1/05/2025 9:42	29/5/2025 09:52	18059/1	Dust	
D2 Wisely	1/05/2025 10:19	29/5/2025 10:29	18059/2	Dust	
D3 2930 Nelson Bay Rd	1/05/2025 9:28	29/5/2025 09:34	18059/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Authorised by:

Results have been approved and report finalised on 5/06/2025.

Test Report Number: 18059

Date Issued: 5/06/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	18059/1 29/05/2025 D1 Gate	18059/2 29/05/2025 D2 Wisely	18059/3 29/05/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	2/06/2025	2/06/2025	2/06/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	2.7	4.4	0.5
Ash	AS 3580.10.1	g/m2/mth	2.1	2.7	0.2
Combustible Matter	AS 3580.10.1	g/m2/mth	0.6	1.7	0.3
Calculated Rain	AS 3580.10.1	mm	114	116	115

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 18059

Date Issued: 5/06/2025

Revision No: 00

Sampling Conditions: 100% Cloudcover, 14 °C. Recent dust storm & rain

Lab ID	Client Sample Reference	Licence/Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18059/1	D1 Gate	13406-1	T.Walker	29/5/2025 09:52	AS3580.10.1	CuSO4
18059/2	D2 Wisely	13406-2	T.Walker	29/5/2025 10:29	AS3580.10.1	CuSO4
18059/3	D3 2930 Nelson Bay Rd	13406-3	T.Walker	29/5/2025 09:34	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18059/1	D1 Gate	0399631	6371312	Full, minor dust, minor insects, minor algae
18059/2	D2 Wisely	0399795	6370861	Full, minor dust, insects, algae
18059/3	D3 2930 Nelson Bay Rd	0400324	6371296	Full

Sampling procedures have been approved and report finalised on 5/06/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18226

Date Issued: 5/06/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 29/05/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	04/05/2025	18226/1	HVAS	29/04/2025 07:00	05/05/2025 10:00	71	353,357
PM 10	04/05/2025	18226/2	HVAS	29/04/2025 07:00	05/05/2025 10:00	71	353,358
PM 2.5	04/05/2025	18226/3	HVAS	29/04/2025 07:00	05/05/2025 10:00	71	353,359
TSP	10/05/2025	18226/4	HVAS	05/05/2025 10:00	13/05/2025 07:00	71	355,360
PM 10	10/05/2025	18226/5	HVAS	05/05/2025 10:00	13/05/2025 07:00	71	353,661
PM 2.5	10/05/2025	18226/6	HVAS	05/05/2025 10:00	13/05/2025 07:00	71	353,362
TSP	16/05/2025	18226/7	HVAS	13/05/2025 07:00	19/05/2025 07:00	71	353,363
PM 10	16/05/2025	18226/8	HVAS	13/05/2025 07:00	19/05/2025 07:00	71	353,365
PM 2.5	16/05/2025	18226/9	HVAS	13/05/2025 07:00	19/05/2025 07:00	71	353,366
TSP	22/05/2025	18226/10	HVAS	19/05/2025 07:00	23/05/2025 07:00	72	340,728
PM 10	22/05/2025	18226/11	HVAS	19/05/2025 07:00	23/05/2025 07:00	72	340,729
PM 2.5	22/05/2025	18226/12	HVAS	19/05/2025 07:00	23/05/2025 07:00	72	340,730
TSP	28/05/2025	18226/13	HVAS	23/05/2025 07:00	29/05/2025 08:00	72	340,731
PM 10	28/05/2025	18226/14	HVAS	23/05/2025 07:00	29/05/2025 08:00	72	340,732
PM 2.5	28/05/2025	18226/15	HVAS	23/05/2025 07:00	29/05/2025 08:00	72	340,733

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 5/06/2025.

Test Report Number: 18226

Date Issued: 5/06/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	18226/1	18226/4	18226/7	18226/10	18226/13
Date of Operation			04/05/2025	10/05/2025	16/05/2025	22/05/2025	28/05/2025
Date Tested	VGT-WI/44	--	05/06/2025	05/06/2025	05/06/2025	05/06/2025	05/06/2025
Particulates per filter	VGT-WI/44	µg/filter	15,900	12,800	13,200	24,300	26,900
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	11	8	9	16	18

HVAS - PM10	Method	Units	18226/2	18226/5	18226/8	18226/11	18226/14
Date of Operation			04/05/2025	10/05/2025	16/05/2025	22/05/2025	28/05/2025
Date Tested	VGT-WI/44	--	05/06/2025	05/06/2025	05/06/2025	05/06/2025	05/06/2025
Particulates per filter	VGT-WI/44	µg/filter	8,200	5,000	5,000	9,200	5,100
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	5	3	3	6	3

HVAS - PM2.5	Method	Units	18226/3	18226/6	18226/9	18226/12	18226/15
Date of Operation			04/05/2025	10/05/2025	16/05/2025	22/05/2025	28/05/2025
Date Tested	VGT-WI/44	--	05/06/2025	05/06/2025	05/06/2025	05/06/2025	05/06/2025
Particulates per filter	VGT-WI/44	µg/filter	<400	<400	<400	<400	3,600
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	<2	<2	<2	<2	2

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 18226

Date Issued: 5/06/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
18226/1	TSP	P.Perry	Unknown	No truck movements
18226/2	PM 10	P.Perry	Unknown	No truck movements
18226/3	PM 2.5	P.Perry	Unknown	No truck movements
18226/4	TSP	P.Perry	Unknown	Truck movements
18226/5	PM 10	P.Perry	Unknown	Truck movements
18226/6	PM 2.5	P.Perry	Unknown	Truck movements
18226/7	TSP	P.Perry	Unknown	Truck movements
18226/8	PM 10	P.Perry	Unknown	Truck movements
18226/9	PM 2.5	P.Perry	Unknown	Truck movements
18226/10	TSP	P.Perry	Unknown	Truck movements
18226/11	PM 10	P.Perry	Unknown	Truck movements
18226/12	PM 2.5	P.Perry	Unknown	Truck movements
18226/13	TSP	P.Perry	Unknown	Trucks loading
18226/14	PM 10	P.Perry	Unknown	Trucks loading
18226/15	PM 2.5	P.Perry	Unknown	Trucks loading

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
18226/1	TSP	1.13	1,440	21.0	101.3	1,510	Fine
18226/2	PM 10	1.13	1,439	21.0	101.3	1,509	Fine
18226/3	PM 2.5	1.13	1,439	21.0	101.3	1,509	Fine
18226/4	TSP	1.13	1,439	20.5	101.3	1,512	Fine
18226/5	PM 10	1.13	1,439	20.5	101.3	1,512	Fine
18226/6	PM 2.5	1.13	1,439	20.5	101.3	1,512	Fine
18226/7	TSP	1.13	1,439	15.5	101.3	1,538	Rainy
18226/8	PM 10	1.13	1,439	15.5	101.3	1,538	Rainy
18226/9	PM 2.5	1.13	1,439	15.5	101.3	1,538	Rainy
18226/10	TSP	1.13	1,439	17.0	101.3	1,530	Rainy
18226/11	PM 10	1.13	1,439	17.0	101.3	1,530	Rainy
18226/12	PM 2.5	1.13	1,439	17.0	101.3	1,530	Rainy
18226/13	TSP	1.13	1,439	16.5	101.3	1,533	Rainy
18226/14	PM 10	1.13	1,439	16.5	101.3	1,533	Rainy
18226/15	PM 2.5	1.13	1,439	16.5	101.3	1,533	Rainy

Report Number: 18062

Date Issued: 5/06/2025

Revision Number: 00

Site/Job: Redisand HVAS Calibration May 2025

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 3 High Volume Air Samplers were serviced in situ by D.Walker:

HVAS Size Selective Inlet	Date Serviced	Lab ID	Serial Number	Service Comments
TSP	29/05/2025 11:25 AM	18062/1	13-0949	
PM 10	29/05/2025 11:50 AM	18062/2	13-0950	
PM 2.5	29/05/2025 12:15 PM	18062/3	18-1446	

The unit(s) have been tested onsite and the following reports are included:

- Service Report: Results relate to Unit(s) as tested onsite



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 5/06/2025.

Service Report Number: 18062

Date Issued: 5/06/2025

Revision No: 00

Results

HVAS Pressure Sensor Check	Method	Lab ID	18062/1	18062/2	18062/3
		Sample Date Inlet Units	29/05/2025 TSP	29/05/2025 PM 10	29/05/2025 PM 2.5
Ref Pressure	AS3580.9.3/6/14	mm H ₂ O	765.1	764.3	764.3
HVAS Pressure	AS3580.9.3/6/14	mm H ₂ O	764.5	761.6	768.8
Difference	AS3580.9.3/6/14	%	0.5	-2.7	4.5
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Temperature Sensor Check	Method	Lab ID	18062/1	18062/2	18062/3
		Sample Date Inlet Units	29/05/2025 TSP	29/05/2025 PM 10	29/05/2025 PM 2.5
Ref Temperature	AS3580.9.3/6/14	°C	16.9	15.8	17.1
HVAS Temperature	AS3580.9.3/6/14	°C	16.1	16.3	17.7
Difference	AS3580.9.3/6/14	%	-0.8	0.5	0.6
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Check	Method	Lab ID	18062/1	18062/2	18062/3
		Sample Date Inlet Units	29/05/2025 TSP	29/05/2025 PM 10	29/05/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	164.0	163.0	164.0
Measured	AS3580.9.3/6/14	mm H ₂ O	164.8	163.0	162.0
Difference	AS3580.9.3/6/14	%	-1.0	0.0	1.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Recalibration	Method	Lab ID	18062/1	18062/2	18062/3
		Sample Date Inlet Units	29/05/2025 TSP	29/05/2025 PM 10	29/05/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	161.0	163.0	164.0
Measured	AS3580.9.3/6/14	mm H ₂ O	160.0	163.0	164.0
Difference	AS3580.9.3/6/14	%	1.0	0.0	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

Report Comments:

[NT]: Not tested

Location Analysed : Tested On Site.

All High Volume Air Sampler components inspected and serviced as per manual

Report Number: 18293

Date Issued: 7/07/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 26/06/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	29/05/2025 9:42	26/6/2025 09:51	18293/1	Dust	
D2 Wisely	29/05/2025 10:29	26/6/2025 10:57	18293/2	Dust	
D3 2930 Nelson Bay Rd	29/05/2025 9:34	26/6/2025 09:43	18293/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 7/07/2025.

Test Report Number: 18293

Date Issued: 7/07/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	18293/1 26/06/2025 D1 Gate	18293/2 26/06/2025 D2 Wisely	18293/3 26/06/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	3/07/2025	3/07/2025	3/07/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	2.5	3.2	0.6
Ash	AS 3580.10.1	g/m2/mth	1.9	2.6	0.2
Combustible Matter	AS 3580.10.1	g/m2/mth	0.6	0.6	0.4
Calculated Rain	AS 3580.10.1	mm	91	102	96

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 18293

Date Issued: 7/07/2025

Revision No: 00

Sampling Conditions: Fine, 10 - 13 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18293/1	D1 Gate	13406-1	T & D.Walker	26/6/2025 09:51	AS3580.10.1	CuSO4
18293/2	D2 Wisely	13406-2	T & D.Walker	26/6/2025 10:57	AS3580.10.1	CuSO4
18293/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	26/6/2025 09:43	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18293/1	D1 Gate	0399631	6371312	Minor sand
18293/2	D2 Wisely	0399795	6370861	Minor sand, minor vegetation
18293/3	D3 2930 Nelson Bay Rd	0400324	6371296	Minor vegetation

Sampling procedures have been approved and report finalised on 7/07/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18368

Date Issued: 8/07/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 12 HVAS Filter(s) were received on 27/06/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	03/06/2025	18368/1	HVAS	29/05/2025 8:00	04/06/2025 9:00	72	340,734
PM 10	03/06/2025	18368/2	HVAS	29/05/2025 8:00	04/06/2025 9:00	72	340,735
PM 2.5	03/06/2025	18368/3	HVAS	29/05/2025 8:00	04/06/2025 9:00	72	340,736
TSP	09/06/2025	18368/4	HVAS	04/06/2025 9:00	12/06/2025 8:00	72	340,737
PM 10	09/06/2025	18368/5	HVAS	04/06/2025 9:00	12/06/2025 8:00	72	340,738
PM 2.5	09/06/2025	18368/6	HVAS	04/06/2025 9:00	12/06/2025 8:00	72	340,739
TSP	15/06/2025	18368/7	HVAS	12/06/2025 8:00	16/06/2025 7:00	72	340,758
PM 10	15/06/2025	18368/8	HVAS	12/06/2025 8:00	16/06/2025 7:00	72	340,759
PM 2.5	15/06/2025	18368/9	HVAS	12/06/2025 8:00	16/06/2025 7:00	72	340,760
TSP	21/06/2025	18368/10	HVAS	16/06/2025 7:00	23/06/2025 7:00	72	340,761
PM 10	21/06/2025	18368/11	HVAS	16/06/2025 7:00	23/06/2025 7:00	72	340,762
PM 2.5	21/06/2025	18368/12	HVAS	16/06/2025 7:00	23/06/2025 7:00	72	340,763

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 8/07/2025.

Test Report Number: 18368

Date Issued: 8/07/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	18368/1	18368/4	18368/7	18368/10
Date of Operation			03/06/2025	09/06/2025	15/06/2025	21/06/2025
Date Tested	VGT-WI/44	--	07/07/2025	07/07/2025	07/07/2025	07/07/2025
Particulates per filter	VGT-WI/44	µg/filter	21,200	45,800	15,700	22,400
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	14	29	10	14

HVAS - PM10	Method	Units	18368/2	18368/5	18368/8	18368/11
Date of Operation			03/06/2025	09/06/2025	15/06/2025	21/06/2025
Date Tested	VGT-WI/44	--	07/07/2025	07/07/2025	07/07/2025	07/07/2025
Particulates per filter	VGT-WI/44	µg/filter	9,800	13,600	9,300	15,200
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	6	9	6	10

HVAS - PM2.5	Method	Units	18368/3	18368/6	18368/9	18368/12
Date of Operation			03/06/2025	09/06/2025	15/06/2025	21/06/2025
Date Tested	VGT-WI/44	--	07/07/2025	07/07/2025	07/07/2025	07/07/2025
Particulates per filter	VGT-WI/44	µg/filter	1,900	24,600	4,500	8,000
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	<2	16	3	5

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - DVG 95% species protection, ANZG 2018.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 18368

Date Issued: 8/07/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
18368/1	TSP	Paul Berry	Unknown	Truck movements
18368/2	PM 10	Paul Berry	Unknown	Truck movements
18368/3	PM 2.5	Paul Berry	Unknown	Truck movements
18368/4	TSP	Paul Berry	Unknown	High westerly winds
18368/5	PM 10	Paul Berry	Unknown	High westerly winds
18368/6	PM 2.5	Paul Berry	Unknown	High westerly winds
18368/7	TSP	Paul Berry	Unknown	
18368/8	PM 10	Paul Berry	Unknown	
18368/9	PM 2.5	Paul Berry	Unknown	
18368/10	TSP	Paul Berry	Unknown	Truck loading
18368/11	PM 10	Paul Berry	Unknown	Truck loading
18368/12	PM 2.5	Paul Berry	Unknown	Truck loading

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
18368/1	TSP	1.13	1,439	12.0	101.3	1,557	
18368/2	PM 10	1.13	1,439	12.0	101.3	1,557	
18368/3	PM 2.5	1.13	1,439	12.0	101.3	1,557	
18368/4	TSP	1.13	1,439	9.5	101.3	1,571	
18368/5	PM 10	1.13	1,439	9.5	101.3	1,571	
18368/6	PM 2.5	1.13	1,439	9.5	101.3	1,571	
18368/7	TSP	1.13	1,439	7.5	101.3	1,582	
18368/8	PM 10	1.13	1,439	7.5	101.3	1,582	
18368/9	PM 2.5	1.13	1,439	7.5	101.3	1,582	
18368/10	TSP	1.13	1,439	7.5	101.3	1,582	
18368/11	PM 10	1.13	1,439	7.5	101.3	1,582	
18368/12	PM 2.5	1.13	1,439	7.5	101.3	1,582	

Report Number: 18447

Date Issued: 30/07/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 24/07/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	26/06/2025 9:51	24/7/2025 09:54	18447/1	Dust	
D2 Wisely	26/06/2025 10:57	24/7/2025 10:20	18447/2	Dust	
D3 2930 Nelson Bay Rd	26/06/2025 9:43	24/7/2025 09:45	18447/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 30/07/2025.

Test Report Number: 18447

Date Issued: 30/07/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	18447/1 24/07/2025 D1 Gate	18447/2 24/07/2025 D2 Wisely	18447/3 24/07/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	24/07/2025	24/07/2025	24/07/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	1.1	2.6	0.5
Ash	AS 3580.10.1	g/m2/mth	0.8	1.5	<0.1
Combustible Matter	AS 3580.10.1	g/m2/mth	0.3	1.1	0.5
Calculated Rain	AS 3580.10.1	mm	115	116	115

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 18447

Date Issued: 30/07/2025

Revision No: 00

Sampling Conditions: Fine, 11 - 12 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18447/1	D1 Gate	13406-1	D.Walker	24/7/2025 09:54	AS3580.10.1	CuSO4
18447/2	D2 Wisely	13406-2	D.Walker	24/7/2025 10:20	AS3580.10.1	CuSO4
18447/3	D3 2930 Nelson Bay Rd	13406-3	D.Walker	24/7/2025 09:45	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18447/1	D1 Gate	0399631	6371312	Minor sand. Full
18447/2	D2 Wisely	0399795	6370861	Minor sand, minor bird droppings. Full
18447/3	D3 2930 Nelson Bay Rd	0400324	6371296	Minor vegetation. Full

Sampling procedures have been approved and report finalised on 30/07/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18541

Date Issued: 1/08/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 24/07/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	27/06/2025	18541/1	HVAS	23/06/2025 07:00	01/07/2025 07:00	72	340,765
PM 10	27/06/2025	18541/2	HVAS	23/06/2025 07:00	01/07/2025 07:00	72	340,766
PM 2.5	27/06/2025	18541/3	HVAS	23/06/2025 07:00	01/07/2025 07:00	72	340,767
TSP	03/07/2025	18541/4	HVAS	01/07/2025 07:00	04/07/2025 07:00	72	340,768
PM 10	03/07/2025	18541/5	HVAS	01/07/2025 07:00	04/07/2025 07:00	72	340,769
PM 2.5	03/07/2025	18541/6	HVAS	01/07/2025 07:00	04/07/2025 07:00	72	340,770
TSP	09/07/2025	18541/7	HVAS	04/07/2025 07:00	10/07/2025 07:00	72	260,524
PM 10	09/07/2025	18541/8	HVAS	04/07/2025 07:00	10/07/2025 07:00	73	260,525
PM 2.5	09/07/2025	18541/9	HVAS	04/07/2025 07:00	10/07/2025 07:00	73	260,526
TSP	15/07/2025	18541/10	HVAS	10/07/2025 07:00	16/07/2025 07:00	73	260,527
PM 10	15/07/2025	18541/11	HVAS	10/07/2025 07:00	16/07/2025 07:00	73	260,528
PM 2.5	15/07/2025	18541/12	HVAS	10/07/2025 07:00	16/07/2025 07:00	73	260,529
TSP	21/07/2025	18541/13	HVAS	16/07/2025 07:00	23/07/2025 08:00	73	260,530
PM 10	21/07/2025	18541/14	HVAS	16/07/2025 07:00	23/07/2025 08:00	73	260,531
PM 2.5	21/07/2025	18541/15	HVAS	16/07/2025 07:00	23/07/2025 08:00	73	260,532

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 1/08/2025.

Test Report Number: 18541

Date Issued: 1/08/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	18541/1	18541/4	18541/7	18541/10	18541/13
Date of Operation			27/06/2025	03/07/2025	09/07/2025	15/07/2025	21/07/2025
Date Tested	VGT-WI/44	--	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Particulates per filter	VGT-WI/44	µg/filter	34,900	12,100	40,300	43,400	19,300
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	22	8	26	27	12

HVAS - PM10	Method	Units	18541/2	18541/5	18541/8	18541/11	18541/14
Date of Operation			27/06/2025	03/07/2025	09/07/2025	15/07/2025	21/07/2025
Date Tested	VGT-WI/44	--	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Particulates per filter	VGT-WI/44	µg/filter	17,900	4,500	14,100	14,500	10,100
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	11	3	9	9	6

HVAS - PM2.5	Method	Units	18541/3	18541/6	18541/9	18541/12	18541/15
Date of Operation			27/06/2025	03/07/2025	09/07/2025	15/07/2025	21/07/2025
Date Tested	VGT-WI/44	--	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Particulates per filter	VGT-WI/44	µg/filter	<400	3,600	7,000	7,400	4,100
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	<2	2	4	5	3

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 18541

Date Issued: 1/08/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
18541/1	TSP	Paul Berry	Unknown	Truck loading
18541/2	PM 10	Paul Berry	Unknown	Truck loading
18541/3	PM 2.5	Paul Berry	Unknown	Truck loading. Monitor not working, faulty cable (Replaced cable).
18541/4	TSP	Paul Berry	Unknown	Truck loading
18541/5	PM 10	Paul Berry	Unknown	Truck loading
18541/6	PM 2.5	Paul Berry	Unknown	Truck loading
18541/7	TSP	Paul Berry	Unknown	Truck loading
18541/8	PM 10	Paul Berry	Unknown	Truck loading
18541/9	PM 2.5	Paul Berry	Unknown	Truck loading
18541/10	TSP	Paul Berry	Unknown	Truck loading
18541/11	PM 10	Paul Berry	Unknown	Truck loading
18541/12	PM 2.5	Paul Berry	Unknown	Truck loading
18541/13	TSP	Paul Berry	Unknown	Truck loading
18541/14	PM 10	Paul Berry	Unknown	Truck loading
18541/15	PM 2.5	Paul Berry	Unknown	Truck loading

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
18541/1	TSP	1.13	1,439	9.0	101.3	1,573	Fine
18541/2	PM 10	1.13	1,439	9.0	101.3	1,573	Fine
18541/3	PM 2.5	1.13	0	9.0	101.3	0	Fine
18541/4	TSP	1.13	1,439	10.0	101.3	1,568	Raining
18541/5	PM 10	1.13	1,439	10.0	101.3	1,568	Raining
18541/6	PM 2.5	1.13	1,439	10.0	101.3	1,568	Raining
18541/7	TSP	1.13	1,439	9.5	101.3	1,571	Fine
18541/8	PM 10	1.13	1,439	9.5	101.3	1,571	Fine
18541/9	PM 2.5	1.13	1,439	9.5	101.3	1,571	Fine
18541/10	TSP	1.13	1,439	8.0	101.3	1,579	Windy
18541/11	PM 10	1.13	1,439	8.0	101.3	1,579	Windy
18541/12	PM 2.5	1.13	1,440	8.0	101.3	1,580	Windy
18541/13	TSP	1.13	1,440	8.5	101.3	1,577	Fine
18541/14	PM 10	1.13	1,439	8.5	101.3	1,576	Fine
18541/15	PM 2.5	1.13	1,439	8.5	101.3	1,576	Fine

Report Number: 18448

Date Issued: 28/07/2025

Revision Number: 00

Site/Job: High Volume Air Sampler Calibration

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 3 High Volume Air Samplers were serviced in situ by D.Walker:

HVAS Size Selective Inlet	Date Serviced	Lab ID	Serial Number	Service Comments
TSP	24/07/2025 10:25 AM	18448/1	13-0949	
PM 10	24/07/2025 10:40 AM	18448/2	13-0950	
PM 2.5	24/07/2025 11:05 AM	18448/3	18-1446	

The unit(s) have been tested onsite and the following reports are included:

- Service Report: Results relate to Unit(s) as tested onsite



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 28/07/2025.

Service Report Number: 18448

Date Issued: 28/07/2025

Revision No: 00

Results

HVAS Pressure Sensor Check	Method	Lab ID	18448/1	18448/2	18448/3
		Sample Date Inlet Units	24/07/2025 TSP	24/07/2025 PM 10	24/07/2025 PM 2.5
Ref Pressure	AS3580.9.3/6/14	mm H ₂ O	766.3	766.3	766.2
HVAS Pressure	AS3580.9.3/6/14	mm H ₂ O	767.9	764.9	768.8
Difference	AS3580.9.3/6/14	%	1.6	-1.3	2.6
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Temperature Sensor Check	Method	Lab ID	18448/1	18448/2	18448/3
		Sample Date Inlet Units	24/07/2025 TSP	24/07/2025 PM 10	24/07/2025 PM 2.5
Ref Temperature	AS3580.9.3/6/14	°C	13.2	12.5	12.7
HVAS Temperature	AS3580.9.3/6/14	°C	12.8	12.7	13.5
Difference	AS3580.9.3/6/14	%	-0.4	0.2	0.8
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Check	Method	Lab ID	18448/1	18448/2	18448/3
		Sample Date Inlet Units	24/07/2025 TSP	24/07/2025 PM 10	24/07/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	167.0	166.0	166.0
Measured	AS3580.9.3/6/14	mm H ₂ O	158.0	160.0	162.0
Difference	AS3580.9.3/6/14	%	5.0	4.0	3.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Recalibration	Method	Lab ID	18448/1	18448/2	18448/3
		Sample Date Inlet Units	24/07/2025 TSP	24/07/2025 PM 10	24/07/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	167.0	166.0	166.0
Measured	AS3580.9.3/6/14	mm H ₂ O	168.0	167.0	168.0
Difference	AS3580.9.3/6/14	%	-1.0	-1.0	-1.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

Report Comments:

[NT]: Not tested

Location Analysed : Tested On Site.

All High Volume Air Sampler components inspected and serviced as per manual

Report Number: 18705

Date Issued: 28/08/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 21/08/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	24/07/2025 9:54	21/8/2025 10:13	18705/1	Dust	
D2 Wisely	24/07/2025 10:20	21/8/2025 10:48	18705/2	Dust	
D3 2930 Nelson Bay Rd	24/07/2025 9:45	21/8/2025 10:04	18705/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Authorised by:

Results have been approved and report finalised on 28/08/2025.

Test Report Number: 18705

Date Issued: 28/08/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	18705/1 21/08/2025 D1 Gate	18705/2 21/08/2025 D2 Wisely	18705/3 21/08/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	27/08/2025	27/08/2025	27/08/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	1.1	14.4	0.5
Ash	AS 3580.10.1	g/m2/mth	0.9	13.7	0.2
Combustible Matter	AS 3580.10.1	g/m2/mth	0.2	0.7	0.3
Calculated Rain	AS 3580.10.1	mm	115	116	115

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - EPL Dust Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 18705

Date Issued: 28/08/2025

Revision No: 00

Sampling Conditions: Light rain, 11 °C

Lab ID	Client Sample Reference	Licence/Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18705/1	D1 Gate	13406-1	T & D.Walker	21/8/2025 10:13	AS3580.10.1	CuSO4
18705/2	D2 Wisely	13406-2	T & D.Walker	21/8/2025 10:48	AS3580.10.1	CuSO4
18705/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	21/8/2025 10:04	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18705/1	D1 Gate	0399631	6371312	Full
18705/2	D2 Wisely	0399795	6370861	Sand, minor vegetation. Full. Adjacent track works
18705/3	D3 2930 Nelson Bay Rd	0400324	6371296	Full

Sampling procedures have been approved and report finalised on 28/08/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18765

Date Issued: 28/08/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 21/08/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	27/07/2025	18765/1	HVAS	24/07/2025 10:44	28/07/2025 07:00	73	260,586
PM 10	27/07/2025	18765/2	HVAS	24/07/2025 10:57	28/07/2025 07:00	73	260,587
PM 2.5	27/07/2025	18765/3	HVAS	24/07/2025 11:08	28/07/2025 07:00	73	260,588
TSP	02/08/2025	18765/4	HVAS	28/07/2025 07:00	04/08/2025 07:00	73	260,589
PM 10	02/08/2025	18765/5	HVAS	28/07/2025 07:00	04/08/2025 07:00	73	260,590
PM 2.5	02/08/2025	18765/6	HVAS	28/07/2025 07:00	04/08/2025 07:00	73	260,591
TSP	08/08/2025	18765/7	HVAS	04/08/2025 07:00	14/08/2025 06:00	73	260,592
PM 10	08/08/2025	18765/8	HVAS	04/08/2025 07:00	14/08/2025 06:00	73	260,593
PM 2.5	08/08/2025	18765/9	HVAS	04/08/2025 07:00	14/08/2025 06:00	73	260,594
TSP	14/08/2025	18765/10	HVAS	14/08/2025 06:00	15/08/2025 07:00	73	260,596
PM 10	14/08/2025	18765/11	HVAS	14/08/2025 06:00	15/08/2025 07:00	73	260,597
PM 2.5	14/08/2025	18765/12	HVAS	14/08/2025 06:00	15/08/2025 07:00	73	260,595
TSP	20/08/2025	18765/13	HVAS	15/08/2025 07:00	21/08/2025 07:00	73	260,598
PM 10	20/08/2025	18765/14	HVAS	15/08/2025 07:00	21/08/2025 07:00	73	260,599
PM 2.5	20/08/2025	18765/15	HVAS	15/08/2025 07:00	21/08/2025 07:00	73	260,600

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 28/08/2025.

Test Report Number: 18765

Date Issued: 28/08/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	18765/1	18765/4	18765/7	18765/10	18765/13
Date of Operation			27/07/2025	02/08/2025	08/08/2025	14/08/2025	20/08/2025
Date Tested	VGT-WI/44	--	27/08/2025	27/08/2025	27/08/2025	27/08/2025	27/08/2025
Particulates per filter	VGT-WI/44	µg/filter	15,300	38,200	30,100	9,400	15,000
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	10	25	15	9	10

HVAS - PM10	Method	Units	18765/2	18765/5	18765/8	18765/11	18765/14
Date of Operation			27/07/2025	02/08/2025	08/08/2025	14/08/2025	20/08/2025
Date Tested	VGT-WI/44	--	27/08/2025	27/08/2025	27/08/2025	27/08/2025	27/08/2025
Particulates per filter	VGT-WI/44	µg/filter	3,900	16,500	15,600	3,900	9,200
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	2	11	8	4	6

HVAS - PM2.5	Method	Units	18765/3	18765/6	18765/9	18765/12	18765/15
Date of Operation			27/07/2025	02/08/2025	08/08/2025	14/08/2025	20/08/2025
Date Tested	VGT-WI/44	--	27/08/2025	27/08/2025	27/08/2025	27/08/2025	27/08/2025
Particulates per filter	VGT-WI/44	µg/filter	5,600	1,400	4,200	<400	3,900
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	4	<2	2	<2	2

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 18765

Date Issued: 28/08/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
18765/1	TSP	D.Walker	Unknown	No truck movements
18765/2	PM 10	D.Walker	Unknown	No truck movements
18765/3	PM 2.5	D.Walker	Unknown	No truck movements
18765/4	TSP	Paul Berry	Unknown	Truck movements
18765/5	PM 10	Paul Berry	Unknown	Truck movements
18765/6	PM 2.5	Paul Berry	Unknown	Truck movements
18765/7	TSP	Paul Berry	Unknown	Truck movements. Change over late @6am
18765/8	PM 10	Paul Berry	Unknown	Truck movements. Change over late @6am
18765/9	PM 2.5	Paul Berry	Unknown	Truck movements. Change over late @6am
18765/10	TSP	Paul Berry	Unknown	Truck loading
18765/11	PM 10	Paul Berry	Unknown	Truck loading
18765/12	PM 2.5	Paul Berry	Unknown	Truck loading
18765/13	TSP	Paul Berry	Unknown	Truck loading
18765/14	PM 10	Paul Berry	Unknown	Truck loading
18765/15	PM 2.5	Paul Berry	Unknown	Truck loading

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
18765/1	TSP	1.13	1,439	11.4	101.3	1,560	Fine
18765/2	PM 10	1.13	1,439	11.3	101.3	1,561	Fine
18765/3	PM 2.5	1.13	1,439	12.0	101.3	1,557	Fine
18765/4	TSP	1.13	1,432	12.0	101.3	1,549	Windy
18765/5	PM 10	1.13	1,433	12.0	101.3	1,550	Windy
18765/6	PM 2.5	1.13	1,433	12.0	101.3	1,550	Windy
18765/7	TSP	1.13	1,874	13.0	101.3	2,020	Rainy
18765/8	PM 10	1.13	1,874	13.0	101.3	2,020	Rainy
18765/9	PM 2.5	1.13	1,864	13.0	101.3	2,010	Rainy
18765/10	TSP	1.13	1,003	11.0	101.3	1,089	Fine
18765/11	PM 10	1.13	1,003	11.0	101.3	1,089	Fine
18765/12	PM 2.5	1.13	1,013	11.0	101.3	1,100	Fine
18765/13	TSP	1.13	1,439	11.0	101.3	1,562	Rainy
18765/14	PM 10	1.13	1,439	11.0	101.3	1,562	Rainy
18765/15	PM 2.5	1.13	1,439	11.0	101.3	1,562	Rainy

Report Number: 18851

Date Issued: 23/09/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 18/09/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	21/08/2025 10:13	18/9/2025 09:23	18851/1	Dust	
D2 Wisely	21/08/2025 10:48	18/9/2025 09:44	18851/2	Dust	
D3 2930 Nelson Bay Rd	21/08/2025 10:04	18/9/2025 09:11	18851/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 23/09/2025.



Test Report Number: 18851

Date Issued: 23/09/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	18851/1 18/09/2025 D1 Gate	18851/2 18/09/2025 D2 Wisely	18851/3 18/09/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	18/09/2025	18/09/2025	18/09/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	1.9	39.0	1.4
Ash	AS 3580.10.1	g/m2/mth	1.4	34.0	0.2
Combustible Matter	AS 3580.10.1	g/m2/mth	0.5	5.0	1.2
Calculated Rain	AS 3580.10.1	mm	73	72	74

Report Comments:

Guideline applied - **EPL Dust Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 18851

Date Issued: 23/09/2025

Revision No: 00

Sampling Conditions: Fine, 17 - 19 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18851/1	D1 Gate	13406-1	T & D.Walker	18/9/2025 09:23	AS3580.10.1	CuSO4
18851/2	D2 Wisely	13406-2	T & D.Walker	18/9/2025 09:44	AS3580.10.1	CuSO4
18851/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	18/9/2025 09:11	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18851/1	D1 Gate	0399631	6371312	Minor insects
18851/2	D2 Wisely	0399795	6370861	Major sand, major insects, vegetation. - Track works adjacent dust gauge.
18851/3	D3 2930 Nelson Bay Rd	0400324	6371296	Minor seeds

Sampling procedures have been approved and report finalised on 23/09/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18931

Date Issued: 23/09/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 12 HVAS Filter(s) were received on 19/09/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	26/08/2025	18931/1	HVAS	21/08/2025 09:00	27/08/2025 07:00	74	260,451
PM 10	26/08/2025	18931/2	HVAS	21/08/2025 09:00	27/08/2025 07:00	74	260,452
PM 2.5	26/08/2025	18931/3	HVAS	21/08/2025 09:00	27/08/2025 07:00	74	260,453
TSP	01/09/2025	18931/4	HVAS	27/08/2025 07:00	02/09/2025 07:00	74	260,454
PM 10	01/09/2025	18931/5	HVAS	27/08/2025 07:00	02/09/2025 07:00	74	260,455
PM 2.5	01/09/2025	18931/6	HVAS	27/08/2025 07:00	02/09/2025 07:00	74	260,456
TSP	07/09/2025	18931/7	HVAS	02/09/2025	09/09/2025 07:00	74	260,457
PM 10	07/09/2025	18931/8	HVAS	02/09/2025	09/09/2025 07:00	74	260,458
PM 2.5	07/09/2025	18931/9	HVAS	02/09/2025	09/09/2025 07:00	74	260,459
TSP	13/09/2025	18931/10	HVAS	09/09/2025 07:00	16/09/2025 07:00	74	260,460
PM 10	13/09/2025	18931/11	HVAS	09/09/2025 07:00	16/09/2025 07:00	74	260,461
PM 2.5	13/09/2025	18931/12	HVAS	09/09/2025 07:00	16/09/2025 07:00	74	260,462

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)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 23/09/2025.

Test Report Number: 18931

Date Issued: 23/09/2025

Revision No: 00

Results

HVAS - TSP	Method	Units	18931/1	18931/4	18931/7	18931/10
Date of Operation			26/08/2025	01/09/2025	07/09/2025	13/09/2025
Date Tested	VGT-WI/44	--	23/09/2025	23/09/2025	23/09/2025	23/09/2025
Particulates per filter	VGT-WI/44	µg/filter	<400	88,000	25,400	37,500
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	[NT]	56	16	24

HVAS - PM10	Method	Units	18931/2	18931/5	18931/8	18931/11
Date of Operation			26/08/2025	01/09/2025	07/09/2025	13/09/2025
Date Tested	VGT-WI/44	--	23/09/2025	23/09/2025	23/09/2025	23/09/2025
Particulates per filter	VGT-WI/44	µg/filter	<400	34,900	11,400	16,600
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	[NT]	22	7	11

HVAS - PM2.5	Method	Units	18931/3	18931/6	18931/9	18931/12
Date of Operation			26/08/2025	01/09/2025	07/09/2025	13/09/2025
Date Tested	VGT-WI/44	--	23/09/2025	23/09/2025	23/09/2025	23/09/2025
Particulates per filter	VGT-WI/44	µg/filter	<400	17,200	5,400	6,500
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	[NT]	11	3	4

Report Comments:

~ NATA accreditation does not cover the performance of these tests as they rely on client sampling.

[NT]: Not tested

Guideline applied - PM10/2.5 NSW EPA 24hr Average.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Weather and flow rates used for calculation purposes supplied by client.

Sampling Report Number: 18931

Date Issued: 23/09/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
18931/1	TSP	Paul Berry	Unknown	Trucks loading. Paper not on machine during sampling period.
18931/2	PM 10	Paul Berry	Unknown	Trucks loading. Paper not on machine during sampling period.
18931/3	PM 2.5	Paul Berry	Unknown	Trucks loading. Paper not on machine during sampling period.
18931/4	TSP	Paul Berry	Unknown	Truck movements
18931/5	PM 10	Paul Berry	Unknown	Truck movements
18931/6	PM 2.5	Paul Berry	Unknown	Truck movements
18931/7	TSP	Paul Berry	Unknown	No truck movements
18931/8	PM 10	Paul Berry	Unknown	No truck movements
18931/9	PM 2.5	Paul Berry	Unknown	No truck movements
18931/10	TSP	Paul Berry	Unknown	Truck movements
18931/11	PM 10	Paul Berry	Unknown	Truck movements
18931/12	PM 2.5	Paul Berry	Unknown	Truck movements

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
18931/1	TSP	1.13	0	13.0	101.3	0	Rainy
18931/2	PM 10	1.13	0	13.0	101.3	0	Rainy
18931/3	PM 2.5	1.13	0	13.0	101.3	0	Rainy
18931/4	TSP	1.13	1,439	11.0	101.3	1,562	Fine
18931/5	PM 10	1.13	1,439	11.0	101.3	1,562	Fine
18931/6	PM 2.5	1.13	1,439	11.0	101.3	1,562	Fine
18931/7	TSP	1.13	1,439	10.0	101.3	1,568	Fine
18931/8	PM 10	1.13	1,439	10.0	101.3	1,568	Fine
18931/9	PM 2.5	1.13	1,439	10.0	101.3	1,568	Fine
18931/10	TSP	1.13	1,439	14.0	101.3	1,546	Fine
18931/11	PM 10	1.13	1,439	14.0	101.3	1,546	Fine
18931/12	PM 2.5	1.13	1,439	14.0	101.3	1,546	Fine

Report Number: 18854

Date Issued: 23/09/2025

Revision Number: 00

Site/Job: Redisand HVAS Calibration September 2025

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 3 High Volume Air Samplers were serviced in situ by D.Walker:

HVAS Size Selective Inlet	Date Serviced	Lab ID	Serial Number	Service Comments
TSP	18/09/2025 9:35 AM	18854/1	13-0949	
PM 10	18/09/2025 10:00 AM	18854/2	13-0950	
PM 2.5	18/09/2025 10:20 AM	18854/3	18-1446	

The unit(s) have been tested onsite and the following reports are included:

- Service Report: Results relate to Unit(s) as tested onsite



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 23/09/2025.

Service Report Number: 18854

Date Issued: 23/09/2025

Revision No: 00

Results

HVAS Pressure Sensor Check	Method	Lab ID	18854/1	18854/2	18854/3
		Sample Date Inlet Units	18/09/2025 TSP	18/09/2025 PM 10	18/09/2025 PM 2.5
Ref Pressure	AS3580.9.3/6/14	mm H ₂ O	768.7	768.7	768.5
HVAS Pressure	AS3580.9.3/6/14	mm H ₂ O	768.7	765.0	772.1
Difference	AS3580.9.3/6/14	%	-0.1	-3.7	3.6
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Temperature Sensor Check	Method	Lab ID	18854/1	18854/2	18854/3
		Sample Date Inlet Units	18/09/2025 TSP	18/09/2025 PM 10	18/09/2025 PM 2.5
Ref Temperature	AS3580.9.3/6/14	°C	18.4	20.1	18.4
HVAS Temperature	AS3580.9.3/6/14	°C	18.7	18.9	19.2
Difference	AS3580.9.3/6/14	%	0.3	-1.2	0.8
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Fail	Pass

HVAS Flow Sensor Check	Method	Lab ID	18854/1	18854/2	18854/3
		Sample Date Inlet Units	18/09/2025 TSP	18/09/2025 PM 10	18/09/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	163.0	162.0	164.0
Measured	AS3580.9.3/6/14	mm H ₂ O	166.0	172.0	186.0
Difference	AS3580.9.3/6/14	%	-2.0	-6.0	-13.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Recalibration	Method	Lab ID	18854/1	18854/2	18854/3
		Sample Date Inlet Units	18/09/2025 TSP	18/09/2025 PM 10	18/09/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	164.0	162.0	164.0
Measured	AS3580.9.3/6/14	mm H ₂ O	164.0	160.0	164.0
Difference	AS3580.9.3/6/14	%	0.0	-1.0	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

Temperature Sensor Recalibration	Method	Lab ID	18854/2
		Sample Date Inlet Units	18/09/2025 PM 10
Ref Temperature	AS3580.9.3/6/14	°C	20.1
HVAS Temperature	AS3580.9.3/6/14	°C	20.2
Difference	AS3580.9.3/6/14	%	0.1
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass

Report Comments:

[NT]: Not tested

Location Analysed : Tested On Site.

All High Volume Air Sampler components inspected and serviced as per manual

Report Number: 18995

Date Issued: 21/10/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 16/10/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	18/09/2025 9:23	16/10/2025 09:46	18995/1	Dust	
D2 Wisely	18/09/2025 9:44	16/10/2025 10:10	18995/2	Dust	
D3 2930 Nelson Bay Rd	18/09/2025 9:11	16/10/2025 09:34	18995/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Results have been approved and report finalised on 21/10/2025.



Test Report Number: 18995

Date Issued: 21/10/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	18995/1 16/10/2025 D1 Gate	18995/2 16/10/2025 D2 Wisely	18995/3 16/10/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	17/10/2025	17/10/2025	17/10/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	1.8	7.9	1.2
Ash	AS 3580.10.1	g/m2/mth	1.1	6.5	0.3
Combustible Matter	AS 3580.10.1	g/m2/mth	0.7	1.4	0.9
Calculated Rain	AS 3580.10.1	mm	20	16	24

Report Comments:

Guideline applied - **EPL Dust Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 18995

Date Issued: 21/10/2025

Revision No: 00

Sampling Conditions: Fine, 20 - 21 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18995/1	D1 Gate	13406-1	T & D.Walker	16/10/2025 09:46	AS3580.10.1	CuSO4
18995/2	D2 Wisely	13406-2	T & D.Walker	16/10/2025 10:10	AS3580.10.1	CuSO4
18995/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	16/10/2025 09:34	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18995/1	D1 Gate	0399631	6371312	Minor insects
18995/2	D2 Wisely	0399795	6370861	Sand, insects, vegetation, algae
18995/3	D3 2930 Nelson Bay Rd	0400324	6371296	Minor insects & algae

Sampling procedures have been approved and report finalised on 21/10/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 19035

Date Issued: 21/10/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 16/10/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	19/09/2025	19035/1	HVAS	16/09/2025 07:00	22/09/2025 07:00	74	260,463
PM 10	19/09/2025	19035/2	HVAS	16/09/2025 07:00	22/09/2025 07:00	74	260,465
PM 2.5	19/09/2025	19035/3	HVAS	16/09/2025 07:00	22/09/2025 07:00	74	260,466
TSP	25/09/2025	19035/4	HVAS	22/09/2025 07:00	29/09/2025 07:00	75	451,418
PM 10	25/09/2025	19035/5	HVAS	22/09/2025 07:00	29/09/2025 07:00	75	451,419
PM 2.5	25/09/2025	19035/6	HVAS	22/09/2025 07:00	29/09/2025 07:00	75	451,420
TSP	01/10/2025	19035/7	HVAS	29/09/2025	02/10/2025 07:00	75	451,421
PM 10	01/10/2025	19035/8	HVAS	29/09/2025	02/10/2025 07:00	75	451,423
PM 2.5	01/10/2025	19035/9	HVAS	29/09/2025	02/10/2025 07:00	75	451,424
TSP	07/10/2025	19035/10	HVAS	02/10/2025 07:00	08/10/2025 07:00	75	451,425
PM 10	07/10/2025	19035/11	HVAS	02/10/2025 07:00	08/10/2025 07:00	75	451,426
PM 2.5	07/10/2025	19035/12	HVAS	02/10/2025 07:00	08/10/2025 07:00	75	451,427
TSP	13/10/2025	19035/13	HVAS	08/10/2025 07:00	15/10/2025 07:00	75	451,428
PM 10	13/10/2025	19035/14	HVAS	08/10/2025 07:00	15/10/2025 07:00	75	451,429
PM 2.5	13/10/2025	19035/15	HVAS	08/10/2025 07:00	15/10/2025 07:00	75	451,430

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)

Authorised by:



Liane Peyra
Technical Officer

Results have been approved and report finalised on 21/10/2025.



Test Report Number: 19035

Date Issued: 21/10/2025

Revision No: 00

Results

HVAS - TSP Date of Operation	Method	Units	19035/1 19/09/2025	19035/4 25/09/2025	19035/7 01/10/2025	19035/10 07/10/2025	19035/13 13/10/2025
Date Tested	VGT-WI/44	--	20/10/2025	20/10/2025	20/10/2025	20/10/2025	20/10/2025
Particulates per filter	VGT-WI/44	µg/filter	78,800	83,000	78,200	29,800	68,800
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	51	54	51	20	45

HVAS - PM10 Date of Operation	Method	Units	19035/2 19/09/2025	19035/5 25/09/2025	19035/8 01/10/2025	19035/11 07/10/2025	19035/14 13/10/2025
Date Tested	VGT-WI/44	--	20/10/2025	20/10/2025	20/10/2025	20/10/2025	20/10/2025
Particulates per filter	VGT-WI/44	µg/filter	31,800	37,000	35,500	15,000	31,600
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	20	24	23	10	21

HVAS - PM2.5 Date of Operation	Method	Units	19035/3 19/09/2025	19035/6 25/09/2025	19035/9 01/10/2025	19035/12 07/10/2025	19035/15 13/10/2025
Date Tested	VGT-WI/44	--	20/10/2025	20/10/2025	20/10/2025	20/10/2025	20/10/2025
Particulates per filter	VGT-WI/44	µg/filter	22,200	33,300	25,700	1,900	16,400
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	14	21	17	<2	11

Report Comments:

Guideline applied - **PM10/2.5 NSW EPA 24hr Average**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

~ 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.

Sampling Report Number: 19035

Date Issued: 21/10/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
19035/1	TSP	Paul Berry	Unknown	Truck movements
19035/2	PM 10	Paul Berry	Unknown	Truck movements
19035/3	PM 2.5	Paul Berry	Unknown	Truck movements
19035/4	TSP	Paul Berry	Unknown	Trucks loading
19035/5	PM 10	Paul Berry	Unknown	Trucks loading
19035/6	PM 2.5	Paul Berry	Unknown	Trucks loading
19035/7	TSP	Paul Berry	Unknown	Trucks loading
19035/8	PM 10	Paul Berry	Unknown	Trucks loading
19035/9	PM 2.5	Paul Berry	Unknown	Trucks loading
19035/10	TSP	Paul Berry	Unknown	Trucks loading
19035/11	PM 10	Paul Berry	Unknown	Trucks loading
19035/12	PM 2.5	Paul Berry	Unknown	Trucks loading
19035/13	TSP	Paul Berry	Unknown	Trucks loading
19035/14	PM 10	Paul Berry	Unknown	Trucks loading
19035/15	PM 2.5	Paul Berry	Unknown	Trucks loading

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
19035/1	TSP	1.13	1,439	12.0	101.3	1,557	Fine
19035/2	PM 10	1.13	1,439	12.0	101.3	1,557	Fine
19035/3	PM 2.5	1.13	1,439	12.0	101.3	1,557	Fine
19035/4	TSP	1.13	1,439	13.5	101.3	1,549	Fine
19035/5	PM 10	1.13	1,439	13.5	101.3	1,549	Fine
19035/6	PM 2.5	1.13	1,439	13.5	101.3	1,549	Fine
19035/7	TSP	1.13	1,438	15.0	101.3	1,540	Fine
19035/8	PM 10	1.13	1,438	15.0	101.3	1,540	Fine
19035/9	PM 2.5	1.13	1,438	15.0	101.3	1,540	Fine
19035/10	TSP	1.13	1,439	17.5	101.3	1,527	Fine
19035/11	PM 10	1.13	1,439	17.5	101.3	1,527	Fine
19035/12	PM 2.5	1.13	1,439	17.5	101.3	1,527	Fine
19035/13	TSP	1.13	1,439	18.5	101.3	1,522	Rainy
19035/14	PM 10	1.13	1,439	18.5	101.3	1,522	Rainy
19035/15	PM 2.5	1.13	1,440	18.5	101.3	1,523	Rainy

Report Number: 19146

Date Issued: 21/11/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 15 HVAS Filter(s) were received on 13/11/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	19/10/2025	19146/1	HVAS	15/10/2025 07:00	20/10/2025 07:00	75	451,431
PM 10	19/10/2025	19146/2	HVAS	15/10/2025 07:00	20/10/2025 07:00	75	451,432
PM 2.5	19/10/2025	19146/3	HVAS	15/10/2025 07:00	20/10/2025 07:00	75	451,433
TSP	25/10/2025	19146/4	HVAS	20/10/2025 07:00	27/10/2025 07:00	75	451,472
PM 10	25/10/2025	19146/5	HVAS	20/10/2025 07:00	27/10/2025 07:00	75	451,473
PM 2.5	25/10/2025	19146/6	HVAS	20/10/2025 07:00	27/10/2025 07:00	75	451,474
TSP	31/10/2025	19146/7	HVAS	27/10/2025 07:00	03/11/2025 07:00	75	451,475
PM 10	31/10/2025	19146/8	HVAS	27/10/2025 07:00	03/11/2025 07:00	75	451,476
PM 2.5	31/10/2025	19146/9	HVAS	27/10/2025 07:00	03/11/2025 07:00	75	451,477
TSP	06/11/2025	19146/10	HVAS	03/11/2025 07:00	07/11/2025 07:00	75	451,478
PM 10	06/11/2025	19146/11	HVAS	03/11/2025 07:00	07/11/2025 07:00	75	451,479
PM 2.5	06/11/2025	19146/12	HVAS	03/11/2025 07:00	07/11/2025 07:00	75	451,480
TSP	12/11/2025	19146/13	HVAS	07/11/2025 07:00	13/11/2025 07:00	75	451,481
PM 10	12/11/2025	19146/14	HVAS	07/11/2025 07:00	13/11/2025 07:00	75	451,482
PM 2.5	12/11/2025	19146/15	HVAS	07/11/2025 07:00	13/11/2025 07:00	75	451,483

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)

Authorised by:



Liane Peyra
Technical Officer

Results have been approved and report finalised on 21/11/2025.



Test Report Number: 19146

Date Issued: 21/11/2025

Revision No: 00

Results

HVAS - TSP Date of Operation	Method	Units	19146/1 19/10/2025	19146/4 25/10/2025	19146/7 31/10/2025	19146/10 06/11/2025	19146/13 12/11/2025
Date Tested	VGT-WI/44	--	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025
Particulates per filter	VGT-WI/44	µg/filter	35,700	56,400	71,000	92,300	74,100
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	24	37	47	61	49

HVAS - PM10 Date of Operation	Method	Units	19146/2 19/10/2025	19146/5 25/10/2025	19146/8 31/10/2025	19146/11 06/11/2025	19146/14 12/11/2025
Date Tested	VGT-WI/44	--	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025
Particulates per filter	VGT-WI/44	µg/filter	19,200	33,600	31,800	45,300	35,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	13	22	21	30	24

HVAS - PM2.5 Date of Operation	Method	Units	19146/3 19/10/2025	19146/6 25/10/2025	19146/9 31/10/2025	19146/12 06/11/2025	19146/15 12/11/2025
Date Tested	VGT-WI/44	--	20/11/2025	20/11/2025	20/11/2025	20/11/2025	20/11/2025
Particulates per filter	VGT-WI/44	µg/filter	8,700	15,700	8,600	19,400	28,300
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	6	10	6	13	19

Report Comments:

Guideline applied - **PM10/2.5 NSW EPA 24hr Average**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

~ 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.

Sampling Report Number: 19146

Date Issued: 21/11/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
19146/1	TSP	Paul Berry	Unknown	
19146/2	PM 10	Paul Berry	Unknown	
19146/3	PM 2.5	Paul Berry	Unknown	
19146/4	TSP	Paul Berry	Unknown	Trucks loading
19146/5	PM 10	Paul Berry	Unknown	Trucks loading
19146/6	PM 2.5	Paul Berry	Unknown	Trucks loading
19146/7	TSP	Paul Berry	Unknown	Trucks loading
19146/8	PM 10	Paul Berry	Unknown	Trucks loading
19146/9	PM 2.5	Paul Berry	Unknown	Trucks loading
19146/10	TSP	Paul Berry	Unknown	Trucks loading
19146/11	PM 10	Paul Berry	Unknown	Trucks loading
19146/12	PM 2.5	Paul Berry	Unknown	Trucks loading
19146/13	TSP	Paul Berry	Unknown	
19146/14	PM 10	Paul Berry	Unknown	
19146/15	PM 2.5	Paul Berry	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
19146/1	TSP	1.12	1,424	17.5	101.3	1,498	Fine
19146/2	PM 10	1.12	1,434	17.5	101.3	1,509	Fine
19146/3	PM 2.5	1.12	1,439	17.5	101.3	1,514	Fine
19146/4	TSP	1.12	1,439	17.5	101.3	1,514	Fine
19146/5	PM 10	1.12	1,439	17.5	101.3	1,514	Fine
19146/6	PM 2.5	1.12	1,439	17.5	101.3	1,514	Fine
19146/7	TSP	1.12	1,439	17.5	101.3	1,514	Fine
19146/8	PM 10	1.12	1,439	17.5	101.3	1,514	Fine
19146/9	PM 2.5	1.12	1,439	17.5	101.3	1,514	Fine
19146/10	TSP	1.12	1,439	18.0	101.3	1,511	Fine
19146/11	PM 10	1.12	1,439	18.0	101.3	1,511	Fine
19146/12	PM 2.5	1.12	1,439	18.0	101.3	1,511	Fine
19146/13	TSP	1.12	1,439	16.5	101.3	1,519	Fine
19146/14	PM 10	1.12	1,439	16.5	101.3	1,519	Fine
19146/15	PM 2.5	1.12	1,439	16.5	101.3	1,519	Fine

Report Number: 19064

Date Issued: 18/11/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 13/11/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	16/10/2025 9:46	13/11/2025 07:56	19064/1	Dust	
D2 Wisely	16/10/2025 10:10	13/11/2025 08:47	19064/2	Dust	
D3 2930 Nelson Bay Rd	16/10/2025 9:34	13/11/2025 07:42	19064/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Liane Peyra
Technical Officer

Results have been approved and report finalised on 18/11/2025.



Test Report Number: 19064

Date Issued: 18/11/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	19064/1 13/11/2025 D1 Gate	19064/2 13/11/2025 D2 Wisely	19064/3 13/11/2025 D3 2930 Nelson Bay Rd
	Method	Units			
<i>Date Tested</i>	AS 3580.10.1	--	13/11/2025	13/11/2025	13/11/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	2.3	6.4	0.8
Ash	AS 3580.10.1	g/m2/mth	1.7	5.9	0.4
Combustible Matter	AS 3580.10.1	g/m2/mth	0.6	0.5	0.4
Calculated Rain	AS 3580.10.1	mm	33	32	35

Report Comments:

Guideline applied - **EPL Dust Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 19064

Date Issued: 18/11/2025

Revision No: 00

Sampling Conditions: Fine, 14 - 18 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
19064/1	D1 Gate	13406-1	T & D.Walker	13/11/2025 07:56	AS3580.10.1	CuSO4
19064/2	D2 Wisely	13406-2	T & D.Walker	13/11/2025 08:47	AS3580.10.1	CuSO4
19064/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	13/11/2025 07:42	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
19064/1	D1 Gate	0399631	6371312	Algae, minor bird droppings
19064/2	D2 Wisely	0399795	6370861	Minor dust, algae, minor insects
19064/3	D3 2930 Nelson Bay Rd	0400324	6371296	Minor insects

Sampling procedures have been approved and report finalised on 18/11/2025.

Where method is "unknown" sampling procedures are not endorsed

**Report Number: 19066**

Date Issued: 18/11/2025

Revision Number: 00

Site/Job: Redisand HVAS Calibration November 2025

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 3 High Volume Air Samplers were serviced in situ by Dylan Walker:

HVAS Size Selective Inlet	Date Serviced	Lab ID	Serial Number	Service Comments
TSP	13/11/2025 8:05 AM	19066/1	13-0949	
PM 10	13/11/2025 8:30 AM	19066/2	13-0950	
PM 2.5	13/11/2025 8:50 AM	19066/3	18-1446	

The unit(s) have been tested onsite and the following reports are included:

- Service Report: Results relate to Unit(s) as tested onsite

Authorised by:

Results have been approved and report finalised on 18/11/2025.

Service Report Number: 19066

Date Issued: 18/11/2025

Revision No: 00

Results

HVAS Pressure Sensor Check		Lab ID	19066/1	19066/2	19066/3
	Method	Sample Date Inlet Units	13/11/2025 TSP	13/11/2025 PM 10	13/11/2025 PM 2.5
Ref Pressure	AS3580.9.3/6/14	mm H ₂ O	762.1	761.9	761.8
HVAS Pressure	AS3580.9.3/6/14	mm H ₂ O	761.4	758.3	765.5
Difference	AS3580.9.3/6/14	%	-0.7	-3.6	3.7
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Temperature Sensor Check		Lab ID	19066/1	19066/2	19066/3
	Method	Sample Date Inlet Units	13/11/2025 TSP	13/11/2025 PM 10	13/11/2025 PM 2.5
Ref Temperature	AS3580.9.3/6/14	°C	17.1	22.9	23.6
HVAS Temperature	AS3580.9.3/6/14	°C	19.6	23.3	23.6
Difference	AS3580.9.3/6/14	%	2.5	0.4	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Fail	Pass	Pass

HVAS Flow Sensor Check		Lab ID	19066/1	19066/2	19066/3
	Method	Sample Date Inlet Units	13/11/2025 TSP	13/11/2025 PM 10	13/11/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	163.0	159.0	160.0
Measured	AS3580.9.3/6/14	mm H ₂ O	176.0	166.0	164.0
Difference	AS3580.9.3/6/14	%	-8.0	-5.0	-2.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

HVAS Flow Sensor Recalibration		Lab ID	19066/1	19066/2	19066/3
	Method	Sample Date Inlet Units	13/11/2025 TSP	13/11/2025 PM 10	13/11/2025 PM 2.5
Expected	AS3580.9.3/6/14	mm H ₂ O	163.0	160.0	161.0
Measured	AS3580.9.3/6/14	mm H ₂ O	161.0	160.0	162.0
Difference	AS3580.9.3/6/14	%	1.0	0.0	-1.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass	Pass	Pass

Temperature Sensor Recalibration		Lab ID	19066/1
	Method	Sample Date Inlet Units	13/11/2025 TSP
Ref Temperature	AS3580.9.3/6/14	°C	17.2
HVAS Temperature	AS3580.9.3/6/14	°C	17.2
Difference	AS3580.9.3/6/14	%	0.0
Pass/Fail	AS3580.9.3/6/14	Pass/Fail	Pass

Report Comments:

Location Analysed : Tested On Site.

All High Volume Air Sampler components inspected and serviced as per manual

[NT]: Not tested

Report Number: 19211

Date Issued: 16/12/2025

Revision Number: 00

Site/Job: Redisand Dusts

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following Dust Deposition sample(s) were received on 11/12/2025

Client Sample Reference	Date On	Date Off	Lab ID	Matrix	Comments or Non-Compliances
D1 Gate	13/11/2025 7:56	11/12/2025 09:43	19211/1	Dust	
D2 Wisely	13/11/2025 8:47	11/12/2025 10:10	19211/2	Dust	
D3 2930 Nelson Bay Rd	13/11/2025 7:42	11/12/2025 09:33	19211/3	Dust	

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 16/12/2025.



Test Report Number: 19211

Date Issued: 16/12/2025

Revision No: 00

Results

Deposited Matter		Lab ID Sample Date Sample ID	19211/1 11/12/2025 D1 Gate	19211/2 11/12/2025 D2 Wisely	19211/3 11/12/2025 D3 2930 Nelson Bay Rd
	Method	Units			
Date Tested	AS 3580.10.1	--	12/12/2025	12/12/2025	12/12/2025
Number of Days	AS 3580.10.1	days	28	28	28
Insoluble Solids	AS 3580.10.1	g/m2/mth	2.6	1.7	31.7
Ash	AS 3580.10.1	g/m2/mth	1.6	0.9	0.6
Combustible Matter	AS 3580.10.1	g/m2/mth	1.0	0.8	31.1
Calculated Rain	AS 3580.10.1	mm	16	12	19

Report Comments:

Guideline applied - **EPL Dust Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 19211

Date Issued: 16/12/2025

Revision No: 00

Sampling Conditions: 100% Cloudcover, 21 - 22 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
19211/1	D1 Gate	13406-1	T & D.Walker	11/12/2025 09:43	AS3580.10.1	CuSO4
19211/2	D2 Wisely	13406-2	T & D.Walker	11/12/2025 10:10	AS3580.10.1	CuSO4
19211/3	D3 2930 Nelson Bay Rd	13406-3	T & D.Walker	11/12/2025 09:33	AS3580.10.1	CuSO4

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
19211/1	D1 Gate	0399631	6371312	Minor insects algae
19211/2	D2 Wisely	0399795	6370861	Minor sand, minor insects, algae
19211/3	D3 2930 Nelson Bay Rd	0400324	6371296	Insects, algae

Sampling procedures have been approved and report finalised on 16/12/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 19255

Date Issued: 18/12/2025

Revision Number: 00

Site/Job: Redisand HVAS

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 12 HVAS Filter(s) were received on 12/12/2025

HVAS Size Selective Inlet	Date of Operation	Lab ID	Matrix	Date On	Date Off	Box Number	Filter Paper Number
TSP	18/11/2025	19255/1	HVAS	13/11/2025 07:00	19/11/2025 07:00	75	451,484
PM 10	18/11/2025	19255/2	HVAS	13/11/2025 07:00	19/11/2025 07:00	75	451,486
PM 2.5	18/11/2025	19255/3	HVAS	13/11/2025 07:00	19/11/2025 07:00	75	451,487
TSP	24/11/2025	19255/4	HVAS	19/11/2025 07:00	25/11/2025 07:00	76	443,311
PM 10	24/11/2025	19255/5	HVAS	19/11/2025 07:00	25/11/2025 07:00	76	443,309
PM 2.5	24/11/2025	19255/6	HVAS	19/11/2025 07:00	25/11/2025 07:00	76	443,310
TSP	30/11/2025	19255/7	HVAS	25/11/2025 07:00	01/12/2025 07:00	76	443,312
PM 10	30/11/2025	19255/8	HVAS	25/11/2025 07:00	01/12/2025 07:00	76	443,313
PM 2.5	30/11/2025	19255/9	HVAS	25/11/2025 07:00	01/12/2025 07:00	76	443,314
TSP	06/12/2025	19255/10	HVAS	01/12/2025 07:00	08/12/2025 08:00	76	443,315
PM 10	06/12/2025	19255/11	HVAS	01/12/2025 07:00	08/12/2025 08:00	76	443,316
PM 2.5	06/12/2025	19255/12	HVAS	01/12/2025 07:00	08/12/2025 08:00	76	443,317

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)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 18/12/2025.



Test Report Number: 19255

Date Issued: 18/12/2025

Revision No: 00

Results

HVAS - TSP Date of Operation	Method	Units	19255/1 18/11/2025	19255/4 24/11/2025	19255/7 30/11/2025	19255/10 06/12/2025
Date Tested	VGT-WI/44	--	17/12/2025	17/12/2025	17/12/2025	17/12/2025
Particulates per filter	VGT-WI/44	µg/filter	91,800	36,700	70,900	147,200
~ Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	60	24	46	95

HVAS - PM10 Date of Operation	Method	Units	19255/2 18/11/2025	19255/5 24/11/2025	19255/8 30/11/2025	19255/11 06/12/2025
Date Tested	VGT-WI/44	--	17/12/2025	17/12/2025	17/12/2025	17/12/2025
Particulates per filter	VGT-WI/44	µg/filter	45,500	18,300	35,000	110,800
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	30	12	23	71

HVAS - PM2.5 Date of Operation	Method	Units	19255/3 18/11/2025	19255/6 24/11/2025	19255/9 30/11/2025	19255/12 06/12/2025
Date Tested	VGT-WI/44	--	17/12/2025	17/12/2025	17/12/2025	17/12/2025
Particulates per filter	VGT-WI/44	µg/filter	23,500	10,700	19,300	97,300
~Particulates @ 0°C, 101.3kPa	VGT-WI/44	µg/m3	15	7	12	63



Report Comments:

Guideline applied - **PM10/2.5 NSW EPA 24hr Average**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

~ 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.

Sampling Report Number: 19255

Date Issued: 18/12/2025

Revision No: 00

Sampling procedures/data supplied by client.

Lab ID	Description	Sampled By	Method of Sampling	Comments
19255/1	TSP	Paul Berry	Unknown	Trucks loading
19255/2	PM 10	Paul Berry	Unknown	Trucks loading
19255/3	PM 2.5	Paul Berry	Unknown	Trucks loading
19255/4	TSP	Paul Berry	Unknown	Trucks movements
19255/5	PM 10	Paul Berry	Unknown	Trucks movements
19255/6	PM 2.5	Paul Berry	Unknown	Trucks movements
19255/7	TSP	Paul Berry	Unknown	No trucks movements
19255/8	PM 10	Paul Berry	Unknown	No trucks movements
19255/9	PM 2.5	Paul Berry	Unknown	No trucks movements
19255/10	TSP	Paul Berry	Unknown	No trucks movements. 38° strong N/W Winds. Bushfires.
19255/11	PM 10	Paul Berry	Unknown	No trucks movements. 38° strong N/W Winds. Bushfires.
19255/12	PM 2.5	Paul Berry	Unknown	No trucks movements. 38° strong N/W Winds. Bushfires.

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
19255/1	TSP	1.13	1,439	15.0	101.3	1,541	Fine
19255/2	PM 10	1.13	1,439	15.0	101.3	1,541	Fine
19255/3	PM 2.5	1.13	1,439	15.0	101.3	1,541	Fine
19255/4	TSP	1.13	1,439	16.5	101.3	1,533	Fine
19255/5	PM 10	1.13	1,439	16.5	101.3	1,533	Fine
19255/6	PM 2.5	1.13	1,439	16.5	101.3	1,533	Fine
19255/7	TSP	1.13	1,439	14.0	101.3	1,546	Fine
19255/8	PM 10	1.13	1,439	14.0	101.3	1,546	Fine
19255/9	PM 2.5	1.13	1,439	14.0	101.3	1,546	Fine
19255/10	TSP	1.13	1,439	12.5	101.3	1,554	Fine
19255/11	PM 10	1.13	1,439	12.5	101.3	1,554	Fine
19255/12	PM 2.5	1.13	1,439	12.5	101.3	1,554	Fine

**Appendix D –
Traffic Movements (2025)**

Count of Docket	Row Labels	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	Grand Total
Column Labels													
	6-Jan-25	3	2			1	2			3	1	1	13
	7-Jan-25	5				1	1		1	3	1		12
	8-Jan-25	2	1				1			1			6
	9-Jan-25	5							1		1		7
	10-Jan-25	4	1	1			1	3	1	3	1		15
	13-Jan-25	1	1	2		1	1	3	2	1	3	1	16
	14-Jan-25	1	2	2					1	2	5	1	14
	15-Jan-25	1	3				2			5	4	2	17
	17-Jan-25										2		2
	20-Jan-25	3	1			1			1	7	3	1	17
	21-Jan-25	1	1	2		1		1	2		4	4	17
	22-Jan-25	3	1	2			4		3	1	1	5	20
	23-Jan-25	1		1		3		1		3	6	2	17
	24-Jan-25		1				3	3	2	3			12
	28-Jan-25	1	2	2		2	1	1		3	6		18
	29-Jan-25	2	5	1			1	1	2	2	6	3	23
	30-Jan-25	1	3	1		1	5	2			3	3	19
	31-Jan-25		1			2	1		2	2	4		12
	3-Feb-25	2	2	1		1	1	2	1	1	4	1	16
	4-Feb-25		1	2			3		1	4	6	1	18
	5-Feb-25	1	1	2			2	1	2	3	1	1	14
	6-Feb-25		1	1		1	1		2	3	4		13
	7-Feb-25					2	1	2	1	2	2	1	11
	8-Feb-25		4	2		2							8
	10-Feb-25	1		1		3		2	2	2	1	4	17
	11-Feb-25	1	1	1				2	2	2	2	1	12
	12-Feb-25	1				1		1	4	4	2		13
	13-Feb-25		1				1	2	2	4	4		14
	14-Feb-25					1	1	3	1	2	2	1	11
	15-Feb-25		2			1							3
	17-Feb-25	2	1				1	1		3	4	3	15
	18-Feb-25	1	1	1		1	1	2	1	3	7	2	20
	19-Feb-25	1		1			1		2	7	5	1	18
	20-Feb-25		2				2		1	2	2		10
	21-Feb-25	1	1				3	1	1	1	2	1	2
	22-Feb-25			1		2							3
	24-Feb-25	1	2	1		1	2		3	4	4		18
	25-Feb-25	2	1	1				2	1	1	5	1	14
	26-Feb-25		2			1		1	1	3	1	1	10
	27-Feb-25		1			1	1	1	5	4	3	3	19
	28-Feb-25			1		1	1	2	1	3	3		12
	1-Mar-25					1							1
	3-Mar-25	4	2	1		3		1	1	5		2	19
	4-Mar-25	1	1	1		1	1	2		4	6	1	18
	5-Mar-25	3		2		2	1	1		2	2		14
	6-Mar-25	2		1		1		1	2	1	3	2	13
	7-Mar-25	2	2			1	3		1	1	3		13
	10-Mar-25	2	2					1		4	4	1	14
	11-Mar-25					1	1	1	2	3	2	1	11
	12-Mar-25	3				1			1	5	4	2	16
	13-Mar-25	2	1			1	1	1		3	3	4	16
	14-Mar-25	1	2				2	2	2	1	1	4	13
	15-Mar-25		1	2		1							4
	17-Mar-25	4	1			2	1	2	3	3	3	1	20
	18-Mar-25	1	2			1		1	2	2	7		16
	19-Mar-25		1			2	1	2	2	2	4		14
	20-Mar-25	1	1	2			1		4	4	3	1	17
	21-Mar-25	1					1	3	2	2	2	1	12
	22-Mar-25		1			1							2
	24-Mar-25		2	1			2		4	1	3		13
	25-Mar-25	3					4	1	1	5	1		15
	26-Mar-25	1	1			1	1	2	1		5	3	15
	27-Mar-25	1	1	1		1	2	1	1	3	3	1	15
	28-Mar-25	1	1			1	1	1	1	4	1	2	13
	31-Mar-25						2		1	4		3	10
	1-Apr-25	1				2		4		3	1	2	13
	2-Apr-25	5	4	2			2	1	2		4	1	21
	3-Apr-25	1	3	2			1	1	1	2	2	1	14
	4-Apr-25	1	1	1		2	1	1	2	2		2	13
	5-Apr-25		1										1
	7-Apr-25	3		1			1	1	2	2	2	4	16
	8-Apr-25	3		1			2	2	1	3	2	2	16
	9-Apr-25	1		2					1	6	3	3	16
	10-Apr-25	1	2	2		1		1		2	3	1	13
	11-Apr-25	2	2			2		1	2	3			12
	14-Apr-25		1			2		1	1	4	3		12
	15-Apr-25	2		2		1	2	4		2	3		16
	16-Apr-25	2	3				1		2	1	2	1	12
	17-Apr-25	3	1	1			3	1	2		1		12
	22-Apr-25	3	2			1		1	1	1	3	2	14
	23-Apr-25	1	2			2		1	3	1	3	1	14
	24-Apr-25	3		1		1		2	1				10
	28-Apr-25	1					1	2	2	1	2		9
	29-Apr-25	1	2			3	1	1	1	3	1	1	14
	30-Apr-25	3	2					2	4	1	1		13
	1-May-25	2					1	2	1	1	3	1	11

2-May-25	2	1	1	2	2				1		9
5-May-25	2	1	1	1	2	1	2	1	4	3	18
6-May-25	1	2	1	2	2		1	1	5	4	19
7-May-25	1	1	1	1	2	2	1	3	3	2	17
8-May-25			1	1	2	1	2	3	3	2	16
9-May-25			3	3	1	3	1	1	2	1	15
12-May-25				1	1	1	3	2	4		12
13-May-25	1	1	3	2	2	1	2	2	2	3	17
14-May-25	4		1	3	1	2	2	2		5	18
15-May-25	1		1	2		1	3	2	2	1	13
16-May-25	4	3		1	2	2				2	14
19-May-25	1		1	2	1	1	1	1	2		10
20-May-25	1		1			1	3	2		1	9
21-May-25	1			3		2			1	1	8
22-May-25	1		1	2	2				2	1	11
23-May-25		1					1	1			3
26-May-25	1		2	2	1		1	3	2	2	14
27-May-25	1		3	1	1	3	1	2	1	4	17
28-May-25	2	2	1	1	1	1	2	2	3		15
29-May-25	2		2	1		1	2	2	1	2	13
30-May-25	3	3	1	2	4	3	1	2	1		20
31-May-25		1	3	1							5
2-Jun-25		2	1			5	3	4	2	3	20
3-Jun-25	4			3	2	2		6			17
4-Jun-25	4		1	2	1	3	3	3		1	18
5-Jun-25	4	1			2	1	1		2	4	15
6-Jun-25	2	1	1	1	2	1	2	1	1	1	13
7-Jun-25			1								1
10-Jun-25	2		2		5			2	1	4	16
11-Jun-25	2	1	1	1	2			3	4		14
12-Jun-25	3	3					1	1	3	2	13
13-Jun-25	3	1	1	1	2	2		2		3	15
14-Jun-25			1	1							2
16-Jun-25		1	1	3		1	1	3	4	1	15
17-Jun-25	3	2	2	1		4	2	1	3		18
18-Jun-25	3	1	2	2	2	3		3	2	3	21
19-Jun-25	2			1	2	1	1	2	2	2	13
20-Jun-25	1	2	1	2	1	2	1		2	2	14
23-Jun-25	4	2	1	1	1			3	2	1	15
24-Jun-25	2	4	1	1	2	1	2	2	1		16
25-Jun-25	3	2	1			1	2	2	1	3	15
26-Jun-25	3	2		2	3		1	5	3	1	20
27-Jun-25	2	1	1		2	2	1	2	2		13
28-Jun-25		1									1
30-Jun-25	2	2	1	1				2	4		12
1-Jul-25	3	1		1			1	3	1	1	11
2-Jul-25	2	1					1	2	3		9
3-Jul-25		1	1		1		1		2	1	7
4-Jul-25	3	1	1	1		1	1	2	2	1	13
5-Jul-25		1	1								2
7-Jul-25	2	2		1	3	1		5	1		15
8-Jul-25	3		2			3	1	3	2	2	16
9-Jul-25	2	1	1		2		1	2		3	12
10-Jul-25	1		1	3		1	1	3	1	2	13
11-Jul-25				4	2	1	1	2	2		12
12-Jul-25		1	2	1							4
14-Jul-25	5		1	3	2	1	2	2	6	3	25
15-Jul-25			2		1		3	2	1	1	10
16-Jul-25	1		1		1	1			2	1	7
17-Jul-25	2	1		5		2		1	2		13
18-Jul-25	2	1	1	2			1	1	1	2	11
21-Jul-25	1	1	2		2		2	2	2	1	13
22-Jul-25	4	1			2	1	2	1	2	1	14
23-Jul-25	1			1		2		6	6	3	19
24-Jul-25	3	1	1	3			1	1	3	1	14
25-Jul-25	1	2	2		1		2	2	2		12
28-Jul-25	2		2		1	1		2	4	2	14
29-Jul-25	2	2	1		1		4	3	2		15
30-Jul-25	2			1				1	1	1	6
31-Jul-25	1			1			5	2			9
1-Aug-25					2			2	1	1	6
4-Aug-25	1			2	1	1		1		1	7
5-Aug-25	1	1		2	2			3	2		11
6-Aug-25	3		1	2	1		4		2		13
7-Aug-25	2	2					3	3	1	1	12
8-Aug-25	2	2	2		3	1	1	2	1		14
11-Aug-25	1		2	1	3		2		2	1	12
12-Aug-25		2	2		1		3	1		1	10
13-Aug-25		1	3			1	4	3	3		15
14-Aug-25	1		2	3	2		1	3	2		14
15-Aug-25		1	1	2	1	1	3	1		1	11
18-Aug-25	2	1		2	1	1	1	1	2	2	13
19-Aug-25	2	1		1	1		4	1			10
20-Aug-25	2	1	1	1		1		3			9
21-Aug-25	2				1	1	1				5
22-Aug-25	1	1	1				2	1			6
25-Aug-25	1	1	2	1	1		2	1	2	4	15

26-Aug-25	2	3			1	3	1		2	1	13
27-Aug-25	2	1		2	1	1	3		3	2	15
28-Aug-25		2			1	1	2	3	1	2	12
29-Aug-25			2	1	2	1	2	2	3	1	14
30-Aug-25			3								3
1-Sep-25	1	2	2	5	3			2	1	3	19
2-Sep-25		1	1			2	2	3	2	6	17
3-Sep-25	3	1	4	2	1	1	1		1	3	17
4-Sep-25	2	1	1		1	3		3	1	2	14
5-Sep-25	2	1	1	3		2	1		1		11
6-Sep-25		2	3	1							6
8-Sep-25		1	1	2	1				3	5	13
9-Sep-25	3	2	1	2		2		4	1		15
10-Sep-25	6	1		2		2		4	2		17
11-Sep-25	2		1		1		2	1		1	8
12-Sep-25	1	1	2	2	1		1	2		2	12
13-Sep-25		3	1	1							5
15-Sep-25	1	2			1		2		4	1	11
16-Sep-25	2		1	1	2	1	1	2	3		13
17-Sep-25	5	4	1	1	1	2		1		2	17
18-Sep-25	2	1		1	1	2		5	1		13
19-Sep-25	1	1	1	1	1	2	1	1	4		13
20-Sep-25		2	1	3							6
22-Sep-25	2				1	1	1	3	1		9
23-Sep-25	1	2		1		3		1	1	2	11
24-Sep-25	6		1		2	1	4	4	3	1	22
25-Sep-25	2	1	1	2	1	2	1	1	3	5	19
26-Sep-25	3	3	2	1	1	2	2				14
27-Sep-25		1	2	1							4
29-Sep-25	1	2	2		1	1		4	6	2	19
30-Sep-25			1	2	1		1	3	2	1	11
1-Oct-25	1	1	3	2	1		2	2	1	1	14
2-Oct-25	1			1		2	1	1	1	2	9
3-Oct-25	1	1		1	1	1	1				6
7-Oct-25	2	2	1	1	1	2	2		2	3	16
8-Oct-25	2			2	1	1	1	4	2	1	14
9-Oct-25	1	1	1	2		1	2	1	2	1	12
10-Oct-25	1	1	3	1	2	2	1	1	3	2	17
11-Oct-25		2	1								3
13-Oct-25	2			3		1		4	2		12
14-Oct-25	2		1			2		1	4	2	12
15-Oct-25	1		1	1	1		3	1	3	4	15
16-Oct-25	1	1	1	1	1	1	2	4	3		15
17-Oct-25	2	3		1		1		2	2	1	12
18-Oct-25			2	1							3
20-Oct-25	2	1	2		1	2		2		4	14
21-Oct-25	2	1		2	1	1	1		3	2	13
22-Oct-25	1	1		1	1	3			2	2	11
23-Oct-25		1			1	3			5	1	11
24-Oct-25	1	1	1	1	1	1	1	1	2	1	10
25-Oct-25		1	1	1							3
27-Oct-25	1	2		1	1	1	1	4	1	2	14
28-Oct-25	2	1		3	2		2	2	2	2	16
29-Oct-25	2	2	1	1	3	2	2	1	2		16
30-Oct-25	1	1	1				1	4	2		10
31-Oct-25	1	1	1	2	1	1	1		3	1	12
1-Nov-25				1							1
3-Nov-25	1	1			1		2		2	2	9
4-Nov-25	2	1	1	1		2	2	1	3	2	15
5-Nov-25	2	1	1	2		1		1	3	1	13
6-Nov-25	1		1		1		1	3	3		10
7-Nov-25	1	1		1	1		1	5	2	1	13
8-Nov-25		1	1								2
10-Nov-25	1	1	3			1	1		1	3	11
11-Nov-25	3	1	1	1		1	1	1	3		12
12-Nov-25		1	2		1	1	1	3	5	1	15
13-Nov-25	2		3	1	1			1	5	1	14
14-Nov-25	1	1	1	1	2		3		2		11
15-Nov-25			3								3
17-Nov-25		3			1	2	1	3		3	13
18-Nov-25	3	1	2	1			2	2	4	1	16
19-Nov-25	2	1		2	2		3		3	1	14
20-Nov-25	1	1	3	1		2	1	1	3	5	19
21-Nov-25	2		5			1		2			10
22-Nov-25			1	1							2
24-Nov-25	2		1		1			3	2	2	11
25-Nov-25	2	1	1	2			2	4	4		16
26-Nov-25	2	1			2	1	2	1	6		15
27-Nov-25	3		2		1		2	1	4	1	14
28-Nov-25	1	2	1	2			1	1	4		12
29-Nov-25		1	2								3
1-Dec-25	3	2	3	2	1		2	3	2	4	22
2-Dec-25	5	1	2	1	1		1	2	4		17
3-Dec-25	2	2	2		2	1	1	2	5	3	20
4-Dec-25		1	1	1	2	1	1	1	5		13
5-Dec-25	3		1	2	3	1	1	2	1	1	15
8-Dec-25		1			1		3		4	4	13

9-Dec-25	2	1			1		5	3	2	1		15
10-Dec-25		2	2	1	2	1	1	2	3	2		16
11-Dec-25	1	1					3	1	4	1		11
12-Dec-25	2	2	1	3	1		2	1	3	1		16
13-Dec-25			2									2
15-Dec-25	4	1	1	1	1		2	3	4	1		18
16-Dec-25		3	1	1		2	2	3	1	1		14
17-Dec-25	1	1	1				2	2	4	3		14
18-Dec-25	2		1	1	1	2	2		5	4		18
19-Dec-25	2	4	1	3	2		1			1		14
20-Dec-25			1									1
22-Dec-25	2		1		2			1		1		7
23-Dec-25	1		1									2
Grand Total	404	282	255	273	261	253	332	490	558	325	6	3439

**Appendix E –
Biodiversity Monitoring Reports
(2025)**

Grant Stevenson
Quarry Manager
Redisand Pty Ltd

18 September 2025

Dear Grant,

RE: Outcomes of the 2025 Nest Box and Stag Tree Register and Nest Box Monitoring

Emergent Ecology was engaged to document the distribution of nest boxes and stag trees and undertake the 2025 nest box monitoring at Redisand sand quarry facility at Salt Ash, NSW. Nest boxes and stag trees have been installed at Redisand over several years to compensate for the loss of 212 hollow bearing trees identified in the extraction footprint. On-site personnel have sighted several bird and reptile species using nest boxes and stag trees throughout the rehabilitation and Retained Vegetation Area.

The following letter outlines the method and results of the field surveys occurred on the 15th September 2025.

Methods

Nest Box and Stag Tree Register

Site personnel escorted the ecologist to all nest boxes and stag trees throughout the rehabilitation and Retained Vegetation Area. A Garmin GPSMAP 78 was used to record the location of nest boxes and stag trees. Information on nest box type, host tree species and general location were recorded and entered into the Nest Box Installation and Monitoring Master Spreadsheet (provided as an Excel spreadsheet).

Nest Box Monitoring

Monitoring the usage of each nest box was undertaken using ladder. Internal and external observations were recorded on each nest box and entered into the Nest Box Installation and Monitoring Master Spreadsheet. Data collected during the monitoring surveys included:

- evidence of occupation, such as nesting material, chew marks, scratches, scats etc;
- fauna species recorded;
- evidence of pest species;
- type of nesting material present;
- photo evidence of material (where relevant);
- condition of the nest box; and
- recommendations for maintenance/installation.

Evidence of occupation included external indicators such as chew, scratch and rub marks on the entry hole, lid and side panels, and internal indicators included imported nesting material, feathers, fur, egg shells, scats/droppings, scratches or chew marks.

Maintenance of the boxes was undertaken where required. Any structural issues with a box were documented and reported.

Results and Discussion

A total of 95 nest boxes were inspected during the 2025 monitoring program, refer to **Figure 1**. All nest boxes were installed between four and five metres from ground level. Of the 95 nest boxes monitored, 27 (28%) showed evidence of usage, including three (3%) nest boxes being occupied during the inspections. **Table 1** shows the usage rate, species diversity and abundance of species that have used, or had signs of evidence, in each nest box type. The Master Installation and Monitoring Spreadsheet has been updated with detailed results and is provided as an attachment to this letter report.

Table 1. Abundance and usage of nest box types.

Nest Box Type	Total Number of Boxes	Evidence of Usage	Diversity and Abundance (Species Using the Box)
Microbat	8	1 (13%)	Antechinus x 1
Boobook	1	0 (0%)	0
Brushtail Possum	3	1 (33%)	Brushtail Possum x 1
Feathertail Glider	1	1 (100%)	Antechinus x 1
Lorikeet	1	0 (0%)	0
Parrot/Glider	9	9 (100%)	Glider x 7 Rosella x 2
Salvaged Hollow (Glider/Phascogale)	72	15 (21%)	Antechinus x 10* Glider x 4* Lorikeet x 1
Total	95	27 (28%)	5 Species

* indicates fauna species observed in nest box during inspections.

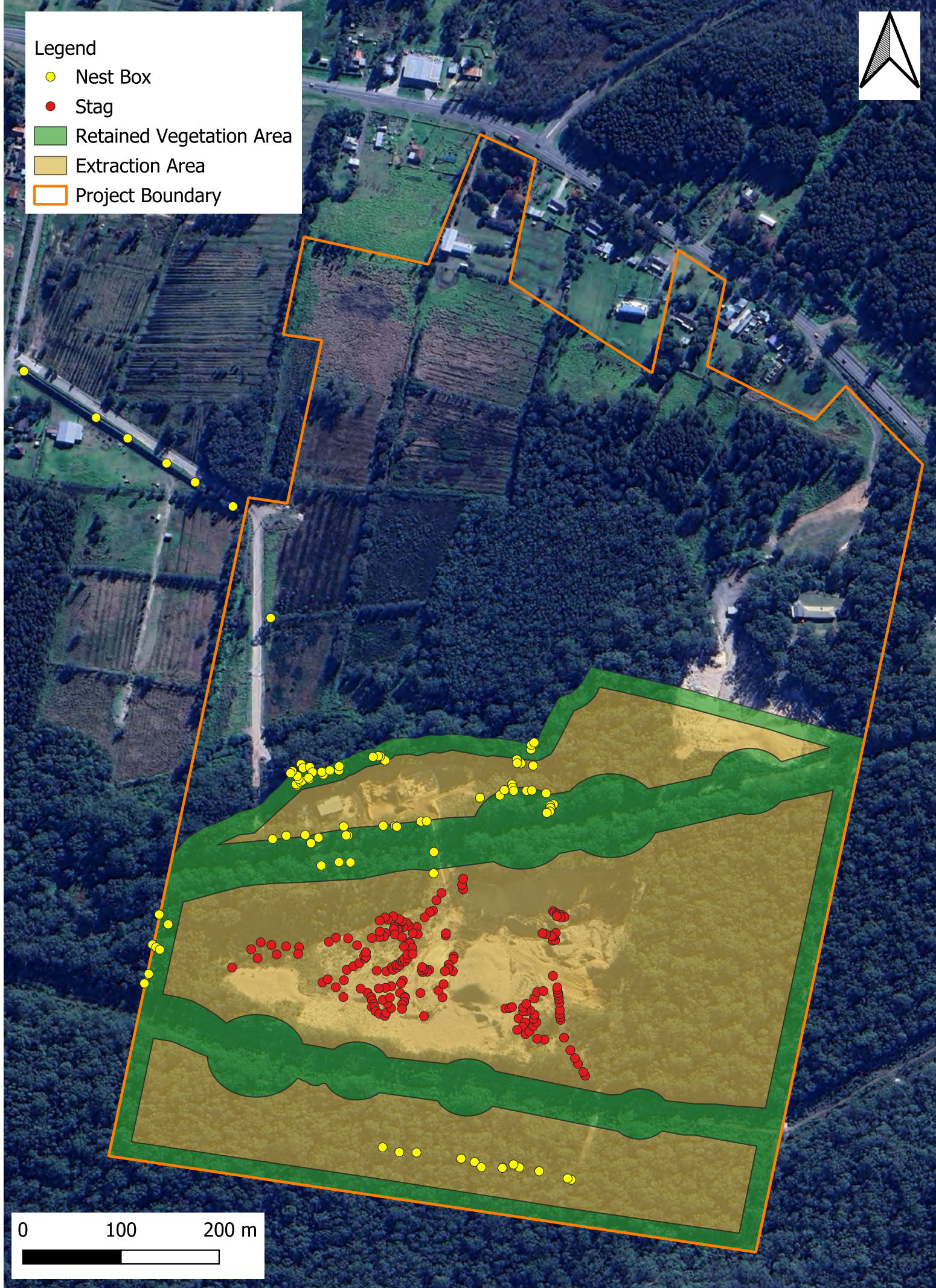


Figure 1. Location of Nest Boxes and Stag Trees

The Feathertail and Glider/Parrot nest box designs provided the greatest usage rate at 100%, followed by the Brushtail Possum (33%) and Salvaged Hollow (21%). The Salvaged Hollow box provided the highest species diversity with three species recorded, followed by the Parrot/Glider box design with two species recorded.

Antechinus were the most abundant species found using the nest boxes with evidence of these species recorded in 12 (13%) nest boxes in three different box types and two individuals observed during the inspections. Gliders were recorded in 10 (11%) nest boxes in two different box types, with one individual Squirrel Glider (*Petaurus norfolcensis*) observed during the inspections, discussed below.

Micro-bats were not recorded using bat boxes during the 2025 monitoring program. However, this does not indicate that the boxes were unsuccessful in providing refuge for bats, and other fauna species. Evidence of an Antechinus was observed in one bat box during the inspections. The absence of records may be due to the difficulty in determining usage. Usage of boxes by bats can only be determined by occupation, scats at the entry of the box, scats on the ground below the box. Scats will only last a short period of time, unless the box is regularly used. Therefore, it is difficult to determine if the boxes have been used over a long period of time. Further monitoring will provide evidence of usage of micro-bat species within boxes installed, and will allow for development of future management recommendations to augment habitat for this fauna group.

Threatened Species

One individual Squirrel Glider (*Petaurus norfolcensis*) was recorded in a Salvaged Hollow box (Box 30) in 2025, located in the Retained Vegetation Area 150m north of the facility. Squirrel gliders are listed as Vulnerable under the NSW *Biodiversity Conservation Act* 2016. This species is known to occur in the area.



Plate 1. Squirrel Glider recorded in Box 30 in 2025

Pest Species

No pest species were observed in any box during the 2025 nest box monitoring program.

Nest Box Maintenance

Nest boxes were generally in good order and securely positioned. Maintenance during the monitoring program included repositioning less than five boxes. There are no recommendations to undertake further maintenance of boxes monitored in 2025.

Stag Trees and Hollow-bearing Tree Management

In addition to the installation of nest boxes, a total of 177 hollow-bearing stag trees have been installed within the rehabilitation area. Many of these stag trees have multiple hollows (up to four hollows per stag tree), providing refuge and nesting habitat for a range of native fauna species.

Redisand have a commitment to compensate for the loss of 212 hollow-bearing trees identified in the extraction footprint. The installation of 95 nest boxes and 177 stag trees results in a total of 272 hollow resources installed as compensation for the loss of hollow-bearing trees. This is a total of 60 additional hollow resources beyond the Project Approval commitment.

During the field surveys reptile and bird species were observed utilising the installed stag trees (refer to **Plate 2**), including Lace Monitor (*Varanus varius*), Jacky Lizard (*Amphibolurus muricatus*) and Galah (*Eolophus roseicapilla*).



Plate 2. Lace Monitor and Galah in installed stag tree.

Conclusion

Nest box and stag tree installation at Redisand has provided a valuable refuge, foraging and nesting resources for a range of fauna species surrounding the sand quarry operation. Redisand have also installed many fallen hollow logs providing additional refuge, foraging and nesting resources.

Redisand has achieved the Ecology commitment in Appendix 3 of the Statement of Commitments (Project Approval 07_0094) to compensate for the loss of up to 212 hollow bearing trees through the installation of 95 nest boxes and 177 hollow-bearing stag trees. Redisand are continuing with the installation of stag trees in rehabilitation areas and will record these on the Nest Box and Stag Installation and Monitoring spreadsheet.

I trust the information in this letter covers all the details you require relating to the nest box and stag tree register and 2025 nest box monitoring. Attached in an email will be a shape file of nest box and stag locations and an updated spreadsheet register of installed nest boxes and stags and completed nest box monitoring program.

Please call me on 0434 483 913, or the above email, if you have any questions regarding this letter.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'T Willis', with a stylized flourish at the end.

Tasman Willis
Principal Ecologist

**Biodiversity Stewardship agreement
ID number: BA00108
for sites established under the NSW Biodiversity
Conservation Act, 2016**

**Annual Management Report
for Year 10 of passive management**

for Pola Fogal, Tomalla



**Biodiversity
Conservation
Trust**

Biodiversity stewardship site annual reports (including this report) should be filed and stored in a such a way to ensure successive landholders of the site are able to access the management and audit history related to this site.

Annual report summary of passive management actions

BSA Site Reporting and Monitoring				
Audit details				
Reporting year of BSA site: Year 10 (2025-2026) Site visit (if required): Not required at this stage BCT Contact: Rhys Corrigan Phone: 0419 246 069 Email: rhys.corrigan@bct.nsw.gov.au			Biodiversity Stewardship agreement ID: BA00108 Name of landowner/site contact: Grant Stevenson Email: planning@redisand.com.au Property address: Lot 2 DP 707938 Tomalla NSW	
Management actions				
Annual reporting undertaken by landowner of the site (as per landowner's annual report)				
Management action	Item reference number	Required completion and frequency	Action completed (Yes/No)	Dates of inspection and description of actions undertaken
1. Management of grazing for conservation	1.1 Stock must not be permitted to graze in any area of the BSA site.	Ongoing from commencement date	No	A inspection was completed 22/01/2026. The site is mostly inaccessible due to terrain, therefore it is likely most of the BSA site is not used by cattle. The existing fencing is old however it is structurally adequate to prevent access by livestock. No fence/cattle grid was observed on the northern access from Poly Fogal Road. The wire gate to access PP G_E has fallen down and rusted (refer to Annual Site Inspection Checklist). A review of entire BSA site fence, gates and cattle grids is recommended. Cow dung was observed within the BSA site: 80m south-east of Photo Point F_E, 50m east of Photo Point I_N and 70m north-east of Photo Point G_E.
	1.4 If stock is observed, the landowner must take measures to remove the stock immediately.	Ongoing from commencement date		No livestock was observed.
2. Weed control	N/A until active management			N/A.

Management action	Item reference number	Required completion and frequency	Action completed (Yes/No)	Dates of inspection and description of actions undertaken
3. Management of fire for conservation	N/A until active management			N/A.
	3.3 The landowner must light no additional fires on the property except that which has been outlined as part of the fire management plan.	Ongoing from commencement date		No evidence of fire was observed.
4. Management of human disturbance	4.1 & 4.2 Human activities that adversely affect biodiversity values must not be carried out except as permitted under the agreement.	Ongoing from commencement date		No evidence of human disturbance was recorded. Site is mostly inaccessible.
	4.4 The landowner must not store or dispose of any waste on the BSA site.	Ongoing from commencement date		No evidence of waste being stored or disposed of.
5. Retention of regrowth and remnant native vegetation	5.1 Native vegetation must not be cut down or removed.	Ongoing from commencement date		No evidence of cut timber observed.
	5.2 Native vegetation must not be burnt except in accordance with fire management plan.	Ongoing from commencement date		No evidence of fire was observed.
6. Replanting or supplementary planting where natural regeneration will not be sufficient	N/A until active management			N/A.
	6.5 Seeds and plants used for planting must be from locally collected provenances unless	As required (from commencement date if relevant to prepare for		Not required.

Management action	Item reference number	Required completion and frequency	Action completed (Yes/No)	Dates of inspection and description of actions undertaken
	there are reasons to do otherwise.	future planting).		
7. Retention of dead timber	7.1 Dead timber (whether standing or fallen and including branches and leaf litter) must not be removed from or within the BSA site.	Ongoing from commencement date		No timber removed from or within the BSA site.
8. Erosion control	N/A until active management			N/A.
9. Retention of rocks	9.1 The landowner must not remove, or cause or permit to be removed, rocks from or within the BSA site.	Ongoing from commencement date		No rocks removed from or within the BSA site.
10. Control of feral and overabundant native herbivores	N/A until active management			N/A.
11. Vertebrate pest management – foxes	N/A until active management			N/A.
12. Nutrient control	N/A until active management			N/A.
14. Maintenance or reintroduction of natural flow regimes	14.3 Artificial structures such as dams or levee banks that impede the natural flow regimes on the BSA site must not be constructed unless	Ongoing from commencement date		No construction of dams or levees within the BSA site.

Management action	Item reference number	Required completion and frequency	Action completed (Yes/No)	Dates of inspection and description of actions undertaken
	approved in writing for the purpose of restoring natural flows.			

Details of incidents or events that have had an adverse effect on biodiversity values on biobank site	
Description of incident or event (e.g. natural events)	Action taken and/or proposed recommended actions
Storm damage: fallen trees observed at several locations within the BSA site.	No action required.
Any other comments or observations regarding the biobank site	
Marker posts for photo monitoring points were installed in 2026. Previous monitoring events did not have a consistent location due to lack of a marker post. All efforts were made to find previous years photo point, outlined in Photo Monitoring section below. Existing access tracks were observed to be in a reasonable condition. Clearing of regrowth may be required to maintain vehicle access to Photo Point I_N access track.	



Signature and declaration	
I hereby declare that the information supplied in this report is accurate and complies with the reporting requirements under clause 2 of the Annexure D to the biodiversity stewardship agreement. Note: If the land that forms the biobank site is owned by multiple persons, each landowner must sign this annual report.	
Signed, Brian Morton 	Signed, Allan Morton 
Date: 25/02/2026	Date 25/02/2026

To be completed by the landholder and submitted with both passive and active annual reports

Three and six-monthly site inspection checklist	
This template is to be completed to record the outcomes of each three and six-monthly inspection for documenting observations of livestock, human disturbance, erosion and rubbish dumping. The completed template must be submitted with the annual report.	
Completed by: Three monthly: Brian Morton Six monthly: Brian Morton	Inspection date: Three monthly: 24/02/2025 Six monthly: 26/08/2025
Three-monthly inspection	
Is there evidence of livestock present on the biobank site? (NO) If yes, provide a brief description of type, number, date and location. Weed spraying was conducted on 24/02/2025 on foot along the river creek concentrating on the Blackberry weed. No livestock was sighted during this time.	
Six-monthly inspection	
Is there evidence of waste/rubbish dumping on the biobank site? (NO) If yes, provide a brief description. Attach photos and mark the location on a map. An inspection and weed spraying were completed on 26/08/2025. No evidence of any disturbance or human interactions was observed. Attached on the last page of this report is a map showing the area of conducted weed spraying in green shading.	
Is there evidence of human disturbance on the biobank site? (NO) If yes, provide a brief description. Attach photos and mark the location on a map. No evidence of any disturbance or human interactions observed on the above dates. New biobanking signs have been ordered.	
Is there evidence of active erosion on the biobank site? (YES / NO) If yes, provide a brief description. Attach photos and mark the location on a map. A site visit was conducted on 24/02/2025 and consisted mainly around weed control following the creek down. A site inspection was undertaken on 26/08/2025 however the rainfall for the month made it difficult to gain access to most of the site as the grounds were inaccessible.	

Annual site inspection checklist

This template is to be completed to record the outcomes of the annual inspection of fencing, gates and signage. The completed template should be submitted with the annual report.

Completed by: Tas Willis

Date of site inspection: 22/01/2026

Are all fences on the perimeter of the biobank site in good condition and capable of excluding stock and human disturbance? (YES / NO) If no, provide a brief description. Attach photos and mark the location on a map.

The observed fences were old however capable of preventing cattle where they occur. No fence was observed accessing to Photo Point I_N or the northern access to Photo Point J. The fence east of Photo Point F has not been installed, however a fence line and gate occurs 200m east. Due to the inaccessibility of the site, not all fences were inspected. A detailed review of fence condition is recommended.

Cow dung was observed within the BSA site: 80m south-east of Photo Point F_E, 50m east of Photo Point I_N and 70m north-east of Photo Point G_E.

Are all gates on the biobank site in good condition and capable of excluding stock from the biobank site? (YES / NO) If no, provide a brief description. Attach photos and mark the location on a map.

The gate to access Photo Point G (from the south) is in disrepair and needs to be replaced. All other gates were in working condition.



Is a legible biobanking sign installed at the sign locations identified on the property management actions map? (YES / NO) If no, mark the locations of the missing signs on a map.

No signs were observed during the monitoring event.

Photo-point monitoring

Take photographs at the photo-points specified in the agreement and submit this document with your annual report. If you have photos from year 1 of your agreement you can include these as a comparison.

Photo-point number: F_E

Location co-ordinates: 361933.372E, 6483033.974N

Photo orientation (degrees e.g 230 degrees): 90 degrees

Time and date taken: 22/01/2026, 12:30



The photo from the previous monitoring event was taken in a south-easterly direction (135 degrees), see below without a permanent marker.



Photo Reference Point F - 180°S

Photo from 2024 monitoring report.



Photo from 2026.

Photo-point number: F_S

Location co-ordinates: 361933.372E, 6483033.974N

Photo orientation (degrees e.g 230 degrees): 180 degrees

Time and date taken: 22/01/2026, 12:30



Photo-point number: G_E

Location co-ordinates: 363284.891E, 6481829.461N

Photo orientation (degrees e.g 230 degrees): 90 degrees

Time and date taken: 22/01/2026, 11:30



Photo-point number: H_E

Location co-ordinates: 363132.298E, 6480091.743N

Photo orientation (degrees e.g 230 degrees): 90 degrees

Time and date taken:

Not accessible.

Photo-point number: H_W

Location co-ordinates: 363132.298E, 6480091.743N

Photo orientation (degrees e.g 230 degrees): 270 degrees

Time and date taken:

Not accessible.

Photo-point number: I_N

Location co-ordinates: 361800.719E, 6482482.119N

Photo orientation (degrees e.g 230 degrees): 0 degrees

Time and date taken: 22/01/2026, 13:45



The GPS coordinate for I_N in the BSA was within the creek, shown below. The permanent star picket was placed three metres south of the GPS coordinate to prevent damage from high water flow within the creek.



Photo-point number: J_E

Location co-ordinates: 362247.818E, 6481976.268N

Photo orientation (degrees e.g 230 degrees): 90 degrees

Time and date taken: 22/01/2026



The GPS coordinate for L_E in the BSA was in the middle of the road, shown below. The permanent star picket was placed three metres east of the GPS coordinate to prevent damage from high water flow within the creek.



The photo from the previous monitoring event was taken in a general location without a permanent marker. Below shows the previous monitoring event (approximately 10m from the GPS locaiton in the BSA) and a comparison photo from this year.



Photo Reference Point J - 90°E

Photo from 2024 monitoring report



Photo from 2026

Photo-point number: K_S

Location co-ordinates: 362244.32E, 6481793.38N

Photo orientation (degrees e.g 230 degrees): 180 degrees

Time and date taken: 22/01/2026, 10:00



The GPS coordinate for L_E in the BSA was in the middle of the road, shown below. The permanent star picket was placed three metres east of the GPS coordinate to prevent damage from high water flow within the creek.



The location from previous years monitoring could not be located.

Photo-point number: L_E

Location co-ordinates: 361984.98E, 6481952.22N

Photo orientation (degrees e.g 230 degrees): 90 degrees

Time and date taken: 22/01/2026, 10:15



The photo from the previous monitoring event was taken in a general location without a permanent marker. Below shows the previous monitoring event (approximately 15m from the GPS locaiton in the BSA) and a comparson photo from this year.

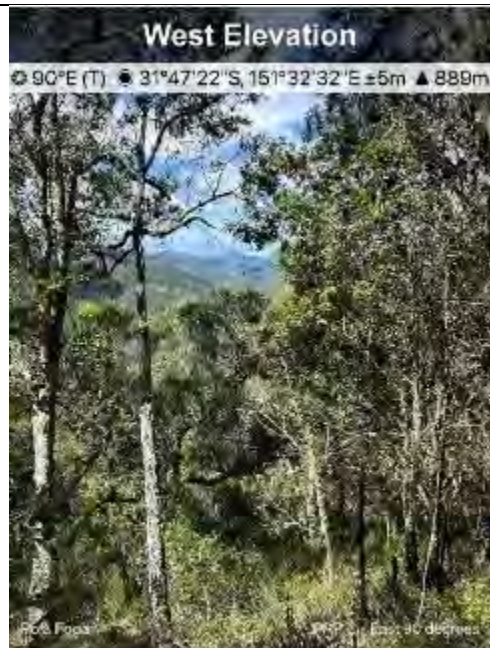


Photo Reference Point L - 90°E
Photo from 2024 monitoring report



Photo taken in 2026

Management Zone Plan map (10 November 2014)



**Appendix F –
Murrooma Incorporated Cultural
Heritage Report (March 2025)**

MURROOMA



INCORPORATED

Thursday 20th of March 2025

9 Vardon Road Fern Bay 2295 NSW
0421078695
Murroomainc1@gmail.com

ABN: 97 807 719 484

Redisand Att: Grant Stevenson

RE: Cultural Heritage Report –Onsite Inspection and Community Collection/Salvage

On Thursday 6th of March 2025, Murrooma Inc, Nurrungee and Worimi LALC representatives- Bec Young, Tom Smith and David Kirk completed an Aboriginal site investigation to identify any cultural material requested by Redisand as per CHMP. We completed a walkover of the overburden and screened spoil material that has been re-spread. This process is being completed to follow current plans in place and to ensure protection of local Aboriginal Sites and collection of cultural material for further education and reburial of Worimi Aboriginal Objects. This inspection was completed by site officers' walking in transects over the area.



Results: -We identified several cultural heritage objects in the screened spoils that had been placed back on site with the overburden.



Total: 46 – Cores, Flake and Flake pieces – Nobby's Tuff, Silcrete, Mudstone and Chert



Total 3 –Shell Midden Material

Oyster and Pipi

Recommendations: All groups were satisfied with the opportunity to view the areas for cultural material. All artefacts were photographed and will stay onsite in locked room for future reburial.

We have discussed ongoing and future proposed works with Grant at Redisand and management plans to ensure the protection of Worimi Aboriginal Cultural Heritage. Grant will contact our groups in the near future to discuss coming to view the overburden section again as we have asked this to be spread for better visibility. RAP's onsite discussed re-burial of the current Artefacts and David Kirk From Worimi LALC has suggested we table all materials and we all agreed to have these added to the Environmental Asset area at the Northern part of the site (not to be excavated in future) There is already a current site registered there and we will obtain Site Card to add these artefacts.

Yours Truly

Report completed by - Bec Young- Murrooma Sites Officer and Operations Manager- 0421078695

In agreement with:

David Kirk - Worimi LALC Sites Officer

Tom Smith- Nurrungee Sites Officer

**Appendix G –
Soil and Water Monitoring Results (2025)**

Report Number: 17302

Date Issued: 17/01/2025

Revision Number: 00

Site/Job: Redisand Surface Waters

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 9/01/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	9/01/2025	17302/1	Water	White
Settled Pond	9/01/2025	17302/2	Water	Black
Creek	9/01/2025	17302/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Authorised by:

Results have been approved and report finalised on 17/01/2025.

Test Report Number: 17302

Date Issued: 17/01/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	17302/1 9/01/2025 Feed Pond	17302/2 9/01/2025 Settled Pond	17302/3 9/01/2025 Creek
Temperature	Temp	°C	21.6	21.1	20.2
pH	APHA 4500-H B	pH Units	5.8	6.4	5.4
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	207	250	337
Dissolved Oxygen	APHA 4500-O G	mg/L	6.9	7.1	1.8
Oxidation Reduction Potential _#	APHA 2580 B	mV	252	133	117

Solids	Method	Lab ID Sample Date Sample ID Units	17302/1 9/01/2025 Feed Pond	17302/2 9/01/2025 Settled Pond	17302/3 9/01/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	1,400	<5	6
Total Dissolved Solids	AS3550.4	mg/L	530	200	290

Date Tested	Method	Lab ID Sample Date Sample ID Units	17302/1 9/01/2025 Feed Pond	17302/2 9/01/2025 Settled Pond	17302/3 9/01/2025 Creek
Date Tested - Field	--	--	09/01/2025	09/01/2025	09/01/2025
Date Tested - TDS	AS3550.4	--	09/01/2025	09/01/2025	09/01/2025
Date Tested - TSS	AS3550.4	--	09/01/2025	09/01/2025	09/01/2025

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Where applicable, results in **bold** indicate an exceedance of the relevant guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17302

Date Issued: 17/01/2025

Revision No: 00

Sampling Conditions: Raining, 21 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17302/1	Feed Pond		D.Walker	9/01/2025 10:31 AM	AS5667.4 Lake, Grab	AS5667.1
17302/2	Settled Pond		D.Walker	9/01/2025 10:18 AM	AS5667.4 Lake, Grab	AS5667.1
17302/3	Creek		D.Walker	9/01/2025 9:43 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17302/1	Feed Pond	400167	6370993	
17302/2	Settled Pond	400167	6371005	
17302/3	Creek	399964	6371336	

Sampling procedures have been approved and report finalised on 17/01/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17493

Date Issued: 13/02/2025

Revision Number: 00

Site/Job: Redisand Surface Waters

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 6/02/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	5/02/2025	17493/1	Water	White
Settled Pond	5/02/2025	17493/2	Water	Black
Creek	5/02/2025	17493/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 13/02/2025.

Test Report Number: 17493

Date Issued: 13/02/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	17493/1 5/02/2025 Feed Pond	17493/2 5/02/2025 Settled Pond	17493/3 5/02/2025 Creek
Temperature	Temp	°C	26.0	24.9	22.2
pH	APHA 4500-H B	pH Units	5.5	6.3	6.0
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	275	304	260
Dissolved Oxygen	APHA 4500-O G	mg/L	5.2	6.8	1.5
Oxidation Reduction Potential _#	APHA 2580 B	mV	238	142	72

Solids	Method	Lab ID Sample Date Sample ID Units	17493/1 5/02/2025 Feed Pond	17493/2 5/02/2025 Settled Pond	17493/3 5/02/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	2,900	12	<5
Total Dissolved Solids	AS3550.4	mg/L	1,090	210	190

Date Tested	Method	Lab ID Sample Date Sample ID Units	17493/1 5/02/2025 Feed Pond	17493/2 5/02/2025 Settled Pond	17493/3 5/02/2025 Creek
Date Tested - Field	--	--	06/02/2025	06/02/2025	06/02/2025
Date Tested - TDS	AS3550.4	--	12/02/2025	12/02/2025	12/02/2025
Date Tested - TSS	AS3550.4	--	06/02/2025	06/02/2025	06/02/2025

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - SWMP Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17493

Date Issued: 13/02/2025

Revision No: 00

Sampling Conditions: Cloudy, 25 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17493/1	Feed Pond		D.Walker	5/02/2025 11:20 AM	AS5667.4 Lake, Grab	AS5667.1
17493/2	Settled Pond		D.Walker	5/02/2025 11:09 AM	AS5667.4 Lake, Grab	AS5667.1
17493/3	Creek		D.Walker	5/02/2025 9:38 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17493/1	Feed Pond	400167	6370993	
17493/2	Settled Pond	400167	6371005	
17493/3	Creek	399964	6371336	

Sampling procedures have been approved and report finalised on 13/02/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17592

Date Issued: 12/03/2025

Revision Number: 00

Site/Job: Redisand Surface Waters

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 6/03/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	6/03/2025	17592/1	Water	White
Settled Pond	6/03/2025	17592/2	Water	Black
Creek	6/03/2025	17592/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 12/03/2025.

Test Report Number: 17592

Date Issued: 12/03/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	17592/1 6/03/2025 Feed Pond	17592/2 6/03/2025 Settled Pond	17592/3 6/03/2025 Creek
Temperature	Temp	°C	24.8	25.2	21.3
pH	APHA 4500-H B	pH Units	5.4	6.5	6.1
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	250	254	232
Dissolved Oxygen	APHA 4500-O G	mg/L	6.3	11.4	2.1
Oxidation Reduction Potential _#	APHA 2580 B	mV	132	90	78

Solids	Method	Lab ID Sample Date Sample ID Units	17592/1 6/03/2025 Feed Pond	17592/2 6/03/2025 Settled Pond	17592/3 6/03/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	3,700	19	<5
Total Dissolved Solids	AS3550.4	mg/L	950	160	140

Date Tested	Method	Lab ID Sample Date Sample ID Units	17592/1 6/03/2025 Feed Pond	17592/2 6/03/2025 Settled Pond	17592/3 6/03/2025 Creek
Date Tested - Field	--	--	06/03/2025	06/03/2025	06/03/2025
Date Tested - TDS	AS3550.4	--	7/03/2025	7/03/2025	7/03/2025
Date Tested - TSS	AS3550.4	--	7/03/2025	7/03/2025	7/03/2025

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - SWMP Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17592

Date Issued: 12/03/2025

Revision No: 00

Sampling Conditions: Showers, 23 - 24 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17592/1	Feed Pond		T & D.Walker	6/03/2025 12:31 PM	AS5667.4 Lake, Grab	AS5667.1
17592/2	Settled Pond		T & D.Walker	6/03/2025 12:19 PM	AS5667.4 Lake, Grab	AS5667.1
17592/3	Creek		T & D.Walker	6/03/2025 9:58 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17592/1	Feed Pond	400167	6370993	Turbid, wash plant running
17592/2	Settled Pond	400167	6371005	Fairly clear, no flow
17592/3	Creek	399964	6371336	Fairly clear, no flow

Sampling procedures have been approved and report finalised on 12/03/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17715

Date Issued: 11/04/2025

Revision Number: 00

Site/Job: Redisand Surface Waters

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 3/04/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	3/04/2025	17715/1	Water	White
Settled Pond	3/04/2025	17715/2	Water	Black
Creek	3/04/2025	17715/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 11/04/2025.

Test Report Number: 17715

Date Issued: 11/04/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	17715/1 3/04/2025 Feed Pond	17715/2 3/04/2025 Settled Pond	17715/3 3/04/2025 Creek
Temperature	Temp	°C	21.4	21.6	19.5
pH	APHA 4500-H B	pH Units	5.4	6.4	5.8
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	212	248	370
Dissolved Oxygen	APHA 4500-O G	mg/L	5.7	8.3	1.5
Oxidation Reduction Potential _#	APHA 2580 B	mV	202	197	136

Solids	Method	Lab ID Sample Date Sample ID Units	17715/1 3/04/2025 Feed Pond	17715/2 3/04/2025 Settled Pond	17715/3 3/04/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	4,500	5	10
Total Dissolved Solids	AS3550.4	mg/L	1,070	180	300

Date Tested	Method	Lab ID Sample Date Sample ID Units	17715/1 3/04/2025 Feed Pond	17715/2 3/04/2025 Settled Pond	17715/3 3/04/2025 Creek
Date Tested - Field	--	--	03/04/2025	03/04/2025	03/04/2025
Date Tested - TDS	AS3550.4	--	09/04/2025	09/04/2025	09/04/2025
Date Tested - TSS	AS3550.4	--	03/04/2025	03/04/2025	03/04/2025



Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - SWMP Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 17715

Date Issued: 11/04/2025

Revision No: 00

Sampling Conditions: Cloudy, 18 - 23 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17715/1	Feed Pond		T.Walker	3/04/2025 11:21 AM	AS5667.4 Lake, Grab	AS5667.1
17715/2	Settled Pond		T.Walker	3/04/2025 11:35 AM	AS5667.4 Lake, Grab	AS5667.1
17715/3	Creek		T.Walker	3/04/2025 10:35 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
17715/1	Feed Pond	400167	6370993	Very turbid, wash plant in operation. No outflow
17715/2	Settled Pond	400167	6371005	Fairly clear. No outflow
17715/3	Creek	399964	6371336	Creek full but no visible flow

Sampling procedures have been approved and report finalised on 11/04/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18060

Date Issued: 5/06/2025

Revision Number: 00

Site/Job: Redisand Surface Waters

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 29/05/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	29/05/2025	18060/1	Water	White
Settled Pond	29/05/2025	18060/2	Water	Black
Creek	29/05/2025	18060/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Liane Peyra
Technical Officer

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 5/06/2025.

Test Report Number: 18060

Date Issued: 5/06/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	18060/1 29/05/2025 Feed Pond	18060/2 29/05/2025 Settled Pond	18060/3 29/05/2025 Creek
Temperature	Temp	°C	15.3	16.4	13.9
pH	APHA 4500-H B	pH Units	5.5	6.4	5.9
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	156	227	213
Dissolved Oxygen	APHA 4500-O G	mg/L	7.8	7.1	2.4
Oxidation Reduction Potential _#	APHA 2580 B	mV	115	126	51

Solids	Method	Lab ID Sample Date Sample ID Units	18060/1 29/05/2025 Feed Pond	18060/2 29/05/2025 Settled Pond	18060/3 29/05/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	2,600	<5	<5
Total Dissolved Solids	AS3550.4	mg/L	380	150	230

Date Tested	Method	Lab ID Sample Date Sample ID Units	18060/1 29/05/2025 Feed Pond	18060/2 29/05/2025 Settled Pond	18060/3 29/05/2025 Creek
Date Tested - Field	--	--	29/05/2025	29/05/2025	29/05/2025
Date Tested - TDS	AS3550.4	--	3/06/2025	3/06/2025	3/06/2025
Date Tested - TSS	AS3550.4	--	30/05/2025	30/05/2025	30/05/2025

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - SWMP Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Field Analysis conducted onsite at Salt Ash Quarry

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 18060

Date Issued: 5/06/2025

Revision No: 00

Sampling Conditions: Light rain, 14 - 15 °C. Recent heavy rains.

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18060/1	Feed Pond		T.Walker	29/05/2025 10:49 AM	AS5667.4 Lake, Grab	AS5667.1
18060/2	Settled Pond		T.Walker	29/05/2025 11:03 AM	AS5667.4 Lake, Grab	AS5667.1
18060/3	Creek		T.Walker	29/05/2025 10:04 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18060/1	Feed Pond	400167	6370993	Very turbid, wash plant operating
18060/2	Settled Pond	400167	6371005	
18060/3	Creek	399964	6371336	

Sampling procedures have been approved and report finalised on 5/06/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 18294

Date Issued: 7/07/2025

Revision Number: 00

Site/Job: Redisand Surface Waters - 6 monthly

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 26/06/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	26/06/2025	18294/1	Water	White
Settled Pond	26/06/2025	18294/2	Water	Black
Creek	26/06/2025	18294/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 7/07/2025.

Test Report Number: 18294

Date Issued: 7/07/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	18294/1 26/06/2025 Feed Pond	18294/2 26/06/2025 Settled Pond	18294/3 26/06/2025 Creek
Temperature	Temp	°C	13.6	13.8	12.7
pH	APHA 4500-H B	pH Units	5.3	6.2	5.7
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	218	245	261
Dissolved Oxygen	APHA 4500-O G	mg/L	8.5	8.3	2.8
Oxidation Reduction Potential _#	APHA 2580 B	mV	143	144	97

Solids	Method	Lab ID Sample Date Sample ID Units	18294/1 26/06/2025 Feed Pond	18294/2 26/06/2025 Settled Pond	18294/3 26/06/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	4,200	<5	<5
Total Dissolved Solids	AS3550.4	mg/L	1,050	210	250

Date Tested	Method	Lab ID Sample Date Sample ID Units	18294/1 26/06/2025 Feed Pond	18294/2 26/06/2025 Settled Pond	18294/3 26/06/2025 Creek
Date Tested - Field	--	--	26/06/2025	26/06/2025	26/06/2025
Date Tested - TDS	AS3550.4	--	30/06/2025	30/06/2025	30/06/2025
Date Tested - TSS	AS3550.4	--	27/06/2025	27/06/2025	27/06/2025

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - SWMP Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Field Analysis conducted onsite at Salt Ash Quarry

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

Sampling Report Number: 18294

Date Issued: 7/07/2025

Revision No: 00

Sampling Conditions: Fine, 12 - 16 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18294/1	Feed Pond		T & D.Walker	26/06/2025 11:35 AM	AS5667.4 Lake, Grab	AS5667.1
18294/2	Settled Pond		T & D.Walker	26/06/2025 11:48 AM	AS5667.4 Lake, Grab	AS5667.1
18294/3	Creek		T & D.Walker	26/06/2025 9:56 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
18294/1	Feed Pond	400167	6370993	
18294/2	Settled Pond	400167	6371005	
18294/3	Creek	399964	6371336	

Sampling procedures have been approved and report finalised on 7/07/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 19212

Date Issued: 16/12/2025

Revision Number: 00

Site/Job: Redisand Surface Waters - 6 monthly

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following water sample(s) were received on 11/12/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
Feed Pond	11/12/2025	19212/1	Water	White
Settled Pond	11/12/2025	19212/2	Water	Black
Creek	11/12/2025	19212/3	Water	D/S from plant

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 16/12/2025.

Test Report Number: 19212

Date Issued: 16/12/2025

Revision No: 00

Results

Field Analysis	Method	Lab ID Sample Date Sample ID Units	19212/1 11/12/2025 Feed Pond	19212/2 11/12/2025 Settled Pond	19212/3 11/12/2025 Creek
Temperature	Temp	°C	23.3	23.5	20.1
pH	APHA 4500-H B	pH Units	6.1	6.5	5.9
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	268	257	227
Dissolved Oxygen	APHA 4500-O G	mg/L	6.5	8.7	1.4
Oxidation Reduction Potential _#	APHA 2580 B	mV	136	120	40

Solids	Method	Lab ID Sample Date Sample ID Units	19212/1 11/12/2025 Feed Pond	19212/2 11/12/2025 Settled Pond	19212/3 11/12/2025 Creek
Total Suspended Solids	AS3550.4	mg/L	820	10	<5
Total Dissolved Solids	AS3550.4	mg/L	460	160	140

Date Tested	Method	Lab ID Sample Date Sample ID Units	19212/1 11/12/2025 Feed Pond	19212/2 11/12/2025 Settled Pond	19212/3 11/12/2025 Creek
Date Tested - Field	--	--	11/12/2025	11/12/2025	11/12/2025
Date Tested - TDS	AS3550.4	--	15/12/2025	15/12/2025	15/12/2025
Date Tested - TSS	AS3550.4	--	12/12/2025	12/12/2025	12/12/2025

Report Comments:

Guideline applied - **SWMP Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 19212

Date Issued: 16/12/2025

Revision No: 00

Sampling Conditions: Intermittent light showers, 21 - 23 °C

Lab ID	Client Sample Reference	Licence/Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
19212/1	Feed Pond		T & D.Walker	11/12/2025 12:03 PM	AS5667.4 Lake, Grab	AS5667.1
19212/2	Settled Pond		T & D.Walker	11/12/2025 11:53 AM	AS5667.4 Lake, Grab	AS5667.1
19212/3	Creek		T & D.Walker	11/12/2025 9:47 AM	AS5667.6 River, Grab	AS5667.1

Lab ID	Client Sample Reference	GPS-Easting	GPS-Northing	Sampling Observations
19212/1	Feed Pond	400167	6370993	Very turbid, plant running
19212/2	Settled Pond	400167	6371005	Filling
19212/3	Creek	399964	6371336	No flow

Sampling procedures have been approved and report finalised on 16/12/2025.

Where method is "unknown" sampling procedures are not endorsed

Report Number: 17593

Date Issued: 19/03/2025

Revision Number: 00

Site/Job: Redisand Groundwater - Quarterly

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 6/03/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	6/03/2025	17593/1	Water	
BH3	6/03/2025	17593/2	Water	
BH4	6/03/2025	17593/3	Water	Not enough water to sample
BH5	6/03/2025	17593/4	Water	
BH6	6/03/2025	17593/5	Water	No access
MW1	6/03/2025	17593/6	Water	
MW2	6/03/2025	17593/7	Water	No access
MW3	6/03/2025	17593/8	Water	
MW4	6/03/2025	17593/9	Water	
MW5	6/03/2025	17593/10	Water	
MW6	6/03/2025	17593/11	Water	
MW7	6/03/2025	17593/12	Water	
Dup' (BH3)	6/03/2025	17593/13	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Liane Peyra
Technical Officer



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 19/03/2025.

Test Report Number: 17593

Date Issued: 19/03/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	17593/1 6/03/2025 BH1	17593/2 6/03/2025 BH3	17593/3 6/03/2025 BH4	17593/4 6/03/2025 BH5	17593/5 6/03/2025 BH6
Depth Reference Point		--	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTODRef)	3.57	19.22	13.48	6.60	[NT]
Standing Water Level	AS5667.11	m(AHD)	2.70	1.47	1.14	2.25	[NT]

Well Parameters		Lab ID Sample Date Sample ID Units	17593/6 6/03/2025 MW1	17593/8 6/03/2025 MW3	17593/9 6/03/2025 MW4	17593/10 6/03/2025 MW5	17593/11 6/03/2025 MW6
Depth Reference Point		--	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTODRef)	1.64	3.09	13.15	1.53	3.44
Standing Water Level	AS5667.11	m(AHD)	2.10	1.58	2.02	1.53	1.89

Well Parameters		Lab ID Sample Date Sample ID Units	17593/12 6/03/2025 MW7	17593/13 6/03/2025 Dup' (BH3)
Depth Reference Point		--	TOM	TOM
Depth to Water	AS5667.11	m(bTODRef)	3.33	19.22
Standing Water Level	AS5667.11	m(AHD)	1.64	1.47

Field Analysis		Lab ID Sample Date Sample ID Units	17593/1 6/03/2025 BH1	17593/2 6/03/2025 BH3	17593/4 6/03/2025 BH5	17593/6 6/03/2025 MW1	17593/8 6/03/2025 MW3
Temperature	Temp	°C	22.7	20.5	20.2	21.1	20.0
pH	APHA 4500-H B	pH Units	5.4	5.0	5.2	4.4	4.4
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	120	282	226	226	211
Dissolved Oxygen	APHA 4500-O G	mg/L	4.2	4.1	1.5	1.8	1.9
Oxidation Reduction Potential _#	APHA 2580 B	mV	80	147	64	-19	-11
Turbidity	APHA 2130 B	NTU	370	1.2	550	6.9	45

Field Analysis		Lab ID Sample Date Sample ID Units	17593/9 6/03/2025 MW4	17593/10 6/03/2025 MW5	17593/11 6/03/2025 MW6	17593/12 6/03/2025 MW7	17593/13 6/03/2025 Dup' (BH3)
Temperature	Temp	°C	20.2	21.4	23.8	20.9	20.4
pH	APHA 4500-H B	pH Units	5.3	5.0	5.5	4.9	5.0
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	570	213	215	56.0	282
Dissolved Oxygen	APHA 4500-O G	mg/L	2.9	1.6	1.7	1.6	3.9
Oxidation Reduction Potential _#	APHA 2580 B	mV	-64	-34	-75	-32	150
Turbidity	APHA 2130 B	NTU	37	6.8	45	12	1.1



Solids		Lab ID Sample Date Sample ID Units	17593/1 6/03/2025 BH1	17593/2 6/03/2025 BH3	17593/4 6/03/2025 BH5	17593/6 6/03/2025 MW1	17593/8 6/03/2025 MW3
	Method						
Total Dissolved Solids	AS3550.4	mg/L	70	160	270	270	210

Solids		Lab ID Sample Date Sample ID Units	17593/9 6/03/2025 MW4	17593/10 6/03/2025 MW5	17593/11 6/03/2025 MW6	17593/12 6/03/2025 MW7	17593/13 6/03/2025 Dup' (BH3)
	Method						
Total Dissolved Solids	AS3550.4	mg/L	490	240	320	78	210

Metals - Dissolved		Lab ID Sample Date Sample ID Units	17593/1 6/03/2025 BH1	17593/2 6/03/2025 BH3	17593/4 6/03/2025 BH5	17593/6 6/03/2025 MW1	17593/8 6/03/2025 MW3
	Method						
Arsenic	EXT	mg/L	<0.001	<0.001	0.035	0.004	<0.001
Iron	EXT	mg/L	0.21	0.09	1.1	0.49	0.53
Manganese	EXT	mg/L	0.010	0.006	0.020	<0.005	<0.005

Metals - Dissolved		Lab ID Sample Date Sample ID Units	17593/9 6/03/2025 MW4	17593/10 6/03/2025 MW5	17593/11 6/03/2025 MW6	17593/12 6/03/2025 MW7	17593/13 6/03/2025 Dup' (BH3)
	Method						
Arsenic	EXT	mg/L	0.003	<0.001	0.023	<0.001	<0.001
Iron	EXT	mg/L	2.9	0.35	9.5	0.1	0.09
Manganese	EXT	mg/L	0.078	<0.005	0.072	<0.005	0.005

Anions and Cations		Lab ID Sample Date Sample ID Units	17593/1 6/03/2025 BH1	17593/2 6/03/2025 BH3	17593/4 6/03/2025 BH5	17593/6 6/03/2025 MW1	17593/8 6/03/2025 MW3
	Method						
Chloride, Cl	APHA 4500-Cl E	mg/L	24	65	58	46	49
Sulphate, SO ₄	EXT	mg/L	4	16	3	9	1

Anions and Cations		Lab ID Sample Date Sample ID Units	17593/9 6/03/2025 MW4	17593/10 6/03/2025 MW5	17593/11 6/03/2025 MW6	17593/12 6/03/2025 MW7	17593/13 6/03/2025 Dup' (BH3)
	Method						
Chloride, Cl	APHA 4500-Cl E	mg/L	140	39	42	11	65
Sulphate, SO ₄	EXT	mg/L	34	1	2	1	17

Date Tested		Lab ID Sample Date Sample ID Units	17593/1 6/03/2025 BH1	17593/2 6/03/2025 BH3	17593/3 6/03/2025 BH4	17593/4 6/03/2025 BH5	17593/5 6/03/2025 BH6
	Method						
Date Tested - Chloride	APHA 4500-Cl E	--	12/03/2025	12/03/2025		12/03/2025	
Date Tested - Field	--	--	06/03/2025	06/03/2025	06/03/2025	06/03/2025	06/03/2025
Date Tested - TDS	AS3550.4	--	7/03/2025	7/03/2025		7/03/2025	

Date Tested		Lab ID Sample Date Sample ID Units	17593/6 6/03/2025 MW1	17593/8 6/03/2025 MW3	17593/9 6/03/2025 MW4	17593/10 6/03/2025 MW5	17593/11 6/03/2025 MW6
	Method						
Date Tested - Chloride	APHA 4500-Cl E	--	12/03/2025	12/03/2025	12/03/2025	12/03/2025	12/03/2025
Date Tested - Field	--	--	06/03/2025	06/03/2025	06/03/2025	06/03/2025	06/03/2025
Date Tested - TDS	AS3550.4	--	7/03/2025	10/03/2025	10/03/2025	10/03/2025	10/03/2025



Date Tested	Method	Lab ID Sample Date Sample ID Units	17593/12 6/03/2025 MW7	17593/13 6/03/2025 Dup' (BH3)
Date Tested - Chloride	APHA 4500-Cl E	--	12/03/2025	12/03/2025
Date Tested - Field	--	--	06/03/2025	06/03/2025
Date Tested - TDS	AS3550.4	--	10/03/2025	10/03/2025

Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - SWMP Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : Field and 4/30 Glenwood Dr Thornton NSW 2322.

EXT : tests by Envirolab NATA Acc 2901 Report No. 375220

Sampling Report Number: 17593

Date Issued: 19/03/2025

Revision No: 00

Sampling Conditions: Showers, 23 - 24 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
17593/1	BH1	13406-6	T & D.Walker	6/03/2025 12:01 PM	AS5667.11, Bail	AS5667.1
17593/2	BH3		T & D.Walker	6/03/2025 1:32 PM	AS5667.11, Pump	AS5667.1
17593/3	BH4	13406-7	T & D.Walker	6/03/2025 1:58 PM		
17593/4	BH5		T & D.Walker	6/03/2025 2:50 PM	AS5667.11, Bail	AS5667.1
17593/5	BH6	13406-5	T & D.Walker	6/03/2025		
17593/6	MW1	13406-4	T & D.Walker	6/03/2025 10:59 AM	AS5667.11, Bail	AS5667.1
17593/7	MW2		T & D.Walker	6/03/2025		
17593/8	MW3		T & D.Walker	6/03/2025 2:08 PM	AS5667.11, Bail	AS5667.1
17593/9	MW4		T & D.Walker	6/03/2025 12:46 PM	AS5667.11, Bail	AS5667.1
17593/10	MW5		T & D.Walker	6/03/2025 11:34 AM	AS5667.11, Bail	AS5667.1
17593/11	MW6		T & D.Walker	6/03/2025 10:31 AM	AS5667.11, Bail	AS5667.1
17593/12	MW7		T & D.Walker	6/03/2025 2:26 PM	AS5667.11, Bail	AS5667.1
17593/13	Dup' (BH3)		T & D.Walker	6/03/2025 1:48 PM	AS5667.11, Pump	AS5667.1

Lab ID	Client Sample Reference	Sampling Observations
17593/1	BH1	
17593/2	BH3	
17593/3	BH4	Almost dry - insufficient water to sample
17593/4	BH5	
17593/5	BH6	No access
17593/6	MW1	
17593/7	MW2	No access
17593/8	MW3	Ants & roots in well
17593/9	MW4	
17593/10	MW5	
17593/11	MW6	
17593/12	MW7	
17593/13	Dup' (BH3)	

Sampling procedures have been approved and report finalised on 19/03/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Quarterly

Well ID	GPS-Easting	GPS-Northing	Survey Date	Surveyed AHD (m)	Depth to Screen (m)
BH1	400171.501	6370802.199	16/07/2024	6.27	
BH3	400389.726	6370972.213	16/07/2024	20.687	
BH4	0400564	6371030	8/04/2011	14.620	13
BH5	400252.503	6370622.664	16/07/2024	8.846	6.3
BH6	399993.291	6370681.832	8/04/2011	23.013	23.082
MW1	399809.943	6370742.298	16/07/2024	3.741	1.5
MW2	0400494	6371070	8/04/2011	28.067	26.700
MW3	400546.521	6370740.379	16/07/2024	4.67	2.670
MW4	400249.731	6370987.497	16/07/2024	15.168	13.390
MW5	399804.068	6370865.332	16/07/2024	3.056	1.900
MW6	400035.899	6370971.254	16/07/2024	5.334	4.820
MW7	400517.301	6370607.294	16/07/2024	4.972	2.5
Dup' (BH3)	400389.726	6370972.213	16/07/2024	20.687	

Well ID	Date Well Measured	Reference Point	Reference Point Height (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	2/06/2022	TOM	AHD_TOM	5.95	Fast	6
BH3	24/09/2019	TOM	AHD_TOM	21.40	Good 75%	4
BH4	24/09/2019	TOM	AHD_TOM	14.63	Good 75%	1.6
BH5	2/06/2022	TOM	AHD_TOM	9.40		6
BH6	16/12/2021	TOM	AHD_TOM	20.84	NA	<1
MW1	24/09/2019	TOM	AHD_TOM	4.41	Good 75%	5
MW2	24/09/2019			28.49	Good 75%	3
MW3	24/09/2019	TOM	AHD_TOM	5.68	Good 75%	4.5
MW4	24/09/2019	TOM	AHD_TOM	15.58	Good 75%	4.5
MW5	24/09/2019	TOM	AHD_TOM	4.72	Good 75%	6.5
MW6	24/09/2019	TOM	AHD_TOM	4.48	Good 75%	3
MW7	24/09/2019	TOM	AHD_TOM	5.72	Good 75%	4
Dup' (BH3)	24/09/2019	TOM	AHD_TOM	21.40	Good 75%	4

Note: NATA accreditation does not cover information provided in this section

*Where indicated AHD from ground level (m) estimated based on handheld GPS
Survey Data provided by client.

Report Number: 18740

Date Issued: 28/08/2025

Revision Number: 00

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 21/08/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	21/08/2025	18740/1	Water	
BH3	21/08/2025	18740/2	Water	
BH4	21/08/2025	18740/3	Water	
BH5	21/08/2025	18740/4	Water	
BH6	21/08/2025	18740/5	Water	
MW1	21/08/2025	18740/6	Water	
MW2	21/08/2025	18740/7	Water	Not monitored - No access
MW3	21/08/2025	18740/8	Water	
MW4	21/08/2025	18740/9	Water	
MW5	21/08/2025	18740/10	Water	
MW6	21/08/2025	18740/11	Water	
MW7	21/08/2025	18740/12	Water	
QMW1	21/08/2025	18740/13	Water	
QMW2	21/08/2025	18740/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 28/08/2025.

Test Report Number: 18740

Date Issued: 28/08/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	18740/1 21/08/2025 BH1	18740/2 21/08/2025 BH3	18740/3 21/08/2025 BH4	18740/4 21/08/2025 BH5	18740/5 21/08/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.18	17.68	11.82	4.84	18.85
Depth to Water	AS5667.11	m(bgl)	1.61	17.15	11.37	4.20	18.20
Standing Water Level	AS5667.11	m(AHD)	4.13	3.03	2.80	4.05	4.43

Well Parameters		Lab ID Sample Date Sample ID Units	18740/6 21/08/2025 MW1	18740/7 21/08/2025 MW2	18740/8 21/08/2025 MW3	18740/9 21/08/2025 MW4	18740/10 21/08/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.52	[NT]	0.95	11.86	0.70
Depth to Water	AS5667.11	m(bgl)	-0.07	[NT]	0.46	11.26	0.11
Standing Water Level	AS5667.11	m(AHD)	3.22	[NT]	3.79	3.12	2.48

Well Parameters		Lab ID Sample Date Sample ID Units	18740/11 21/08/2025 MW6	18740/12 21/08/2025 MW7	18740/13 21/08/2025 QMW1	18740/14 21/08/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.24	1.15	22.04	1.11
Depth to Water	AS5667.11	m(bgl)	1.86	0.63	21.60	0.43
Standing Water Level	AS5667.11	m(AHD)	3.12	3.92	5.61	4.90

Date Tested		Lab ID Sample Date Sample ID Units	18740/1 21/08/2025 BH1	18740/2 21/08/2025 BH3	18740/3 21/08/2025 BH4	18740/4 21/08/2025 BH5	18740/5 21/08/2025 BH6
	Method						
Date Tested - Field	--	--	21/08/2025	21/08/2025	21/08/2025	21/08/2025	21/08/2025

Date Tested		Lab ID Sample Date Sample ID Units	18740/6 21/08/2025 MW1	18740/7 21/08/2025 MW2	18740/8 21/08/2025 MW3	18740/9 21/08/2025 MW4	18740/10 21/08/2025 MW5
	Method						
Date Tested - Field	--	--	21/08/2025	[NT]	21/08/2025	21/08/2025	21/08/2025

Date Tested		Lab ID Sample Date Sample ID Units	18740/11 21/08/2025 MW6	18740/12 21/08/2025 MW7	18740/13 21/08/2025 QMW1	18740/14 21/08/2025 QMW2
	Method					
Date Tested - Field	--	--	21/08/2025	21/08/2025	21/08/2025	21/08/2025



Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - No Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Field Analysis conducted onsite at Salt Ash Quarry

Sampling Report Number: 18740

Date Issued: 28/08/2025

Revision No: 00

Sampling Conditions: Light rain, 15 °C. Recent heavy rain.

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18740/1	BH1	13406-6	T & D.Walker	21/08/2025 12:01 PM	AS5667.11 Depth	NA
18740/2	BH3		T & D.Walker	21/08/2025 12:38 PM	AS5667.11 Depth	NA
18740/3	BH4	13406-7	T & D.Walker	21/08/2025 12:48 PM	AS5667.11 Depth	NA
18740/4	BH5		T & D.Walker	21/08/2025 11:40 AM	AS5667.11 Depth	NA
18740/5	BH6	13406-5	T & D.Walker	21/08/2025 11:27 AM	AS5667.11 Depth	NA
18740/6	MW1	13406-4	T & D.Walker	21/08/2025 10:55 AM	AS5667.11 Depth	NA
18740/7	MW2		T & D.Walker	21/08/2025	AS5667.11 Depth	NA
18740/8	MW3		T & D.Walker	21/08/2025 1:02 PM	AS5667.11 Depth	NA
18740/9	MW4		T & D.Walker	21/08/2025 12:15 PM	AS5667.11 Depth	NA
18740/10	MW5		T & D.Walker	21/08/2025 10:43 AM	AS5667.11 Depth	NA
18740/11	MW6		T & D.Walker	21/08/2025 10:26 AM	AS5667.11 Depth	NA
18740/12	MW7		T & D.Walker	21/08/2025 1:14 PM	AS5667.11 Depth	NA
18740/13	QMW1		T & D.Walker	21/08/2025 11:12 AM	AS5667.11 Depth	NA
18740/14	QMW2		T & D.Walker	21/08/2025 11:02 AM	AS5667.11 Depth	NA

Lab ID	Client Sample Reference	Sampling Observations
18740/1	BH1	
18740/2	BH3	
18740/3	BH4	
18740/4	BH5	
18740/5	BH6	
18740/6	MW1	
18740/7	MW2	Not monitored - No access
18740/8	MW3	
18740/9	MW4	Case higher than monument
18740/10	MW5	
18740/11	MW6	Rootlets at bottom
18740/12	MW7	Rootlets at bottom
18740/13	QMW1	2x 0-4m Hobo MX20L-04 water level loggers (No barologger)
18740/14	QMW2	1x 0-4m Hobo MX20L-04 water level logger

Sampling procedures have been approved and report finalised on 28/08/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Survey Date	Surveyed AHD (m)	Depth to Screen (m)
BH1	400171.501	6370802.199	16/07/2024	6.31	
BH3	400389.726	6370972.213	16/07/2024	20.707	
BH4	0400564	6371030	8/04/2011	14.620	13
BH5	400252.503	6370622.664	16/07/2024	8.8906	6.3
BH6	399993.291	6370681.832	8/04/2011	23.282	
MW1	399809.943	6370742.298	16/07/2024	3.741	1.5
MW2	0400494	6371070	8/04/2011	28.067	26.700
MW3	400546.521	6370740.379	16/07/2024	4.74	2.670
MW4	400249.731	6370987.497	16/07/2024	14.978	13.390
MW5	399804.068	6370865.332	16/07/2024	3.176	1.900
MW6	400035.899	6370971.254	16/07/2024	5.364	4.820
MW7	400517.301	6370607.294	16/07/2024	5.072	2.5
QMW1	399783	6370551	21/03/2025	27.65	
QMW2	399741	6370756	20/03/2025	6.01	

Well ID	Date Well Measured	Reference Point	Reference Point Height (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	TOM	0.57	5.73	Fast	6
BH3	21/08/2025	TOM	0.53	21.34	Good 75%	4
BH4	21/08/2025	TOM	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	TOM	0.64	8.89		6
BH6	21/08/2025	TOM	0.65	18.85	NA	<1
MW1	21/08/2025	TOM	0.59	4.41	Good 75%	5
MW2	24/09/2019			28.49	Good 75%	3
MW3	21/08/2025	TOM	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	TOM	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	TOM	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	TOM	0.38	4.00	Good 75%	3
MW7	21/08/2025	TOM	0.52	5.72	Good 75%	4
QMW1	21/08/2025	TOM	0.44	25.63		
QMW2	21/08/2025	TOM	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Where indicated AHD from ground level (m) estimated based on handheld GPS Survey Data provided by client.

Report Number: 18740

Date Issued: 18/09/2025

Revision Number: 01

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 21/08/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	21/08/2025	18740/1	Water	
BH3	21/08/2025	18740/2	Water	
BH4	21/08/2025	18740/3	Water	
BH5	21/08/2025	18740/4	Water	
BH6	21/08/2025	18740/5	Water	
MW1	21/08/2025	18740/6	Water	
MW2	21/08/2025	18740/7	Water	Not monitored - No access
MW3	21/08/2025	18740/8	Water	
MW4	21/08/2025	18740/9	Water	
MW5	21/08/2025	18740/10	Water	
MW6	21/08/2025	18740/11	Water	
MW7	21/08/2025	18740/12	Water	
QMW1	21/08/2025	18740/13	Water	
QMW2	21/08/2025	18740/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:

Results have been approved and report finalised on 18/09/2025.

Test Report Number: 18740

Date Issued: 18/09/2025

Revision No: 01

Results

Well Parameters		Lab ID Sample Date Sample ID Units	18740/1 21/08/2025 BH1	18740/2 21/08/2025 BH3	18740/3 21/08/2025 BH4	18740/4 21/08/2025 BH5	18740/5 21/08/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.18	17.68	11.82	4.84	18.85
Depth to Water	AS5667.11	m(bgl)	1.61	17.15	11.37	4.20	18.20
Standing Water Level	AS5667.11	m(AHD)	4.13	3.03	2.80	4.05	4.43

Well Parameters		Lab ID Sample Date Sample ID Units	18740/6 21/08/2025 MW1	18740/7 21/08/2025 MW2	18740/8 21/08/2025 MW3	18740/9 21/08/2025 MW4	18740/10 21/08/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.52	[NT]	0.95	11.86	0.70
Depth to Water	AS5667.11	m(bgl)	-0.07	[NT]	0.46	11.26	0.11
Standing Water Level	AS5667.11	m(AHD)	3.22	[NT]	3.79	3.12	2.48

Well Parameters		Lab ID Sample Date Sample ID Units	18740/11 21/08/2025 MW6	18740/12 21/08/2025 MW7	18740/13 21/08/2025 QMW1	18740/14 21/08/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.24	1.15	22.04	1.11
Depth to Water	AS5667.11	m(bgl)	1.86	0.63	21.60	0.43
Standing Water Level	AS5667.11	m(AHD)	3.12	3.92	3.49	2.78

Date Tested		Lab ID Sample Date Sample ID Units	18740/1 21/08/2025 BH1	18740/2 21/08/2025 BH3	18740/3 21/08/2025 BH4	18740/4 21/08/2025 BH5	18740/5 21/08/2025 BH6
	Method						
Date Tested - Field	--	--	21/08/2025	21/08/2025	21/08/2025	21/08/2025	21/08/2025

Date Tested		Lab ID Sample Date Sample ID Units	18740/6 21/08/2025 MW1	18740/7 21/08/2025 MW2	18740/8 21/08/2025 MW3	18740/9 21/08/2025 MW4	18740/10 21/08/2025 MW5
	Method						
Date Tested - Field	--	--	21/08/2025	[NT]	21/08/2025	21/08/2025	21/08/2025

Date Tested		Lab ID Sample Date Sample ID Units	18740/11 21/08/2025 MW6	18740/12 21/08/2025 MW7	18740/13 21/08/2025 QMW1	18740/14 21/08/2025 QMW2
	Method					
Date Tested - Field	--	--	21/08/2025	21/08/2025	21/08/2025	21/08/2025



Report Comments:

Where present, indicates NATA accreditation does not cover the performance of this service.

Guideline applied - No Limits.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Field Analysis conducted onsite at Salt Ash Quarry

Sampling Report Number: 18740

Date Issued: 18/09/2025

Revision No: 01

Sampling Conditions: Light rain, 15 °C. Recent heavy rain.

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18740/1	BH1	13406-6	T & D.Walker	21/08/2025 12:01 PM	AS5667.11 Depth	NA
18740/2	BH3		T & D.Walker	21/08/2025 12:38 PM	AS5667.11 Depth	NA
18740/3	BH4	13406-7	T & D.Walker	21/08/2025 12:48 PM	AS5667.11 Depth	NA
18740/4	BH5		T & D.Walker	21/08/2025 11:40 AM	AS5667.11 Depth	NA
18740/5	BH6	13406-5	T & D.Walker	21/08/2025 11:27 AM	AS5667.11 Depth	NA
18740/6	MW1	13406-4	T & D.Walker	21/08/2025 10:55 AM	AS5667.11 Depth	NA
18740/7	MW2		T & D.Walker	21/08/2025	AS5667.11 Depth	NA
18740/8	MW3		T & D.Walker	21/08/2025 1:02 PM	AS5667.11 Depth	NA
18740/9	MW4		T & D.Walker	21/08/2025 12:15 PM	AS5667.11 Depth	NA
18740/10	MW5		T & D.Walker	21/08/2025 10:43 AM	AS5667.11 Depth	NA
18740/11	MW6		T & D.Walker	21/08/2025 10:26 AM	AS5667.11 Depth	NA
18740/12	MW7		T & D.Walker	21/08/2025 1:14 PM	AS5667.11 Depth	NA
18740/13	QMW1		T & D.Walker	21/08/2025 11:12 AM	AS5667.11 Depth	NA
18740/14	QMW2		T & D.Walker	21/08/2025 11:02 AM	AS5667.11 Depth	NA

Lab ID	Client Sample Reference	Sampling Observations
18740/1	BH1	
18740/2	BH3	
18740/3	BH4	
18740/4	BH5	
18740/5	BH6	
18740/6	MW1	
18740/7	MW2	Not monitored - No access
18740/8	MW3	
18740/9	MW4	Case higher than monument
18740/10	MW5	
18740/11	MW6	Rootlets at bottom
18740/12	MW7	Rootlets at bottom
18740/13	QMW1	2x 0-4m Hobo MX20L-04 water level loggers (No barologger)
18740/14	QMW2	1x 0-4m Hobo MX20L-04 water level logger

Sampling procedures have been approved and report finalised on 18/09/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Survey Date	Surveyed AHD (m)	Depth to Screen (m)
BH1	400171.501	6370802.199	16/07/2024	6.31	
BH3	400389.726	6370972.213	16/07/2024	20.707	
BH4	0400564	6371030	8/04/2011	14.620	13
BH5	400252.503	6370622.664	16/07/2024	8.8906	6.3
BH6	399993.291	6370681.832	8/04/2011	23.282	
MW1	399809.943	6370742.298	16/07/2024	3.741	1.5
MW2	0400494	6371070	8/04/2011	28.067	26.700
MW3	400546.521	6370740.379	16/07/2024	4.74	2.670
MW4	400249.731	6370987.497	16/07/2024	14.978	13.390
MW5	399804.068	6370865.332	16/07/2024	3.176	1.900
MW6	400035.899	6370971.254	16/07/2024	5.364	4.820
MW7	400517.301	6370607.294	16/07/2024	5.072	2.5
QMW1	399791	6370552		25.53	
QMW2	399809	6370740		3.89	

Well ID	Date Well Measured	Reference Point	Reference Point Height (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	TOM	0.57	5.73	Fast	6
BH3	21/08/2025	TOM	0.53	21.34	Good 75%	4
BH4	21/08/2025	TOM	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	TOM	0.64	8.89		6
BH6	21/08/2025	TOM	0.65	18.85	NA	<1
MW1	21/08/2025	TOM	0.59	4.41	Good 75%	5
MW2	24/09/2019			28.49	Good 75%	3
MW3	21/08/2025	TOM	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	TOM	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	TOM	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	TOM	0.38	4.00	Good 75%	3
MW7	21/08/2025	TOM	0.52	5.72	Good 75%	4
QMW1	21/08/2025	TOM	0.44	25.63		
QMW2	21/08/2025	TOM	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Where indicated AHD from ground level (m) estimated based on handheld GPS Survey Data provided by client.

Report Number: 18852

Date Issued: 23/09/2025

Revision Number: 00

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 18/09/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	18/09/2025	18852/1	Water	
BH3	18/09/2025	18852/2	Water	
BH4	18/09/2025	18852/3	Water	
BH5	18/09/2025	18852/4	Water	
BH6	18/09/2025	18852/5	Water	
MW1	18/09/2025	18852/6	Water	
MW2	18/09/2025	18852/7	Water	Not monitored - No access
MW3	18/09/2025	18852/8	Water	
MW4	18/09/2025	18852/9	Water	
MW5	18/09/2025	18852/10	Water	
MW6	18/09/2025	18852/11	Water	
MW7	18/09/2025	18852/12	Water	
QMW1	18/09/2025	18852/13	Water	
QMW2	18/09/2025	18852/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 23/09/2025.



Test Report Number: 18852

Date Issued: 23/09/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	18852/1 18/09/2025 BH1	18852/2 18/09/2025 BH3	18852/3 18/09/2025 BH4	18852/4 18/09/2025 BH5	18852/5 18/09/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.44	17.73	11.97	5.09	18.88
Depth to Water	AS5667.11	m(bgl)	1.87	17.20	11.52	4.45	18.23
Standing Water Level	AS5667.11	m(AHD)	3.87	2.98	2.65	3.80	4.40

Well Parameters		Lab ID Sample Date Sample ID Units	18852/6 18/09/2025 MW1	18852/7 18/09/2025 MW2	18852/8 18/09/2025 MW3	18852/9 18/09/2025 MW4	18852/10 18/09/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.55	[NT]	1.23	11.94	0.73
Depth to Water	AS5667.11	m(bgl)	-0.04	[NT]	0.74	11.34	0.14
Standing Water Level	AS5667.11	m(AHD)	3.19	[NT]	3.51	3.04	2.45

Well Parameters		Lab ID Sample Date Sample ID Units	18852/11 18/09/2025 MW6	18852/12 18/09/2025 MW7	18852/13 18/09/2025 QMW1	18852/14 18/09/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.41	1.41	22.06	1.16
Depth to Water	AS5667.11	m(bgl)	2.03	0.89	21.62	0.48
Standing Water Level	AS5667.11	m(AHD)	2.95	3.66	3.47	2.73

Date Tested		Lab ID Sample Date Sample ID Units	18852/1 18/09/2025 BH1	18852/2 18/09/2025 BH3	18852/3 18/09/2025 BH4	18852/4 18/09/2025 BH5	18852/5 18/09/2025 BH6
	Method						
Date Tested - Field	--	--	18/09/2025	18/09/2025	18/09/2025	18/09/2025	18/09/2025

Date Tested		Lab ID Sample Date Sample ID Units	18852/6 18/09/2025 MW1	18852/7 18/09/2025 MW2	18852/8 18/09/2025 MW3	18852/9 18/09/2025 MW4	18852/10 18/09/2025 MW5
	Method						
Date Tested - Field	--	--	18/09/2025	18/09/2025	18/09/2025	18/09/2025	18/09/2025

Date Tested		Lab ID Sample Date Sample ID Units	18852/11 18/09/2025 MW6	18852/12 18/09/2025 MW7	18852/13 18/09/2025 QMW1	18852/14 18/09/2025 QMW2
	Method					
Date Tested - Field	--	--	18/09/2025	18/09/2025	18/09/2025	18/09/2025



Report Comments:

Guideline applied - **No Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 18852

Date Issued: 23/09/2025

Revision No: 00

Sampling Conditions: Fine, 17 - 19 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18852/1	BH1	13406-6	T & D.Walker	18/09/2025 10:30 AM	AS5667.11 Depth	
18852/2	BH3		T & D.Walker	18/09/2025 12:10 PM	AS5667.11 Depth	
18852/3	BH4	13406-7	T & D.Walker	18/09/2025 12:20 PM	AS5667.11 Depth	
18852/4	BH5		T & D.Walker	18/09/2025 12:43 PM	AS5667.11 Depth	
18852/5	BH6	13406-5	T & D.Walker	18/09/2025 11:10 AM	AS5667.11 Depth	
18852/6	MW1	13406-4	T & D.Walker	18/09/2025 10:46 AM	AS5667.11 Depth	
18852/7	MW2		T & D.Walker	18/09/2025		
18852/8	MW3		T & D.Walker	18/09/2025 12:26 PM	AS5667.11 Depth	
18852/9	MW4		T & D.Walker	18/09/2025 11:43 AM	AS5667.11 Depth	
18852/10	MW5		T & D.Walker	18/09/2025 10:01 AM	AS5667.11 Depth	
18852/11	MW6		T & D.Walker	18/09/2025 10:19 AM	AS5667.11 Depth	
18852/12	MW7		T & D.Walker	18/09/2025 12:32 PM	AS5667.11 Depth	
18852/13	QMW1		T & D.Walker	18/09/2025 10:59 AM	AS5667.11 Depth	
18852/14	QMW2		T & D.Walker	18/09/2025 10:51 AM	AS5667.11 Depth	

Lab ID	Client Sample Reference	Sampling Observations
18852/1	BH1	
18852/2	BH3	
18852/3	BH4	
18852/4	BH5	
18852/5	BH6	
18852/6	MW1	
18852/7	MW2	Not monitored - No access
18852/8	MW3	
18852/9	MW4	
18852/10	MW5	
18852/11	MW6	
18852/12	MW7	
18852/13	QMW1	
18852/14	QMW2	

Sampling procedures have been approved and report finalised on 23/09/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Reference Point	Reference point AHD (m)*	Depth to Screen (m)
BH1	400171.501	6370802.199	TOM	6.31	
BH3	400389.726	6370972.213	TOM	20.707	
BH4	0400564	6371030	TOM	14.620	13
BH5	400252.503	6370622.664	TOM	8.8906	6.3
BH6	399993.291	6370681.832	TOM	23.282	
MW1	399809.943	6370742.298	TOM	3.741	1.5
MW2	0400494	6371070		28.067	26.700
MW3	400546.521	6370740.379	TOM	4.74	2.670
MW4	400249.731	6370987.497	TOM	14.978	13.390
MW5	399804.068	6370865.332	TOM	3.176	1.900
MW6	400035.899	6370971.254	TOM	5.364	4.820
MW7	400517.301	6370607.294	TOM	5.072	2.5
QMW1	399791	6370552	TOM	25.53	
QMW2	399809	6370740	TOM	3.89	

Well ID	Date Well Measured	Reference Point Height to GL (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	0.57	5.73	Fast	6
BH3	21/08/2025	0.53	21.34	Good 75%	4
BH4	21/08/2025	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	0.64	8.89		6
BH6	21/08/2025	0.65	18.85	NA	<1
MW1	21/08/2025	0.59	4.41	Good 75%	5
MW2	24/09/2019		28.49	Good 75%	3
MW3	21/08/2025	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	0.38	4.00	Good 75%	3
MW7	21/08/2025	0.52	5.72	Good 75%	4
QMW1	21/08/2025	0.44	25.63		
QMW2	21/08/2025	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Reference Point AHD may differ from survey data provided due to the differences in where field measurements taken from when compared to surveyed point (TOC/TOM/GL).

Report Number: 18996

Date Issued: 20/10/2025

Revision Number: 00

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 16/10/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	16/10/2025	18996/1	Water	
BH3	16/10/2025	18996/2	Water	
BH4	16/10/2025	18996/3	Water	
BH5	16/10/2025	18996/4	Water	
BH6	16/10/2025	18996/5	Water	
MW1	16/10/2025	18996/6	Water	
MW2	16/10/2025	18996/7	Water	
MW3	16/10/2025	18996/8	Water	
MW4	16/10/2025	18996/9	Water	
MW5	16/10/2025	18996/10	Water	
MW6	16/10/2025	18996/11	Water	
MW7	16/10/2025	18996/12	Water	
QMW1	16/10/2025	18996/13	Water	
QMW2	16/10/2025	18996/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Results have been approved and report finalised on 20/10/2025.



Test Report Number: 18996

Date Issued: 20/10/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	18996/1 16/10/2025 BH1	18996/2 16/10/2025 BH3	18996/3 16/10/2025 BH4	18996/4 16/10/2025 BH5	18996/5 16/10/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.69	17.90	12.17	5.37	18.85
Depth to Water	AS5667.11	m(bgl)	2.12	17.37	11.72	4.73	18.20
Standing Water Level	AS5667.11	m(AHD)	3.62	2.81	2.45	3.52	4.43

Well Parameters		Lab ID Sample Date Sample ID Units	18996/6 16/10/2025 MW1	18996/7 16/10/2025 MW2	18996/8 16/10/2025 MW3	18996/9 16/10/2025 MW4	18996/10 16/10/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.61	[NT]	1.46	12.10	0.78
Depth to Water	AS5667.11	m(bgl)	0.02	[NT]	0.97	11.50	0.19
Standing Water Level	AS5667.11	m(AHD)	3.13	[NT]	3.28	2.88	2.40

Well Parameters		Lab ID Sample Date Sample ID Units	18996/11 16/10/2025 MW6	18996/12 16/10/2025 MW7	18996/13 16/10/2025 QMW1	18996/14 16/10/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.61	1.63	1.26	22.16
Depth to Water	AS5667.11	m(bgl)	2.23	1.11	0.82	21.48
Standing Water Level	AS5667.11	m(AHD)	2.75	3.44	24.27	<0.01

Date Tested		Lab ID Sample Date Sample ID Units	18996/1 16/10/2025 BH1	18996/2 16/10/2025 BH3	18996/3 16/10/2025 BH4	18996/4 16/10/2025 BH5	18996/5 16/10/2025 BH6
	Method						
Date Tested - Field	--	--	16/10/2025	16/10/2025	16/10/2025	16/10/2025	16/10/2025

Date Tested		Lab ID Sample Date Sample ID Units	18996/6 16/10/2025 MW1	18996/7 16/10/2025 MW2	18996/8 16/10/2025 MW3	18996/9 16/10/2025 MW4	18996/10 16/10/2025 MW5
	Method						
Date Tested - Field	--	--	16/10/2025	16/10/2025	16/10/2025	16/10/2025	16/10/2025

Date Tested		Lab ID Sample Date Sample ID Units	18996/11 16/10/2025 MW6	18996/12 16/10/2025 MW7	18996/13 16/10/2025 QMW1	18996/14 16/10/2025 QMW2
	Method					
Date Tested - Field	--	--	16/10/2025	16/10/2025	16/10/2025	16/10/2025



Report Comments:

Guideline applied - **No Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 18996

Date Issued: 20/10/2025

Revision No: 00

Sampling Conditions: Fine, 20 - 27 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18996/1	BH1	13406-6	T & D.Walker	16/10/2025 11:14 AM	AS5667.11 Depth	
18996/2	BH3		T & D.Walker	16/10/2025 11:30 AM	AS5667.11 Depth	
18996/3	BH4	13406-7	T & D.Walker	16/10/2025 11:36 AM	AS5667.11 Depth	
18996/4	BH5		T & D.Walker	16/10/2025 12:05 PM	AS5667.11 Depth	
18996/5	BH6	13406-5	T & D.Walker	16/10/2025 10:49 AM	AS5667.11 Depth	
18996/6	MW1	13406-4	T & D.Walker	16/10/2025 10:19 AM	AS5667.11 Depth	
18996/7	MW2		T & D.Walker	16/10/2025	AS5667.11 Depth	
18996/8	MW3		T & D.Walker	16/10/2025 11:50 AM	AS5667.11 Depth	
18996/9	MW4		T & D.Walker	16/10/2025 11:20 AM	AS5667.11 Depth	
18996/10	MW5		T & D.Walker	16/10/2025 10:08 AM	AS5667.11 Depth	
18996/11	MW6		T & D.Walker	16/10/2025 11:01 AM	AS5667.11 Depth	
18996/12	MW7		T & D.Walker	16/10/2025 11:56 AM	AS5667.11 Depth	
18996/13	QMW1		T & D.Walker	16/10/2025 10:24 AM	AS5667.11 Depth	
18996/14	QMW2		T & D.Walker	16/10/2025 10:36 AM	AS5667.11 Depth	

Lab ID	Client Sample Reference	Sampling Observations
18996/1	BH1	
18996/2	BH3	
18996/3	BH4	
18996/4	BH5	
18996/5	BH6	Dry, depth to sand
18996/6	MW1	
18996/7	MW2	No longer monitored - no access
18996/8	MW3	
18996/9	MW4	
18996/10	MW5	
18996/11	MW6	
18996/12	MW7	
18996/13	QMW1	
18996/14	QMW2	

Sampling procedures have been approved and report finalised on 20/10/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Reference Point	Reference point AHD (m)*	Depth to Screen (m)
BH1	400171.501	6370802.199	TOM	6.31	
BH3	400389.726	6370972.213	TOM	20.707	
BH4	0400564	6371030	TOM	14.620	13
BH5	400252.503	6370622.664	TOM	8.8906	6.3
BH6	399993.291	6370681.832	TOM	23.282	
MW1	399809.943	6370742.298	TOM	3.741	1.5
MW2	0400494	6371070		28.067	26.700
MW3	400546.521	6370740.379	TOM	4.74	2.670
MW4	400249.731	6370987.497	TOM	14.978	13.390
MW5	399804.068	6370865.332	TOM	3.176	1.900
MW6	400035.899	6370971.254	TOM	5.364	4.820
MW7	400517.301	6370607.294	TOM	5.072	2.5
QMW1	399791	6370552	TOM	25.53	
QMW2	399809	6370740	TOM	3.89	

Well ID	Date Well Measured	Reference Point Height to GL (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	0.57	5.73	Fast	6
BH3	21/08/2025	0.53	21.34	Good 75%	4
BH4	21/08/2025	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	0.64	8.89		6
BH6	21/08/2025	0.65	18.85	NA	<1
MW1	21/08/2025	0.59	4.41	Good 75%	5
MW2	24/09/2019		28.49	Good 75%	3
MW3	21/08/2025	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	0.38	4.00	Good 75%	3
MW7	21/08/2025	0.52	5.72	Good 75%	4
QMW1	21/08/2025	0.44	25.63		
QMW2	21/08/2025	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Reference Point AHD may differ from survey data provided due to the differences in where field measurements taken from when compared to surveyed point (TOC/TOM/GL).

Report Number: 18996

Date Issued: 22/10/2025

Revision Number: 01

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 16/10/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	16/10/2025	18996/1	Water	
BH3	16/10/2025	18996/2	Water	
BH4	16/10/2025	18996/3	Water	
BH5	16/10/2025	18996/4	Water	
BH6	16/10/2025	18996/5	Water	
MW1	16/10/2025	18996/6	Water	
MW2	16/10/2025	18996/7	Water	
MW3	16/10/2025	18996/8	Water	
MW4	16/10/2025	18996/9	Water	
MW5	16/10/2025	18996/10	Water	
MW6	16/10/2025	18996/11	Water	
MW7	16/10/2025	18996/12	Water	
QMW1	16/10/2025	18996/13	Water	
QMW2	16/10/2025	18996/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager



Liane Peyra
Technical Officer

Results have been approved and report finalised on 22/10/2025.



Test Report Number: 18996

Date Issued: 22/10/2025

Revision No: 01

Results

Well Parameters		Lab ID Sample Date Sample ID Units	18996/1 16/10/2025 BH1	18996/2 16/10/2025 BH3	18996/3 16/10/2025 BH4	18996/4 16/10/2025 BH5	18996/5 16/10/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.69	17.90	12.17	5.37	18.85
Depth to Water	AS5667.11	m(bgl)	2.12	17.37	11.72	4.73	18.20
Standing Water Level	AS5667.11	m(AHD)	3.62	2.81	2.45	3.52	4.43

Well Parameters		Lab ID Sample Date Sample ID Units	18996/6 16/10/2025 MW1	18996/7 16/10/2025 MW2	18996/8 16/10/2025 MW3	18996/9 16/10/2025 MW4	18996/10 16/10/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.61	[NT]	1.46	12.10	0.78
Depth to Water	AS5667.11	m(bgl)	0.02	[NT]	0.97	11.50	0.19
Standing Water Level	AS5667.11	m(AHD)	3.13	[NT]	3.28	2.88	2.40

Well Parameters		Lab ID Sample Date Sample ID Units	18996/11 16/10/2025 MW6	18996/12 16/10/2025 MW7	18996/13 16/10/2025 QMW1	18996/14 16/10/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.61	1.63	22.16	1.26
Depth to Water	AS5667.11	m(bgl)	2.23	1.11	21.72	0.58
Standing Water Level	AS5667.11	m(AHD)	2.75	3.44	3.37	2.63

Date Tested		Lab ID Sample Date Sample ID Units	18996/1 16/10/2025 BH1	18996/2 16/10/2025 BH3	18996/3 16/10/2025 BH4	18996/4 16/10/2025 BH5	18996/5 16/10/2025 BH6
	Method						
Date Tested - Field	--	--	16/10/2025	16/10/2025	16/10/2025	16/10/2025	16/10/2025

Date Tested		Lab ID Sample Date Sample ID Units	18996/6 16/10/2025 MW1	18996/7 16/10/2025 MW2	18996/8 16/10/2025 MW3	18996/9 16/10/2025 MW4	18996/10 16/10/2025 MW5
	Method						
Date Tested - Field	--	--	16/10/2025	16/10/2025	16/10/2025	16/10/2025	16/10/2025

Date Tested		Lab ID Sample Date Sample ID Units	18996/11 16/10/2025 MW6	18996/12 16/10/2025 MW7	18996/13 16/10/2025 QMW1	18996/14 16/10/2025 QMW2
	Method					
Date Tested - Field	--	--	16/10/2025	16/10/2025	16/10/2025	16/10/2025



Report Comments:

Guideline applied - **No Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

Report reissue reason : Lab error - [depth to water measurements for QMW1 and QMW2 swapped around].

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 18996

Date Issued: 22/10/2025

Revision No: 01

Sampling Conditions: Fine, 20 - 27 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
18996/1	BH1	13406-6	T & D.Walker	16/10/2025 11:14 AM	AS5667.11 Depth	
18996/2	BH3		T & D.Walker	16/10/2025 11:30 AM	AS5667.11 Depth	
18996/3	BH4	13406-7	T & D.Walker	16/10/2025 11:36 AM	AS5667.11 Depth	
18996/4	BH5		T & D.Walker	16/10/2025 12:05 PM	AS5667.11 Depth	
18996/5	BH6	13406-5	T & D.Walker	16/10/2025 10:49 AM	AS5667.11 Depth	
18996/6	MW1	13406-4	T & D.Walker	16/10/2025 10:19 AM	AS5667.11 Depth	
18996/7	MW2		T & D.Walker	16/10/2025	AS5667.11 Depth	
18996/8	MW3		T & D.Walker	16/10/2025 11:50 AM	AS5667.11 Depth	
18996/9	MW4		T & D.Walker	16/10/2025 11:20 AM	AS5667.11 Depth	
18996/10	MW5		T & D.Walker	16/10/2025 10:08 AM	AS5667.11 Depth	
18996/11	MW6		T & D.Walker	16/10/2025 11:01 AM	AS5667.11 Depth	
18996/12	MW7		T & D.Walker	16/10/2025 11:56 AM	AS5667.11 Depth	
18996/13	QMW1		T & D.Walker	16/10/2025 10:24 AM	AS5667.11 Depth	
18996/14	QMW2		T & D.Walker	16/10/2025 10:36 AM	AS5667.11 Depth	

Lab ID	Client Sample Reference	Sampling Observations
18996/1	BH1	
18996/2	BH3	
18996/3	BH4	
18996/4	BH5	
18996/5	BH6	Dry, depth to sand
18996/6	MW1	
18996/7	MW2	No longer monitored - no access
18996/8	MW3	
18996/9	MW4	
18996/10	MW5	
18996/11	MW6	
18996/12	MW7	
18996/13	QMW1	
18996/14	QMW2	

Sampling procedures have been approved and report finalised on 22/10/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Reference Point	Reference point AHD (m)*	Depth to Screen (m)
BH1	400171.501	6370802.199	TOM	6.31	
BH3	400389.726	6370972.213	TOM	20.707	
BH4	0400564	6371030	TOM	14.620	13
BH5	400252.503	6370622.664	TOM	8.8906	6.3
BH6	399993.291	6370681.832	TOM	23.282	
MW1	399809.943	6370742.298	TOM	3.741	1.5
MW2	0400494	6371070		28.067	26.700
MW3	400546.521	6370740.379	TOM	4.74	2.670
MW4	400249.731	6370987.497	TOM	14.978	13.390
MW5	399804.068	6370865.332	TOM	3.176	1.900
MW6	400035.899	6370971.254	TOM	5.364	4.820
MW7	400517.301	6370607.294	TOM	5.072	2.5
QMW1	399791	6370552	TOM	25.53	
QMW2	399809	6370740	TOM	3.89	

Well ID	Date Well Measured	Reference Point Height to GL (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	0.57	5.73	Fast	6
BH3	21/08/2025	0.53	21.34	Good 75%	4
BH4	21/08/2025	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	0.64	8.89		6
BH6	21/08/2025	0.65	18.85	NA	<1
MW1	21/08/2025	0.59	4.41	Good 75%	5
MW2	24/09/2019		28.49	Good 75%	3
MW3	21/08/2025	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	0.38	4.00	Good 75%	3
MW7	21/08/2025	0.52	5.72	Good 75%	4
QMW1	21/08/2025	0.44	25.63		
QMW2	21/08/2025	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Reference Point AHD may differ from survey data provided due to the differences in where field measurements taken from when compared to surveyed point (TOC/TOM/GL).

Report Number: 19065

Date Issued: 18/11/2025

Revision Number: 00

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 13/11/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	13/11/2025	19065/1	Water	
BH3	13/11/2025	19065/2	Water	
BH4	13/11/2025	19065/3	Water	
BH5	13/11/2025	19065/4	Water	
BH6	13/11/2025	19065/5	Water	
MW1	13/11/2025	19065/6	Water	
MW2	13/11/2025	19065/7	Water	
MW3	13/11/2025	19065/8	Water	
MW4	13/11/2025	19065/9	Water	
MW5	13/11/2025	19065/10	Water	
MW6	13/11/2025	19065/11	Water	
MW7	13/11/2025	19065/12	Water	
QMW1	13/11/2025	19065/13	Water	
QMW2	13/11/2025	19065/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Liane Peyra
Technical Officer

Results have been approved and report finalised on 18/11/2025.



Test Report Number: 19065

Date Issued: 18/11/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	19065/1 13/11/2025 BH1	19065/2 13/11/2025 BH3	19065/3 13/11/2025 BH4	19065/4 13/11/2025 BH5	19065/5 13/11/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.88	18.11	12.35	5.57	18.86
Depth to Water	AS5667.11	m(bgl)	2.31	17.58	11.90	4.93	18.21
Standing Water Level	AS5667.11	m(AHD)	3.43	2.60	2.27	3.32	4.42

Well Parameters		Lab ID Sample Date Sample ID Units	19065/6 13/11/2025 MW1	19065/7 13/11/2025 MW2	19065/8 13/11/2025 MW3	19065/9 13/11/2025 MW4	19065/10 13/11/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.68	[NT]	1.65	12.28	0.86
Depth to Water	AS5667.11	m(bgl)	0.09	[NT]	1.16	11.68	0.27
Standing Water Level	AS5667.11	m(AHD)	3.06	[NT]	3.09	2.70	2.32

Well Parameters		Lab ID Sample Date Sample ID Units	19065/11 13/11/2025 MW6	19065/12 13/11/2025 MW7	19065/13 13/11/2025 QMW1	19065/14 13/11/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.77	1.82	22.32	1.39
Depth to Water	AS5667.11	m(bgl)	2.39	1.30	21.88	0.71
Standing Water Level	AS5667.11	m(AHD)	2.59	3.25	3.21	2.50

Date Tested		Lab ID Sample Date Sample ID Units	19065/1 13/11/2025 BH1	19065/2 13/11/2025 BH3	19065/3 13/11/2025 BH4	19065/4 13/11/2025 BH5	19065/5 13/11/2025 BH6
	Method						
Date Tested - Field	--	--	13/11/2025	13/11/2025	13/11/2025	13/11/2025	13/11/2025

Date Tested		Lab ID Sample Date Sample ID Units	19065/6 13/11/2025 MW1	19065/7 13/11/2025 MW2	19065/8 13/11/2025 MW3	19065/9 13/11/2025 MW4	19065/10 13/11/2025 MW5
	Method						
Date Tested - Field	--	--	13/11/2025	13/11/2025	13/11/2025	13/11/2025	13/11/2025

Date Tested		Lab ID Sample Date Sample ID Units	19065/11 13/11/2025 MW6	19065/12 13/11/2025 MW7	19065/13 13/11/2025 QMW1	19065/14 13/11/2025 QMW2
	Method					
Date Tested - Field	--	--	13/11/2025	13/11/2025	13/11/2025	13/11/2025



Report Comments:

Guideline applied - **SWMP Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 19065

Date Issued: 18/11/2025

Revision No: 00

Sampling Conditions: Fine, 18 - 23 °C

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
19065/1	BH1	13406-6	T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/2	BH3		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/3	BH4	13406-7	T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/4	BH5		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/5	BH6	13406-5	T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/6	MW1	13406-4	T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/7	MW2		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/8	MW3		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/9	MW4		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/10	MW5		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/11	MW6		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/12	MW7		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/13	QMW1		T & D.Walker	13/11/2025	AS5667.11 Depth	
19065/14	QMW2		T & D.Walker	13/11/2025	AS5667.11 Depth	

Lab ID	Client Sample Reference	Sampling Observations
19065/1	BH1	
19065/2	BH3	
19065/3	BH4	
19065/4	BH5	
19065/5	BH6	Dry - depth to bottom
19065/6	MW1	
19065/7	MW2	No access
19065/8	MW3	
19065/9	MW4	
19065/10	MW5	
19065/11	MW6	
19065/12	MW7	
19065/13	QMW1	
19065/14	QMW2	

Sampling procedures have been approved and report finalised on 18/11/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Reference Point	Reference point AHD (m)*	Depth to Screen (m)
BH1	400171.501	6370802.199	TOM	6.31	
BH3	400389.726	6370972.213	TOM	20.707	
BH4	0400564	6371030	TOM	14.620	13
BH5	400252.503	6370622.664	TOM	8.8906	6.3
BH6	399993.291	6370681.832	TOM	23.282	
MW1	399809.943	6370742.298	TOM	3.741	1.5
MW2	0400494	6371070		28.067	26.700
MW3	400546.521	6370740.379	TOM	4.74	2.670
MW4	400249.731	6370987.497	TOM	14.978	13.390
MW5	399804.068	6370865.332	TOM	3.176	1.900
MW6	400035.899	6370971.254	TOM	5.364	4.820
MW7	400517.301	6370607.294	TOM	5.072	2.5
QMW1	399791	6370552	TOM	25.53	
QMW2	399809	6370740	TOM	3.89	

Well ID	Date Well Measured	Reference Point Height to GL (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	0.57	5.73	Fast	6
BH3	21/08/2025	0.53	21.34	Good 75%	4
BH4	21/08/2025	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	0.64	8.89		6
BH6	21/08/2025	0.65	18.85	NA	<1
MW1	21/08/2025	0.59	4.41	Good 75%	5
MW2	24/09/2019		28.49	Good 75%	3
MW3	21/08/2025	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	0.38	4.00	Good 75%	3
MW7	21/08/2025	0.52	5.72	Good 75%	4
QMW1	21/08/2025	0.44	25.63		
QMW2	21/08/2025	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Reference Point AHD may differ from survey data provided due to the differences in where field measurements taken from when compared to surveyed point (TOC/TOM/GL).

Report Number: 19213

Date Issued: 30/12/2025

Revision Number: 00

Site/Job: Redisand Groundwater - 6 monthly

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 11/12/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	11/12/2025	19213/1	Water	
BH3	11/12/2025	19213/2	Water	
BH4	11/12/2025	19213/3	Water	Unable to obtain sample
BH5	11/12/2025	19213/4	Water	
BH6	11/12/2025	19213/5	Water	Dry, no sample
MW1	11/12/2025	19213/6	Water	
MW2	11/12/2025	19213/7	Water	Not monitored - no access
MW3	11/12/2025	19213/8	Water	
MW4	11/12/2025	19213/9	Water	
MW5	11/12/2025	19213/10	Water	
MW6	11/12/2025	19213/11	Water	
MW7	11/12/2025	19213/12	Water	
Dup' (BH3)	11/12/2025	19213/13	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 30/12/2025.



Test Report Number: 19213

Date Issued: 30/12/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	19213/1 11/12/2025 BH1	19213/2 11/12/2025 BH3	19213/3 11/12/2025 BH4	19213/4 11/12/2025 BH5	19213/5 11/12/2025 BH6
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	3.06	18.36	12.59	5.77	18.89
Standing Water Level	AS5667.11	m(AHD)	3.25	2.35	2.03	3.12	4.39

Well Parameters		Lab ID Sample Date Sample ID Units	19213/6 11/12/2025 MW1	19213/7 11/12/2025 MW2	19213/8 11/12/2025 MW3	19213/9 11/12/2025 MW4	19213/10 11/12/2025 MW5
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.88	[NT]	1.92	12.48	1.00
Standing Water Level	AS5667.11	m(AHD)	2.86	[NT]	2.82	2.50	2.18

Well Parameters		Lab ID Sample Date Sample ID Units	19213/11 11/12/2025 MW6	19213/12 11/12/2025 MW7	19213/13 11/12/2025 Dup' (BH3)
Depth Reference Point		TORef	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.94	2.09	[NT]
Standing Water Level	AS5667.11	m(AHD)	2.42	2.98	[NT]

Field Analysis		Lab ID Sample Date Sample ID Units	19213/1 11/12/2025 BH1	19213/2 11/12/2025 BH3	19213/3 11/12/2025 BH4	19213/4 11/12/2025 BH5	19213/5 11/12/2025 BH6
Temperature	Temp	°C	20.5	19.4	[NT]	19.4	[NT]
pH	APHA 4500-H B	pH Units	5.7	4.9	[NT]	5.4	[NT]
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	54.0	328	[NT]	104	[NT]
Dissolved Oxygen	APHA 4500-O G	mg/L	5.3	5.4	[NT]	2.8	[NT]
Oxidation Reduction Potential _#	APHA 2580 B	mV	103	191	[NT]	140	[NT]

Field Analysis		Lab ID Sample Date Sample ID Units	19213/6 11/12/2025 MW1	19213/7 11/12/2025 MW2	19213/8 11/12/2025 MW3	19213/9 11/12/2025 MW4	19213/10 11/12/2025 MW5
Temperature	Temp	°C	19.9	[NT]	18.0	19.0	21.3
pH	APHA 4500-H B	pH Units	3.9	[NT]	4.1	5.4	5.0
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	290	[NT]	155	395	374
Dissolved Oxygen	APHA 4500-O G	mg/L	1.2	[NT]	1.4	2.1	1.0
Oxidation Reduction Potential _#	APHA 2580 B	mV	115	[NT]	143	78	78

Field Analysis	Method	Lab ID Sample Date Sample ID Units	19213/11 11/12/2025 MW6	19213/12 11/12/2025 MW7	19213/13 11/12/2025 Dup' (BH3)
Temperature	Temp	°C	21.9	18.8	19.6
pH	APHA 4500-H B	pH Units	5.7	4.8	4.9
Electrical Conductivity	APHA 2510 B	µS/cm 25°C	205	<50.0	329
Dissolved Oxygen	APHA 4500-O G	mg/L	1.4	1.2	5.6
Oxidation Reduction Potential _#	APHA 2580 B	mV	63	89	199

Solids	Method	Lab ID Sample Date Sample ID Units	19213/1 11/12/2025 BH1	19213/2 11/12/2025 BH3	19213/4 11/12/2025 BH5	19213/6 11/12/2025 MW1	19213/8 11/12/2025 MW3
Total Dissolved Solids	AS3550.4	mg/L	58	220	260	250	340

Solids	Method	Lab ID Sample Date Sample ID Units	19213/9 11/12/2025 MW4	19213/10 11/12/2025 MW5	19213/11 11/12/2025 MW6	19213/12 11/12/2025 MW7	19213/13 11/12/2025 Dup' (BH3)
Total Dissolved Solids	AS3550.4	mg/L	320	490	270	64	210

Metals - Dissolved	Method	Lab ID Sample Date Sample ID Units	19213/1 11/12/2025 BH1	19213/2 11/12/2025 BH3	19213/4 11/12/2025 BH5	19213/6 11/12/2025 MW1	19213/8 11/12/2025 MW3
Arsenic	EXT	mg/L	0.001	<0.001	0.007	0.004	<0.001
Iron	EXT	mg/L	0.40	0.03	1.5	0.84	0.44

Metals - Dissolved	Method	Lab ID Sample Date Sample ID Units	19213/9 11/12/2025 MW4	19213/10 11/12/2025 MW5	19213/11 11/12/2025 MW6	19213/12 11/12/2025 MW7	19213/13 11/12/2025 Dup' (BH3)
Arsenic	EXT	mg/L	0.004	0.001	0.051	<0.001	<0.001
Iron	EXT	mg/L	2.9	1.3	11	0.07	0.03

Anions and Cations	Method	Lab ID Sample Date Sample ID Units	19213/1 11/12/2025 BH1	19213/2 11/12/2025 BH3	19213/4 11/12/2025 BH5	19213/6 11/12/2025 MW1	19213/8 11/12/2025 MW3
Chloride, Cl	APHA 4500-Cl E	mg/L	13	81	32	71	39
Sulphate, SO ₄	EXT	mg/L	2	16	1	<1	<1

Anions and Cations	Method	Lab ID Sample Date Sample ID Units	19213/9 11/12/2025 MW4	19213/10 11/12/2025 MW5	19213/11 11/12/2025 MW6	19213/12 11/12/2025 MW7	19213/13 11/12/2025 Dup' (BH3)
Chloride, Cl	APHA 4500-Cl E	mg/L	100	110	40	11	81
Sulphate, SO ₄	EXT	mg/L	13	<1	<1	<1	15

Date Tested	Method	Lab ID Sample Date Sample ID Units	19213/1 11/12/2025 BH1	19213/2 11/12/2025 BH3	19213/3 11/12/2025 BH4	19213/4 11/12/2025 BH5	19213/5 11/12/2025 BH6
Date Tested - Chloride	APHA 4500-Cl E	--	18/12/2025	18/12/2025		18/12/2025	
Date Tested - Field	--	--	11/12/2025	11/12/2025	11/12/2025	11/12/2025	11/12/2025
Date Tested - TDS	AS3550.4	--	16/12/2025	16/12/2025		16/12/2025	

Date Tested	Method	Lab ID Sample Date Sample ID Units	19213/6 11/12/2025 MW1	19213/8 11/12/2025 MW3	19213/9 11/12/2025 MW4	19213/10 11/12/2025 MW5	19213/11 11/12/2025 MW6
Date Tested - Chloride	APHA 4500-Cl E	--	18/12/2025	18/12/2025	18/12/2025	18/12/2025	18/12/2025
Date Tested - Field	--	--	11/12/2025	11/12/2025	11/12/2025	11/12/2025	11/12/2025
Date Tested - TDS	AS3550.4	--	16/12/2025	16/12/2025	16/12/2025	16/12/2025	16/12/2025

Date Tested	Method	Lab ID Sample Date Sample ID Units	19213/12 11/12/2025 MW7	19213/13 11/12/2025 Dup' (BH3)
Date Tested - Chloride	APHA 4500-Cl E	--	18/12/2025	18/12/2025
Date Tested - Field	--	--	11/12/2025	11/12/2025
Date Tested - TDS	AS3550.4	--	16/12/2025	16/12/2025

Report Comments:

Guideline applied - **SWMP Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

EXT : tests by Envirolab NATA Acc 2901 Report No. 398083

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 19213

Date Issued: 30/12/2025

Revision No: 00

Sampling Conditions: Intermittent light showers, 21 - 23 °C

Lab ID	Client Sample Reference	Licence/Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
19213/1	BH1	13406-6	T & D.Walker	11/12/2025 11:37 AM	AS5667.11, Bail	AS5667.1
19213/2	BH3		T & D.Walker	11/12/2025 12:53 PM	AS5667.11, Pump	AS5667.1
19213/3	BH4	13406-7	T & D.Walker	11/12/2025 1:28 PM	AS5667.11, Bail	AS5667.1
19213/4	BH5		T & D.Walker	11/12/2025 2:35 PM	AS5667.11, Bail	AS5667.1
19213/5	BH6	13406-5	T & D.Walker	11/12/2025 11:10 AM	Depth only	
19213/6	MW1	13406-4	T & D.Walker	11/12/2025 10:31 AM	AS5667.11, Bail	AS5667.1
19213/7	MW2		T & D.Walker	11/12/2025		
19213/8	MW3		T & D.Walker	11/12/2025 1:45 PM	AS5667.11, Bail	AS5667.1
19213/9	MW4		T & D.Walker	11/12/2025 12:15 PM	AS5667.11, Bail	AS5667.1
19213/10	MW5		T & D.Walker	11/12/2025 10:13 AM	AS5667.11, Bail	AS5667.1
19213/11	MW6		T & D.Walker	11/12/2025 11:23 AM	AS5667.11, Bail	AS5667.1
19213/12	MW7		T & D.Walker	11/12/2025 2:06 PM	AS5667.11, Bail	AS5667.1
19213/13	Dup' (BH3)		T & D.Walker	11/12/2025 1:03 PM	AS5667.11, Pump	AS5667.1

Lab ID	Client Sample Reference	Sampling Observations
19213/1	BH1	
19213/2	BH3	
19213/3	BH4	Roots- unable to obtain sample
19213/4	BH5	
19213/5	BH6	Dry, no sample - Depth to bottom
19213/6	MW1	
19213/7	MW2	Not monitored - no access
19213/8	MW3	
19213/9	MW4	
19213/10	MW5	
19213/11	MW6	
19213/12	MW7	
19213/13	Dup' (BH3)	

Sampling procedures have been approved and report finalised on 30/12/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - 6 monthly

Well ID	GPS-Easting	GPS-Northing	Reference Point	Reference point AHD (m)*	Depth to Screen (m)
BH1	400171.501	6370802.199	TOM	6.31	
BH3	400389.726	6370972.213	TOM	20.707	
BH4	0400564	6371030	TOM	14.620	13
BH5	400252.503	6370622.664	TOM	8.8906	6.3
BH6	399993.291	6370681.832	TOM	23.282	
MW1	399809.943	6370742.298	TOM	3.741	1.5
MW2	0400494	6371070		28.067	26.700
MW3	400546.521	6370740.379	TOM	4.74	2.670
MW4	400249.731	6370987.497	TOM	14.978	13.390
MW5	399804.068	6370865.332	TOM	3.176	1.900
MW6	400035.899	6370971.254	TOM	5.364	4.820
MW7	400517.301	6370607.294	TOM	5.072	2.5
Dup' (BH3)	400389.726	6370972.213	TOM	20.707	

Well ID	Date Well Measured	Reference Point Height to GL (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	0.57	5.73	Fast	6
BH3	21/08/2025	0.53	21.34	Good 75%	4
BH4	21/08/2025	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	0.64	8.89		6
BH6	21/08/2025	0.65	18.85	NA	<1
MW1	21/08/2025	0.59	4.41	Good 75%	5
MW2	24/09/2019		28.49	Good 75%	3
MW3	21/08/2025	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	0.38	4.00	Good 75%	3
MW7	21/08/2025	0.52	5.72	Good 75%	4
Dup' (BH3)	21/08/2025	0.53	21.34	Good 75%	4

Note: NATA accreditation does not cover information provided in this section

*Reference Point AHD may differ from survey data provided due to the differences in where field measurements taken from when compared to surveyed point (TOC/TOM/GL).

Report Number: 19214

Date Issued: 16/12/2025

Revision Number: 00

Site/Job: Redisand Groundwater - Depths Only

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following groundwater sample(s) were received on 11/12/2025

Client Sample Reference	Date Sampled	Lab ID	Matrix	General Comments
BH1	11/12/2025	19214/1	Water	
BH3	11/12/2025	19214/2	Water	
BH4	11/12/2025	19214/3	Water	
BH5	11/12/2025	19214/4	Water	
BH6	11/12/2025	19214/5	Water	
MW1	11/12/2025	19214/6	Water	
MW2	11/12/2025	19214/7	Water	Not monitored - No access
MW3	11/12/2025	19214/8	Water	
MW4	11/12/2025	19214/9	Water	
MW5	11/12/2025	19214/10	Water	
MW6	11/12/2025	19214/11	Water	
MW7	11/12/2025	19214/12	Water	
QMW1	11/12/2025	19214/13	Water	
QMW2	11/12/2025	19214/14	Water	

The sample(s) have been tested as received and results relate specifically to the samples tested.
The following reports are included:

- Test Report
- Sampling Report
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 16/12/2025.



Test Report Number: 19214

Date Issued: 16/12/2025

Revision No: 00

Results

Well Parameters		Lab ID Sample Date Sample ID Units	19214/1 11/12/2025 BH1	19214/2 11/12/2025 BH3	19214/3 11/12/2025 BH4	19214/4 11/12/2025 BH5	19214/5 11/12/2025 BH6
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	3.06	18.36	12.59	5.77	18.89
Depth to Water	AS5667.11	m(bgl)	2.49	17.83	12.14	5.13	18.24
Standing Water Level	AS5667.11	m(AHD)	3.25	2.35	2.03	3.12	4.39

Well Parameters		Lab ID Sample Date Sample ID Units	19214/6 11/12/2025 MW1	19214/7 11/12/2025 MW2	19214/8 11/12/2025 MW3	19214/9 11/12/2025 MW4	19214/10 11/12/2025 MW5
	Method						
Depth Reference Point		TORef	TOM	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	0.88	[NT]	1.92	12.48	1.00
Depth to Water	AS5667.11	m(bgl)	0.29	[NT]	1.43	11.88	0.41
Standing Water Level	AS5667.11	m(AHD)	2.86	[NT]	2.82	2.50	2.18

Well Parameters		Lab ID Sample Date Sample ID Units	19214/11 11/12/2025 MW6	19214/12 11/12/2025 MW7	19214/13 11/12/2025 QMW1	19214/14 11/12/2025 QMW2
	Method					
Depth Reference Point		TORef	TOM	TOM	TOM	TOM
Depth to Water	AS5667.11	m(bTORef)	2.94	2.09	22.53	1.59
Depth to Water	AS5667.11	m(bgl)	2.56	1.57	22.09	0.91
Standing Water Level	AS5667.11	m(AHD)	2.42	2.98	3.00	2.30

Date Tested		Lab ID Sample Date Sample ID Units	19214/1 11/12/2025 BH1	19214/2 11/12/2025 BH3	19214/3 11/12/2025 BH4	19214/4 11/12/2025 BH5	19214/5 11/12/2025 BH6
	Method						
Date Tested - Field	--	--	11/12/2025	11/12/2025	11/12/2025	11/12/2025	11/12/2025

Date Tested		Lab ID Sample Date Sample ID Units	19214/6 11/12/2025 MW1	19214/7 11/12/2025 MW2	19214/8 11/12/2025 MW3	19214/9 11/12/2025 MW4	19214/10 11/12/2025 MW5
	Method						
Date Tested - Field	--	--	11/12/2025	11/12/2025	11/12/2025	11/12/2025	11/12/2025

Date Tested		Lab ID Sample Date Sample ID Units	19214/11 11/12/2025 MW6	19214/12 11/12/2025 MW7	19214/13 11/12/2025 QMW1	19214/14 11/12/2025 QMW2
	Method					
Date Tested - Field	--	--	11/12/2025	11/12/2025	11/12/2025	11/12/2025



Report Comments:

Guideline applied - **No Limits**.

Results in **bold** indicate an exceedance of the applied guideline.

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

Field Analysis conducted onsite at Salt Ash Quarry

[NT]: Not tested

Where present, indicates NATA accreditation does not cover the performance of this service.

Sampling Report Number: 19214

Date Issued: 16/12/2025

Revision No: 00

Sampling Conditions: Intermittent light showers, 21 - 23 °

Lab ID	Client Sample Reference	Licence/ Reference	Sampler	Date Sampled	Method of Sampling	Pre-treatment / Preservation
19214/1	BH1	13406-6	T & D.Walker	11/12/2025 11:23 AM	AS5667.11 Depth	
19214/2	BH3		T & D.Walker	11/12/2025 12:53 PM	AS5667.11 Depth	
19214/3	BH4	13406-7	T & D.Walker	11/12/2025 1:28 PM	AS5667.11 Depth	
19214/4	BH5		T & D.Walker	11/12/2025 2:35 PM	AS5667.11 Depth	
19214/5	BH6	13406-5	T & D.Walker	11/12/2025 11:10 AM	AS5667.11 Depth	
19214/6	MW1	13406-4	T & D.Walker	11/12/2025 10:31 AM	AS5667.11 Depth	
19214/7	MW2		T & D.Walker	11/12/2025		
19214/8	MW3		T & D.Walker	11/12/2025 1:45 PM	AS5667.11 Depth	
19214/9	MW4		T & D.Walker	11/12/2025 12:15 PM	AS5667.11 Depth	
19214/10	MW5		T & D.Walker	11/12/2025 10:13 AM	AS5667.11 Depth	
19214/11	MW6		T & D.Walker	11/12/2025 11:23 AM	AS5667.11 Depth	
19214/12	MW7		T & D.Walker	11/12/2025 2:06 PM	AS5667.11 Depth	
19214/13	QMW1		T & D.Walker	11/12/2025 11:01 AM	AS5667.11 Depth	
19214/14	QMW2		T & D.Walker	11/12/2025 10:49 AM	AS5667.11 Depth	

Lab ID	Client Sample Reference	Sampling Observations
19214/1	BH1	
19214/2	BH3	
19214/3	BH4	
19214/4	BH5	
19214/5	BH6	
19214/6	MW1	
19214/7	MW2	Not monitored - No access
19214/8	MW3	
19214/9	MW4	
19214/10	MW5	
19214/11	MW6	
19214/12	MW7	
19214/13	QMW1	
19214/14	QMW2	

Sampling procedures have been approved and report finalised on 16/12/2025.

Where method is "unknown" sampling procedures are not endorsed

Well Parameters:

Client: Redisand NSW

Site/Job: Redisand Groundwater - Depths Only

Well ID	GPS-Easting	GPS-Northing	Reference Point	Reference point AHD (m)*	Depth to Screen (m)
BH1	400171.501	6370802.199	TOM	6.31	
BH3	400389.726	6370972.213	TOM	20.707	
BH4	0400564	6371030	TOM	14.620	13
BH5	400252.503	6370622.664	TOM	8.8906	6.3
BH6	399993.291	6370681.832	TOM	23.282	
MW1	399809.943	6370742.298	TOM	3.741	1.5
MW2	0400494	6371070		28.067	26.700
MW3	400546.521	6370740.379	TOM	4.74	2.670
MW4	400249.731	6370987.497	TOM	14.978	13.390
MW5	399804.068	6370865.332	TOM	3.176	1.900
MW6	400035.899	6370971.254	TOM	5.364	4.820
MW7	400517.301	6370607.294	TOM	5.072	2.5
QMW1	399791	6370552	TOM	25.53	
QMW2	399809	6370740	TOM	3.89	

Well ID	Date Well Measured	Reference Point Height to GL (m)	Depth to Bottom (m)	Recharge Rate	Approximate Volume (L)
BH1	21/08/2025	0.57	5.73	Fast	6
BH3	21/08/2025	0.53	21.34	Good 75%	4
BH4	21/08/2025	0.45	12.29	Good 75%	1.6
BH5	25/08/2025	0.64	8.89		6
BH6	21/08/2025	0.65	18.85	NA	<1
MW1	21/08/2025	0.59	4.41	Good 75%	5
MW2	24/09/2019		28.49	Good 75%	3
MW3	21/08/2025	0.49	5.64	Good 75%	4.5
MW4	25/08/2025	0.60	15.74	Good 75%	4.5
MW5	21/08/2025	0.59	4.73	Good 75%	6.5
MW6	21/08/2025	0.38	4.00	Good 75%	3
MW7	21/08/2025	0.52	5.72	Good 75%	4
QMW1	21/08/2025	0.44	25.63		
QMW2	21/08/2025	0.68	5.86		

Note: NATA accreditation does not cover information provided in this section

*Reference Point AHD may differ from survey data provided due to the differences in where field measurements taken from when compared to surveyed point (TOC/TOM/GL).

Date	Time	MW1.	MW1	MW3.	MW3	MW4.	MW4	MW5.
		Depth to Water	Standing Water Level	Depth to Water	Standing Water Level	Depth to Water	Standing Water Level	Depth to Water
		m(bTOM)	m(AHD)	m(bTOM)	m(AHD)	m(bTOM)	m(AHD)	m(bTOM)
			3.74		4.740		14.978	
1/01/2025	4:00:00 AM	1.5997	2.14	2.9334	1.81	13.05	1.93	1.5713
1/01/2025	4:00:00 PM	1.6192	2.12	2.9427	1.80	13.064	1.91	1.5909
2/01/2025	4:00:00 AM	1.607	2.13	2.9462	1.79	13.0588	1.92	1.58
2/01/2025	4:00:00 PM	1.6188	2.12	2.9498	1.79	13.0641	1.91	1.5921
3/01/2025	4:00:00 AM	1.5998	2.14	2.9504	1.79	13.0629	1.92	1.5738
3/01/2025	4:00:00 PM	1.6241	2.12	2.9573	1.78	13.0705	1.91	1.5978
4/01/2025	4:00:00 AM	1.6154	2.12	2.9569	1.78	13.0679	1.91	1.59
4/01/2025	4:00:00 PM	1.6322	2.11	2.9648	1.78	13.0774	1.90	1.6061
5/01/2025	4:00:00 AM	1.6247	2.12	2.966	1.77	13.0742	1.90	1.5996
5/01/2025	4:00:00 PM	1.6426	2.10	2.9742	1.77	13.0862	1.89	1.6171
6/01/2025	4:00:00 AM	1.6332	2.11	2.9748	1.77	13.0803	1.90	1.6091
6/01/2025	4:00:00 PM	1.6531	2.09	2.9824	1.76	13.0915	1.89	1.6286
7/01/2025	4:00:00 AM	1.6396	2.10	2.9847	1.76	13.0865	1.89	1.6169
7/01/2025	4:00:00 PM	1.5995	2.14	2.985	1.76	13.0886	1.89	1.566
8/01/2025	4:00:00 AM	1.5595	2.18	2.9823	1.76	13.087	1.89	1.5182
8/01/2025	4:00:00 PM	1.5284	2.21	2.9781	1.76	13.085	1.89	1.4762
9/01/2025	4:00:00 AM	1.415	2.33	2.9649	1.78	13.0857	1.89	1.3323
9/01/2025	4:00:00 PM	1.3464	2.39	2.9534	1.79	13.0891	1.89	1.2558
10/01/2025	4:00:00 AM	1.3529	2.39	2.9479	1.79	13.0867	1.89	1.2702
10/01/2025	4:00:00 PM	1.3985	2.34	2.9583	1.78	13.0919	1.89	1.321
11/01/2025	4:00:00 AM	1.4074	2.33	2.9579	1.78	13.0864	1.89	1.331
11/01/2025	4:00:00 PM	1.444	2.30	2.9664	1.77	13.0923	1.89	1.3701
12/01/2025	4:00:00 AM	1.4464	2.29	2.9654	1.77	13.0872	1.89	1.3713
12/01/2025	4:00:00 PM	1.476	2.26	2.9756	1.76	13.0942	1.88	1.4052
13/01/2025	4:00:00 AM	1.4776	2.26	2.9742	1.77	13.0879	1.89	1.4038
13/01/2025	4:00:00 PM	1.5031	2.24	2.9846	1.76	13.0955	1.88	1.4339
14/01/2025	4:00:00 AM	1.5045	2.24	2.9831	1.76	13.0923	1.89	1.4327
14/01/2025	4:00:00 PM	1.5289	2.21	2.9908	1.75	13.0976	1.88	1.4608
15/01/2025	4:00:00 AM	1.5276	2.21	2.9871	1.75	13.0899	1.89	1.457
15/01/2025	4:00:00 PM	1.5562	2.18	2.9934	1.75	13.0977	1.88	1.4885
16/01/2025	4:00:00 AM	1.4229	2.32	2.9859	1.75	13.0837	1.89	1.3252
16/01/2025	4:00:00 PM	1.4154	2.32	2.9894	1.75	13.0917	1.89	1.2827
17/01/2025	4:00:00 AM	1.396	2.34	2.989	1.75	13.095	1.88	1.2791
17/01/2025	4:00:00 PM	1.3201	2.42	2.9665	1.77	13.0922	1.89	1.157
18/01/2025	4:00:00 AM	1.1777	2.56	2.9038	1.84	13.0894	1.89	0.9945
18/01/2025	4:00:00 PM	1.1011	2.64	2.8394	1.90	13.0844	1.89	0.9307
19/01/2025	4:00:00 AM	1.1209	2.62	2.8129	1.93	13.0695	1.91	0.9625

19/01/2025	4:00:00 PM	1.1879	2.55	2.8122	1.93	13.0698	1.91	1.0611
20/01/2025	4:00:00 AM	1.1979	2.54	2.8071	1.93	13.0607	1.92	1.0688
20/01/2025	4:00:00 PM	1.2428	2.50	2.811	1.93	13.0621	1.92	1.1332
21/01/2025	4:00:00 AM	1.2455	2.49	2.807	1.93	13.0571	1.92	1.1181
21/01/2025	4:00:00 PM	1.2797	2.46	2.8127	1.93	13.0585	1.92	1.1717
22/01/2025	4:00:00 AM	1.2747	2.47	2.8086	1.93	13.0463	1.93	1.1451
22/01/2025	4:00:00 PM	1.2968	2.44	2.8154	1.92	13.049	1.93	1.1854
23/01/2025	4:00:00 AM	1.2975	2.44	2.8201	1.92	13.0431	1.93	1.1684
23/01/2025	4:00:00 PM	1.3189	2.42	2.8235	1.92	13.0444	1.93	1.2056
24/01/2025	4:00:00 AM	1.3111	2.43	2.8193	1.92	13.037	1.94	1.179
24/01/2025	4:00:00 PM	1.3187	2.42	2.8307	1.91	13.0398	1.94	1.2096
25/01/2025	4:00:00 AM	1.3335	2.41	2.8365	1.90	13.0389	1.94	1.2118
25/01/2025	4:00:00 PM	1.357	2.38	2.8453	1.89	13.0453	1.93	1.2493
26/01/2025	4:00:00 AM	1.3503	2.39	2.8468	1.89	13.0364	1.94	1.2275
26/01/2025	4:00:00 PM	1.374	2.37	2.8573	1.88	13.0442	1.93	1.2666
27/01/2025	4:00:00 AM	1.3712	2.37	2.8602	1.88	13.035	1.94	1.2488
27/01/2025	4:00:00 PM	1.3932	2.35	2.8685	1.87	13.0404	1.94	1.2855
28/01/2025	4:00:00 AM	1.3888	2.35	2.8715	1.87	13.0317	1.95	1.2676
28/01/2025	4:00:00 PM	1.4117	2.33	2.8802	1.86	13.0382	1.94	1.3042
29/01/2025	4:00:00 AM	1.3617	2.38	2.8866	1.85	13.0313	1.95	1.205
29/01/2025	4:00:00 PM	1.3917	2.35	2.8894	1.85	13.0335	1.94	1.2581
30/01/2025	4:00:00 AM	1.3871	2.35	2.8902	1.85	13.0294	1.95	1.2509
30/01/2025	4:00:00 PM	1.4016	2.34	2.8923	1.85	13.0307	1.95	1.2672
31/01/2025	4:00:00 AM	1.3933	2.35	2.8942	1.85	13.029	1.95	1.258
31/01/2025	4:00:00 PM	1.4048	2.34	2.9008	1.84	13.0353	1.94	1.2705
1/02/2025	4:00:00 AM	1.3887	2.35	2.9042	1.84	13.0333	1.94	1.2411
1/02/2025	4:00:00 PM	1.4225	2.32	2.9137	1.83	13.0413	1.94	1.3057
2/02/2025	4:00:00 AM	1.4158	2.32	2.9151	1.82	13.0385	1.94	1.2904
2/02/2025	4:00:00 PM	1.4404	2.30	2.9249	1.82	13.0474	1.93	1.3266
3/02/2025	4:00:00 AM	1.4285	2.31	2.9244	1.82	13.0402	1.94	1.307
3/02/2025	4:00:00 PM	1.4486	2.29	2.9323	1.81	13.0469	1.93	1.3368
4/02/2025	4:00:00 AM	1.4461	2.29	2.9324	1.81	13.0408	1.94	1.3255
4/02/2025	4:00:00 PM	1.4621	2.28	2.9393	1.80	13.0456	1.93	1.3499
5/02/2025	4:00:00 AM	1.4537	2.29	2.9393	1.80	13.0414	1.94	1.3355
5/02/2025	4:00:00 PM	1.469	2.27	2.9487	1.79	13.0515	1.93	1.3596
6/02/2025	4:00:00 AM	1.4682	2.27	2.9483	1.79	13.0467	1.93	1.3509
6/02/2025	4:00:00 PM	1.4821	2.26	2.9544	1.79	13.0554	1.92	1.3723
7/02/2025	4:00:00 AM	1.4776	2.26	2.9545	1.79	13.0531	1.92	1.3619
7/02/2025	4:00:00 PM	1.4978	2.24	2.9632	1.78	13.0621	1.92	1.3894
8/02/2025	4:00:00 AM	1.4873	2.25	2.9629	1.78	13.0578	1.92	1.3755
8/02/2025	4:00:00 PM	1.5049	2.24	2.9709	1.77	13.0662	1.91	1.3986
9/02/2025	4:00:00 AM	1.5009	2.24	2.9725	1.77	13.0641	1.91	1.3906
9/02/2025	4:00:00 PM	1.5157	2.22	2.9778	1.76	13.0717	1.91	1.4094
10/02/2025	4:00:00 AM	1.5072	2.23	2.9767	1.76	13.0668	1.91	1.3971

10/02/2025	4:00:00 PM	1.5118	2.23	2.9814	1.76	13.0686	1.91	1.4006
11/02/2025	4:00:00 AM	1.5083	2.23	2.9818	1.76	13.072	1.91	1.3943
11/02/2025	4:00:00 PM	1.4896	2.25	2.9831	1.76	13.0756	1.90	1.3453
12/02/2025	4:00:00 AM	1.4802	2.26	2.9823	1.76	13.0744	1.90	1.3448
12/02/2025	4:00:00 PM	1.5142	2.23	2.9887	1.75	13.0849	1.89	1.39
13/02/2025	4:00:00 AM	1.5147	2.23	2.9894	1.75	13.0817	1.90	1.393
13/02/2025	4:00:00 PM	1.5322	2.21	2.9964	1.74	13.0878	1.89	1.4213
14/02/2025	4:00:00 AM	1.5229	2.22	2.9946	1.75	13.0814	1.90	1.4103
14/02/2025	4:00:00 PM	1.5427	2.20	3.0013	1.74	13.0895	1.89	1.4344
15/02/2025	4:00:00 AM	1.5261	2.21	2.9989	1.74	13.0816	1.90	1.4142
15/02/2025	4:00:00 PM	1.5459	2.19	3.0048	1.74	13.0893	1.89	1.4375
16/02/2025	4:00:00 AM	1.5381	2.20	3.0047	1.74	13.0884	1.89	1.4294
16/02/2025	4:00:00 PM	1.5522	2.19	3.0098	1.73	13.1022	1.88	1.444
17/02/2025	4:00:00 AM	1.5505	2.19	3.0133	1.73	13.1037	1.87	1.4442
17/02/2025	4:00:00 PM	1.5716	2.17	3.0174	1.72	13.1144	1.86	1.4653
18/02/2025	4:00:00 AM	1.5675	2.17	3.0178	1.72	13.109	1.87	1.461
18/02/2025	4:00:00 PM	1.5809	2.16	3.0221	1.72	13.1165	1.86	1.4765
19/02/2025	4:00:00 AM	1.5739	2.17	3.0241	1.72	13.113	1.87	1.4698
19/02/2025	4:00:00 PM	1.591	2.15	3.0275	1.71	13.1196	1.86	1.4879
20/02/2025	4:00:00 AM	1.5843	2.16	3.0301	1.71	13.1153	1.86	1.4817
20/02/2025	4:00:00 PM	1.5864	2.15	3.0316	1.71	13.1186	1.86	1.4828
21/02/2025	4:00:00 AM	1.5491	2.19	3.0341	1.71	13.1189	1.86	1.4233
21/02/2025	4:00:00 PM	1.5617	2.18	3.0366	1.70	13.1211	1.86	1.4403
22/02/2025	4:00:00 AM	1.5614	2.18	3.036	1.70	13.1192	1.86	1.4401
22/02/2025	4:00:00 PM	1.5918	2.15	3.0403	1.70	13.1255	1.85	1.4718
23/02/2025	4:00:00 AM	1.5929	2.15	3.041	1.70	13.1218	1.86	1.48
23/02/2025	4:00:00 PM	1.6041	2.14	3.0454	1.69	13.1299	1.85	1.4976
24/02/2025	4:00:00 AM	1.5964	2.14	3.0458	1.69	13.1258	1.85	1.4907
24/02/2025	4:00:00 PM	1.6107	2.13	3.0508	1.69	13.1329	1.85	1.5061
25/02/2025	4:00:00 AM	1.6082	2.13	3.0534	1.69	13.1298	1.85	1.5038
25/02/2025	4:00:00 PM	1.6156	2.12	3.0556	1.68	13.1309	1.85	1.5128
26/02/2025	4:00:00 AM	1.6082	2.13	3.0547	1.69	13.1283	1.85	1.4993
26/02/2025	4:00:00 PM	1.6238	2.12	3.0571	1.68	13.135	1.84	1.5179
27/02/2025	4:00:00 AM	1.6083	2.13	3.058	1.68	13.1304	1.85	1.5032
27/02/2025	4:00:00 PM	1.6282	2.11	3.0626	1.68	13.1375	1.84	1.5237
28/02/2025	4:00:00 AM	1.6265	2.11	3.0633	1.68	13.133	1.85	1.523
28/02/2025	4:00:00 PM	1.6373	2.10	3.0685	1.67	13.1443	1.83	1.5355
1/03/2025	4:00:00 AM	1.6339	2.11	3.0705	1.67	13.1373	1.84	1.5313
1/03/2025	4:00:00 PM	1.6503	2.09	3.0733	1.67	13.1419	1.84	1.548
2/03/2025	4:00:00 AM	1.6382	2.10	3.0735	1.67	13.1385	1.84	1.5363
2/03/2025	4:00:00 PM	1.6488	2.09	3.0787	1.66	13.1466	1.83	1.549
3/03/2025	4:00:00 AM	1.6515	2.09	3.0823	1.66	13.145	1.83	1.5519
3/03/2025	4:00:00 PM	1.6513	2.09	3.0837	1.66	13.1453	1.83	1.5486
4/03/2025	4:00:00 AM	1.6366	2.10	3.0841	1.66	13.1456	1.83	1.5258

4/03/2025	4:00:00 PM	1.6318	2.11	3.0872	1.65	13.1492	1.83	1.5214
5/03/2025	4:00:00 AM	1.628	2.11	3.0857	1.65	13.1468	1.83	1.518
5/03/2025	4:00:00 PM	1.6449	2.10	3.0901	1.65	13.1499	1.83	1.5367
6/03/2025	4:00:00 AM	1.64	2.10	3.09	1.65	13.15	1.83	1.53
6/03/2025	4:00:00 PM	1.6516	2.09	3.103	1.64	13.1969	1.78	1.5309
7/03/2025	4:00:00 AM	1.6574	2.08	3.1038	1.64	13.2131	1.76	1.5369
7/03/2025	4:00:00 PM	1.6581	2.08	3.1053	1.63	13.1831	1.79	1.5382
8/03/2025	4:00:00 AM	1.6571	2.08	3.1051	1.63	13.1737	1.80	1.534
8/03/2025	4:00:00 PM	1.6496	2.09	3.1071	1.63	13.1754	1.80	1.5282
9/03/2025	4:00:00 AM	1.6537	2.09	3.1085	1.63	13.1751	1.80	1.5336
9/03/2025	4:00:00 PM	1.6723	2.07	3.1112	1.63	13.1762	1.80	1.5552
10/03/2025	4:00:00 AM	1.6685	2.07	3.11	1.63	13.1751	1.80	1.5559
10/03/2025	4:00:00 PM	1.6731	2.07	3.1117	1.63	13.1749	1.80	1.5596
11/03/2025	4:00:00 AM	1.6673	2.07	3.1103	1.63	13.1755	1.80	1.5503
11/03/2025	4:00:00 PM	1.6394	2.10	3.1109	1.63	13.1768	1.80	1.5058
12/03/2025	4:00:00 AM	1.6428	2.10	3.112	1.63	13.1799	1.80	1.5086
12/03/2025	4:00:00 PM	1.6549	2.09	3.1121	1.63	13.1787	1.80	1.5181
13/03/2025	4:00:00 AM	1.6549	2.09	3.1109	1.63	13.1766	1.80	1.523
13/03/2025	4:00:00 PM	1.6748	2.07	3.116	1.62	13.1822	1.80	1.542
14/03/2025	4:00:00 AM	1.6715	2.07	3.1169	1.62	13.1833	1.79	1.5471
14/03/2025	4:00:00 PM	1.6832	2.06	3.1201	1.62	13.1894	1.79	1.5665
15/03/2025	4:00:00 AM	1.6738	2.07	3.1199	1.62	13.1846	1.79	1.5598
15/03/2025	4:00:00 PM	1.6922	2.05	3.1242	1.62	13.1861	1.79	1.5803
16/03/2025	4:00:00 AM	1.6868	2.05	3.1236	1.62	13.1865	1.79	1.5748
16/03/2025	4:00:00 PM	1.6978	2.04	3.1277	1.61	13.1888	1.79	1.5879
17/03/2025	4:00:00 AM	1.6792	2.06	3.1284	1.61	13.193	1.79	1.5713
17/03/2025	4:00:00 PM	1.6995	2.04	3.133	1.61	13.2004	1.78	1.5935
18/03/2025	4:00:00 AM	1.7016	2.04	3.1353	1.60	13.1967	1.78	1.5953
18/03/2025	4:00:00 PM	1.7107	2.03	3.1392	1.60	13.1969	1.78	1.6061
19/03/2025	4:00:00 AM	1.7071	2.03	3.1385	1.60	13.1944	1.78	1.6009
19/03/2025	4:00:00 PM	1.7181	2.02	3.1437	1.60	13.1991	1.78	1.614
20/03/2025	4:00:00 AM	1.7134	2.03	3.1436	1.60	13.1973	1.78	1.609
20/03/2025	4:00:00 PM	1.7249	2.02	3.1481	1.59	13.2043	1.77	1.6215
21/03/2025	4:00:00 AM	1.7232	2.02	3.1478	1.59	13.2025	1.78	1.6193
21/03/2025	4:00:00 PM	1.7166	2.02	3.1504	1.59	13.203	1.78	1.5951
22/03/2025	4:00:00 AM	1.707	2.03	3.1489	1.59	13.2022	1.78	1.5854
22/03/2025	4:00:00 PM	1.7198	2.02	3.1514	1.59	13.2077	1.77	1.598
23/03/2025	4:00:00 AM	1.7177	2.02	3.1524	1.59	13.2022	1.78	1.5991
23/03/2025	4:00:00 PM	1.7188	2.02	3.154	1.59	13.2058	1.77	1.5889
24/03/2025	4:00:00 AM	1.7185	2.02	3.1522	1.59	13.2054	1.77	1.587
24/03/2025	4:00:00 PM	1.7164	2.02	3.1535	1.59	13.2062	1.77	1.5766
25/03/2025	4:00:00 AM	1.7171	2.02	3.1539	1.59	13.2074	1.77	1.576
25/03/2025	4:00:00 PM	1.7242	2.02	3.1558	1.58	13.2077	1.77	1.5852
26/03/2025	4:00:00 AM	1.7226	2.02	3.1553	1.58	13.2082	1.77	1.587

26/03/2025	4:00:00 PM	1.7253	2.01	3.1586	1.58	13.2086	1.77	1.5961
27/03/2025	4:00:00 AM	1.7269	2.01	3.1583	1.58	13.2092	1.77	1.5999
27/03/2025	4:00:00 PM	1.7299	2.01	3.1617	1.58	13.2148	1.76	1.6128
28/03/2025	4:00:00 AM	1.7334	2.01	3.1614	1.58	13.2114	1.77	1.6143
28/03/2025	4:00:00 PM	1.7383	2.00	3.1658	1.57	13.2133	1.76	1.6232
29/03/2025	4:00:00 AM	1.7197	2.02	3.16	1.58	13.2129	1.77	1.5683
29/03/2025	4:00:00 PM	1.4592	2.28	3.1209	1.62	13.2005	1.78	1.2321
30/03/2025	4:00:00 AM	1.4282	2.31	3.1123	1.63	13.207	1.77	1.2416
30/03/2025	4:00:00 PM	1.4609	2.28	3.1148	1.63	13.2131	1.76	1.2853
31/03/2025	4:00:00 AM	1.4217	2.32	3.1044	1.64	13.2081	1.77	1.1904
31/03/2025	4:00:00 PM	1.4258	2.31	3.104	1.64	13.2091	1.77	1.2351
1/04/2025	4:00:00 AM	1.4377	2.30	3.0963	1.64	13.2068	1.77	1.2491
1/04/2025	4:00:00 PM	1.4601	2.28	3.091	1.65	13.2045	1.77	1.2738
2/04/2025	4:00:00 AM	1.4636	2.28	3.0863	1.65	13.2012	1.78	1.2822
2/04/2025	4:00:00 PM	1.4804	2.26	3.0833	1.66	13.1977	1.78	1.2995
3/04/2025	4:00:00 AM	1.4817	2.26	3.08	1.66	13.1956	1.78	1.295
3/04/2025	4:00:00 PM	1.5013	2.24	3.0862	1.65	13.1975	1.78	1.3198
4/04/2025	4:00:00 AM	1.504	2.24	3.0859	1.65	13.195	1.78	1.3205
4/04/2025	4:00:00 PM	1.5288	2.21	3.0917	1.65	13.1984	1.78	1.3472
5/04/2025	4:00:00 AM	1.5346	2.21	3.0893	1.65	13.1945	1.78	1.3488
5/04/2025	4:00:00 PM	1.548	2.19	3.1	1.64	13.1987	1.78	1.3689
6/04/2025	4:00:00 AM	1.5593	2.18	3.1014	1.64	13.1969	1.78	1.3772
6/04/2025	4:00:00 PM	1.5773	2.16	3.1054	1.63	13.1991	1.78	1.3977
7/04/2025	4:00:00 AM	1.5754	2.16	3.1061	1.63	13.198	1.78	1.3948
7/04/2025	4:00:00 PM	1.5933	2.15	3.1153	1.62	13.2153	1.76	1.4192
8/04/2025	4:00:00 AM	1.5948	2.15	3.1174	1.62	13.2081	1.77	1.4181
8/04/2025	4:00:00 PM	1.6051	2.13	3.1208	1.62	13.2113	1.77	1.4297
9/04/2025	4:00:00 AM	1.6076	2.13	3.1187	1.62	13.2077	1.77	1.4278
9/04/2025	4:00:00 PM	1.6151	2.12	3.1231	1.62	13.2145	1.76	1.439
10/04/2025	4:00:00 AM	1.6128	2.13	3.1214	1.62	13.207	1.77	1.4336
10/04/2025	4:00:00 PM	1.6249	2.12	3.1274	1.61	13.2138	1.76	1.4483
11/04/2025	4:00:00 AM	1.6206	2.12	3.1263	1.61	13.2094	1.77	1.4416
11/04/2025	4:00:00 PM	1.6316	2.11	3.1349	1.61	13.2198	1.76	1.4553
12/04/2025	4:00:00 AM	1.6354	2.10	3.136	1.60	13.2165	1.76	1.4564
12/04/2025	4:00:00 PM	1.6429	2.10	3.1424	1.60	13.2241	1.75	1.4667
13/04/2025	4:00:00 AM	1.6422	2.10	3.1412	1.60	13.2168	1.76	1.4633
13/04/2025	4:00:00 PM	1.6545	2.09	3.1445	1.60	13.2245	1.75	1.4771
14/04/2025	4:00:00 AM	1.6487	2.09	3.1411	1.60	13.2193	1.76	1.4694
14/04/2025	4:00:00 PM	1.6551	2.08	3.1477	1.59	13.228	1.75	1.4787
15/04/2025	4:00:00 AM	1.6551	2.08	3.1482	1.59	13.2237	1.75	1.4676
15/04/2025	4:00:00 PM	1.6587	2.08	3.1527	1.59	13.2225	1.76	1.4776
16/04/2025	4:00:00 AM	1.6593	2.08	3.1498	1.59	13.2207	1.76	1.4775
16/04/2025	4:00:00 PM	1.6636	2.08	3.154	1.59	13.225	1.75	1.4861
17/04/2025	4:00:00 AM	1.6546	2.09	3.1487	1.59	13.2213	1.76	1.4646

17/04/2025	4:00:00 PM	1.5948	2.15	3.148	1.59	13.2237	1.75	1.3482
18/04/2025	4:00:00 AM	1.5867	2.15	3.1474	1.59	13.2208	1.76	1.3698
18/04/2025	4:00:00 PM	1.6069	2.13	3.1533	1.59	13.2278	1.75	1.4047
19/04/2025	4:00:00 AM	1.6147	2.13	3.1512	1.59	13.2245	1.75	1.4181
19/04/2025	4:00:00 PM	1.6273	2.11	3.1561	1.58	13.2264	1.75	1.4359
20/04/2025	4:00:00 AM	1.6365	2.10	3.1552	1.58	13.2259	1.75	1.4469
20/04/2025	4:00:00 PM	1.6544	2.09	3.1607	1.58	13.2315	1.75	1.4671
21/04/2025	4:00:00 AM	1.6596	2.08	3.1586	1.58	13.2261	1.75	1.4738
21/04/2025	4:00:00 PM	1.6583	2.08	3.1621	1.58	13.2316	1.75	1.4762
22/04/2025	4:00:00 AM	1.6614	2.08	3.1628	1.58	13.2301	1.75	1.4498
22/04/2025	4:00:00 PM	1.6481	2.09	3.1623	1.58	13.2278	1.75	1.4477
23/04/2025	4:00:00 AM	1.5436	2.20	3.1605	1.58	13.2304	1.75	1.2971
23/04/2025	4:00:00 PM	1.5551	2.18	3.1662	1.57	13.2322	1.75	1.3249
24/04/2025	4:00:00 AM	1.5692	2.17	3.1634	1.58	13.2296	1.75	1.3491
24/04/2025	4:00:00 PM	1.5853	2.15	3.167	1.57	13.2349	1.74	1.375
25/04/2025	4:00:00 AM	1.5928	2.15	3.1628	1.58	13.2296	1.75	1.3802
25/04/2025	4:00:00 PM	1.5923	2.15	3.1624	1.58	13.2286	1.75	1.3722
26/04/2025	4:00:00 AM	1.5943	2.15	3.1587	1.58	13.2278	1.75	1.3784
26/04/2025	4:00:00 PM	1.6039	2.14	3.1609	1.58	13.2277	1.75	1.3926
27/04/2025	4:00:00 AM	1.5543	2.19	3.1551	1.58	13.2278	1.75	1.2565
27/04/2025	4:00:00 PM	1.2442	2.50	3.0585	1.68	13.218	1.76	0.9229
28/04/2025	4:00:00 AM	0.9594	2.78	2.8339	1.91	13.2126	1.77	0.7344
28/04/2025	4:00:00 PM	1.0045	2.74	2.7281	2.01	13.1973	1.78	0.7605
29/04/2025	4:00:00 AM	1.0514	2.69	2.6945	2.05	13.1873	1.79	0.8021
29/04/2025	4:00:00 PM	1.0828	2.66	2.6797	2.06	13.1774	1.80	0.8289
30/04/2025	4:00:00 AM	1.0754	2.66	2.6683	2.07	13.1649	1.81	0.82
30/04/2025	4:00:00 PM	0.8755	2.86	2.654	2.09	13.1528	1.83	0.707
1/05/2025	4:00:00 AM	0.8791	2.86	2.5968	2.14	13.1525	1.83	0.7089
1/05/2025	4:00:00 PM	0.8451	2.89	2.5285	2.21	13.145	1.83	0.7144
2/05/2025	4:00:00 AM	0.8702	2.87	2.4656	2.27	13.1306	1.85	0.7373
2/05/2025	4:00:00 PM	0.8668	2.87	2.4294	2.31	13.1178	1.86	0.7366
3/05/2025	4:00:00 AM	0.8804	2.86	2.4079	2.33	13.1046	1.87	0.7448
3/05/2025	4:00:00 PM	0.893	2.85	2.3996	2.34	13.0935	1.88	0.7487
4/05/2025	4:00:00 AM	0.9073	2.83	2.3932	2.35	13.0803	1.90	0.7513
4/05/2025	4:00:00 PM	0.9263	2.81	2.3955	2.34	13.0686	1.91	0.7546
5/05/2025	4:00:00 AM	0.9341	2.81	2.3972	2.34	13.0545	1.92	0.7514
5/05/2025	4:00:00 PM	0.9544	2.79	2.4109	2.33	13.0429	1.94	0.759
6/05/2025	4:00:00 AM	0.9603	2.78	2.4167	2.32	13.0307	1.95	0.7568
6/05/2025	4:00:00 PM	0.9765	2.76	2.4356	2.30	13.0206	1.96	0.7615
7/05/2025	4:00:00 AM	0.9865	2.75	2.4441	2.30	13.0089	1.97	0.7657
7/05/2025	4:00:00 PM	1.0006	2.74	2.4617	2.28	12.9986	1.98	0.7693
8/05/2025	4:00:00 AM	1.0022	2.74	2.4728	2.27	12.9888	1.99	0.7686
8/05/2025	4:00:00 PM	1.0124	2.73	2.4909	2.25	12.9817	2.00	0.7731
9/05/2025	4:00:00 AM	1.0265	2.71	2.5029	2.24	12.976	2.00	0.7875

9/05/2025	4:00:00 PM	0.9963	2.74	2.515	2.23	12.9702	2.01	0.7608
10/05/2025	4:00:00 AM	1.0149	2.73	2.5223	2.22	12.9645	2.01	0.7706
10/05/2025	4:00:00 PM	1.0141	2.73	2.5269	2.21	12.9606	2.02	0.7698
11/05/2025	4:00:00 AM	1.0226	2.72	2.5332	2.21	12.9546	2.02	0.771
11/05/2025	4:00:00 PM	0.9115	2.83	2.5349	2.21	12.9466	2.03	0.7177
12/05/2025	4:00:00 AM	0.9289	2.81	2.5357	2.20	12.9415	2.04	0.7354
12/05/2025	4:00:00 PM	0.8736	2.87	2.5331	2.21	12.9332	2.04	0.7154
13/05/2025	4:00:00 AM	0.9133	2.83	2.5245	2.22	12.9291	2.05	0.7328
13/05/2025	4:00:00 PM	0.9205	2.82	2.5121	2.23	12.924	2.05	0.7422
14/05/2025	4:00:00 AM	0.934	2.81	2.5005	2.24	12.9192	2.06	0.7524
14/05/2025	4:00:00 PM	0.9369	2.80	2.4927	2.25	12.9123	2.07	0.7471
15/05/2025	4:00:00 AM	0.9468	2.79	2.486	2.25	12.9093	2.07	0.7517
15/05/2025	4:00:00 PM	0.8919	2.85	2.4824	2.26	12.9009	2.08	0.7196
16/05/2025	4:00:00 AM	0.8794	2.86	2.4705	2.27	12.8969	2.08	0.7281
16/05/2025	4:00:00 PM	0.8879	2.85	2.4609	2.28	12.8912	2.09	0.7365
17/05/2025	4:00:00 AM	0.8925	2.85	2.449	2.29	12.8867	2.09	0.7394
17/05/2025	4:00:00 PM	0.904	2.84	2.446	2.29	12.8805	2.10	0.7451
18/05/2025	4:00:00 AM	0.9159	2.82	2.4409	2.30	12.8776	2.10	0.7494
18/05/2025	4:00:00 PM	0.8593	2.88	2.4344	2.31	12.8718	2.11	0.7153
19/05/2025	4:00:00 AM	0.7194	3.02	2.2739	2.47	12.8752	2.10	0.6823
19/05/2025	4:00:00 PM	0.5964	3.14	1.9962	2.74	12.8624	2.12	0.6746
20/05/2025	4:00:00 AM	0.5538	3.19	1.8735	2.87	12.8301	2.15	0.6892
20/05/2025	4:00:00 PM	0.5439	3.20	1.8217	2.92	12.7966	2.18	0.6822
21/05/2025	4:00:00 AM	0.5405	3.20	1.7849	2.96	12.7609	2.22	0.688
21/05/2025	4:00:00 PM	0.5469	3.19	1.7482	2.99	12.7153	2.26	0.7067
22/05/2025	4:00:00 AM	0.5476	3.19	1.7312	3.01	12.6659	2.31	0.7055
22/05/2025	4:00:00 PM	0.4973	3.24	1.7125	3.03	12.6154	2.36	0.6583
23/05/2025	4:00:00 AM	0.4197	3.32	1.2705	3.47	12.5641	2.41	0.652
23/05/2025	4:00:00 PM	0.4706	3.27	1.1873	3.55	12.435	2.54	0.6711
24/05/2025	4:00:00 AM	0.4925	3.25	1.1651	3.57	12.2154	2.76	0.6815
24/05/2025	4:00:00 PM	0.5069	3.23	1.1676	3.57	12.064	2.91	0.6916
25/05/2025	4:00:00 AM	0.5133	3.23	1.1708	3.57	11.9615	3.02	0.6966
25/05/2025	4:00:00 PM	0.5142	3.23	1.1919	3.55	11.8876	3.09	0.6978
26/05/2025	4:00:00 AM	0.5167	3.22	1.2026	3.54	11.8333	3.14	0.6996
26/05/2025	4:00:00 PM	0.5085	3.23	1.2174	3.52	11.793	3.19	0.6906
27/05/2025	4:00:00 AM	0.5032	3.24	1.1813	3.56	11.7724	3.21	0.6935
27/05/2025	4:00:00 PM	0.499	3.24	1.2034	3.54	11.7459	3.23	0.6976
28/05/2025	4:00:00 AM	0.5144	3.23	1.2307	3.51	11.7425	3.24	0.7054
28/05/2025	4:00:00 PM	0.518	3.22	1.2561	3.48	11.7335	3.24	0.7067
29/05/2025	4:00:00 AM	0.5249	3.22	1.2732	3.47	11.7327	3.25	0.7112
29/05/2025	4:00:00 PM	0.5217	3.22	1.2894	3.45	11.7278	3.25	0.7061
30/05/2025	4:00:00 AM	0.514	3.23	1.2913	3.45	11.7255	3.25	0.7039
30/05/2025	4:00:00 PM	0.5167	3.22	1.3058	3.43	11.7206	3.26	0.7084
31/05/2025	4:00:00 AM	0.5204	3.22	1.3189	3.42	11.7183	3.26	0.7102

31/05/2025	4:00:00 PM	0.5242	3.22	1.3313	3.41	11.7136	3.26	0.7125
1/06/2025	4:00:00 AM	0.5295	3.21	1.3312	3.41	11.7093	3.27	0.7163
1/06/2025	4:00:00 PM	0.5307	3.21	1.3328	3.41	11.7031	3.27	0.7175
2/06/2025	4:00:00 AM	0.5263	3.21	1.329	3.41	11.6951	3.28	0.7143
2/06/2025	4:00:00 PM	0.5296	3.21	1.3241	3.42	11.6871	3.29	0.7172
3/06/2025	4:00:00 AM	0.5327	3.21	1.3186	3.42	11.6826	3.30	0.721
3/06/2025	4:00:00 PM	0.5273	3.21	1.3381	3.40	11.6763	3.30	0.7162
4/06/2025	4:00:00 AM	0.5283	3.21	1.3471	3.39	11.6753	3.30	0.7163
4/06/2025	4:00:00 PM	0.4784	3.26	1.2967	3.44	11.6734	3.30	0.6594
5/06/2025	4:00:00 AM	0.4884	3.25	1.1852	3.55	11.6811	3.30	0.6972
5/06/2025	4:00:00 PM	0.5069	3.23	1.1985	3.54	11.6808	3.30	0.7081
6/06/2025	4:00:00 AM	0.5187	3.22	1.1941	3.55	11.6757	3.30	0.7148
6/06/2025	4:00:00 PM	0.5233	3.22	1.1969	3.54	11.6725	3.31	0.7165
7/06/2025	4:00:00 AM	0.521	3.22	1.1934	3.55	11.6599	3.32	0.7142
7/06/2025	4:00:00 PM	0.5302	3.21	1.2132	3.53	11.6564	3.32	0.724
8/06/2025	4:00:00 AM	0.5304	3.21	1.2154	3.52	11.6533	3.32	0.7229
8/06/2025	4:00:00 PM	0.5277	3.21	1.2421	3.50	11.6502	3.33	0.7208
9/06/2025	4:00:00 AM	0.5315	3.21	1.2443	3.50	11.6523	3.33	0.7236
9/06/2025	4:00:00 PM	0.5243	3.22	1.2561	3.48	11.6488	3.33	0.7161
10/06/2025	4:00:00 AM	0.5259	3.21	1.2677	3.47	11.6527	3.33	0.7177
10/06/2025	4:00:00 PM	0.5259	3.21	1.2902	3.45	11.6569	3.32	0.7181
11/06/2025	4:00:00 AM	0.5355	3.20	1.2989	3.44	11.6628	3.32	0.7184
11/06/2025	4:00:00 PM	0.537	3.20	1.317	3.42	11.6654	3.31	0.7163
12/06/2025	4:00:00 AM	0.5452	3.19	1.3234	3.42	11.675	3.30	0.7195
12/06/2025	4:00:00 PM	0.5461	3.19	1.337	3.40	11.6786	3.30	0.7181
13/06/2025	4:00:00 AM	0.5486	3.19	1.3346	3.41	11.6858	3.29	0.7169
13/06/2025	4:00:00 PM	0.5444	3.20	1.3302	3.41	11.6874	3.29	0.715
14/06/2025	4:00:00 AM	0.5132	3.23	1.285	3.46	11.6943	3.28	0.7012
14/06/2025	4:00:00 PM	0.5082	3.23	1.2769	3.46	11.7012	3.28	0.7015
15/06/2025	4:00:00 AM	0.5145	3.23	1.2714	3.47	11.7056	3.27	0.7132
15/06/2025	4:00:00 PM	0.5192	3.22	1.2788	3.46	11.706	3.27	0.716
16/06/2025	4:00:00 AM	0.5224	3.22	1.2881	3.45	11.714	3.26	0.7165
16/06/2025	4:00:00 PM	0.5303	3.21	1.3025	3.44	11.7192	3.26	0.7227
17/06/2025	4:00:00 AM	0.5315	3.21	1.301	3.44	11.7242	3.25	0.7227
17/06/2025	4:00:00 PM	0.53	3.21	1.306	3.43	11.7262	3.25	0.7206
18/06/2025	4:00:00 AM	0.5285	3.21	1.3125	3.43	11.7339	3.24	0.7187
18/06/2025	4:00:00 PM	0.532	3.21	1.3292	3.41	11.7406	3.24	0.7224
19/06/2025	4:00:00 AM	0.5303	3.21	1.3243	3.42	11.7485	3.23	0.7193
19/06/2025	4:00:00 PM	0.5347	3.21	1.3322	3.41	11.7519	3.23	0.7232
20/06/2025	4:00:00 AM	0.5335	3.21	1.332	3.41	11.7567	3.22	0.7212
20/06/2025	4:00:00 PM	0.5336	3.21	1.344	3.40	11.7627	3.22	0.7222
21/06/2025	4:00:00 AM	0.5323	3.21	1.3414	3.40	11.7665	3.21	0.7204
21/06/2025	4:00:00 PM	0.5359	3.20	1.3483	3.39	11.7705	3.21	0.7239
22/06/2025	4:00:00 AM	0.5354	3.20	1.3425	3.40	11.7721	3.21	0.7229

22/06/2025	4:00:00 PM	0.5347	3.21	1.3426	3.40	11.7705	3.21	0.7225
23/06/2025	4:00:00 AM	0.5386	3.20	1.3375	3.40	11.7752	3.20	0.7268
23/06/2025	4:00:00 PM	0.5379	3.20	1.3476	3.39	11.775	3.20	0.7269
24/06/2025	4:00:00 AM	0.5451	3.19	1.3322	3.41	11.7743	3.20	0.733
24/06/2025	4:00:00 PM	0.5322	3.21	1.333	3.41	11.7721	3.21	0.7193
25/06/2025	4:00:00 AM	0.5382	3.20	1.3458	3.39	11.7821	3.20	0.7283
25/06/2025	4:00:00 PM	0.5322	3.21	1.3631	3.38	11.7816	3.20	0.7239
26/06/2025	4:00:00 AM	0.53	3.21	1.37	3.37	11.79	3.19	0.72
26/06/2025	4:00:00 PM	0.5199	3.22	1.3682	3.37	11.9236	3.05	0.6868
27/06/2025	4:00:00 AM	0.5266	3.21	1.3673	3.37	11.8265	3.15	0.6916
27/06/2025	4:00:00 PM	0.5168	3.22	1.3677	3.37	11.8157	3.16	0.6724
28/06/2025	4:00:00 AM	0.4959	3.24	1.3384	3.40	11.814	3.16	0.6605
28/06/2025	4:00:00 PM	0.4963	3.24	1.3124	3.43	11.8143	3.16	0.6731
29/06/2025	4:00:00 AM	0.497	3.24	1.3092	3.43	11.8124	3.17	0.6736
29/06/2025	4:00:00 PM	0.5025	3.24	1.3174	3.42	11.8165	3.16	0.6765
30/06/2025	4:00:00 AM	0.5102	3.23	1.3235	3.42	11.8217	3.16	0.6836
30/06/2025	4:00:00 PM	0.5078	3.23	1.3224	3.42	11.8241	3.15	0.6755
1/07/2025	4:00:00 AM	0.4687	3.27	1.1532	3.59	11.819	3.16	0.6449
1/07/2025	4:00:00 PM	0.4695	3.27	1.0856	3.65	11.7988	3.18	0.6522
2/07/2025	4:00:00 AM	0.4812	3.26	1.0658	3.67	11.7815	3.20	0.6608
2/07/2025	4:00:00 PM	0.4678	3.27	1.0387	3.70	11.7869	3.19	0.646
3/07/2025	4:00:00 AM	0.481	3.26	1.0369	3.70	11.792	3.19	0.6572
3/07/2025	4:00:00 PM	0.4908	3.25	1.0464	3.69	11.7978	3.18	0.6663
4/07/2025	4:00:00 AM	0.4943	3.25	1.0495	3.69	11.8031	3.17	0.6658
4/07/2025	4:00:00 PM	0.4982	3.24	1.0716	3.67	11.8084	3.17	0.6684
5/07/2025	4:00:00 AM	0.5025	3.24	1.0767	3.66	11.8086	3.17	0.6718
5/07/2025	4:00:00 PM	0.5061	3.23	1.0901	3.65	11.8064	3.17	0.6748
6/07/2025	4:00:00 AM	0.5103	3.23	1.0912	3.65	11.804	3.17	0.6779
6/07/2025	4:00:00 PM	0.5098	3.23	1.1013	3.64	11.7975	3.18	0.6771
7/07/2025	4:00:00 AM	0.5061	3.23	1.1086	3.63	11.8009	3.18	0.674
7/07/2025	4:00:00 PM	0.5078	3.23	1.1287	3.61	11.806	3.17	0.6764
8/07/2025	4:00:00 AM	0.5143	3.23	1.1356	3.60	11.8103	3.17	0.6819
8/07/2025	4:00:00 PM	0.5119	3.23	1.1407	3.60	11.804	3.17	0.678
9/07/2025	4:00:00 AM	0.5111	3.23	1.1483	3.59	11.8089	3.17	0.6776
9/07/2025	4:00:00 PM	0.5133	3.23	1.1647	3.58	11.8089	3.17	0.6811
10/07/2025	4:00:00 AM	0.5147	3.23	1.1626	3.58	11.8105	3.17	0.6815
10/07/2025	4:00:00 PM	0.512	3.23	1.1981	3.54	11.8213	3.16	0.6808
11/07/2025	4:00:00 AM	0.5136	3.23	1.2151	3.52	11.8344	3.14	0.6789
11/07/2025	4:00:00 PM	0.5136	3.23	1.2352	3.50	11.8393	3.14	0.6784
12/07/2025	4:00:00 AM	0.5184	3.22	1.2433	3.50	11.8434	3.13	0.6817
12/07/2025	4:00:00 PM	0.5196	3.22	1.2567	3.48	11.8497	3.13	0.6825
13/07/2025	4:00:00 AM	0.5247	3.22	1.2561	3.48	11.8488	3.13	0.6866
13/07/2025	4:00:00 PM	0.5276	3.21	1.2574	3.48	11.8436	3.13	0.6885
14/07/2025	4:00:00 AM	0.5257	3.21	1.2476	3.49	11.8425	3.14	0.6857

14/07/2025	4:00:00 PM	0.5222	3.22	1.2705	3.47	11.8556	3.12	0.6853
15/07/2025	4:00:00 AM	0.5189	3.22	1.2674	3.47	11.849	3.13	0.6804
15/07/2025	4:00:00 PM	0.5194	3.22	1.2738	3.47	11.853	3.13	0.6796
16/07/2025	4:00:00 AM	0.5183	3.22	1.2798	3.46	11.86	3.12	0.6795
16/07/2025	4:00:00 PM	0.5253	3.21	1.2891	3.45	11.8668	3.11	0.6868
17/07/2025	4:00:00 AM	0.5263	3.21	1.2899	3.45	11.8717	3.11	0.686
17/07/2025	4:00:00 PM	0.5253	3.21	1.2949	3.45	11.873	3.11	0.6852
18/07/2025	4:00:00 AM	0.5241	3.22	1.2969	3.44	11.875	3.10	0.6836
18/07/2025	4:00:00 PM	0.5201	3.22	1.2999	3.44	11.8774	3.10	0.6787
19/07/2025	4:00:00 AM	0.5192	3.22	1.3008	3.44	11.8786	3.10	0.6788
19/07/2025	4:00:00 PM	0.5186	3.22	1.3042	3.44	11.8807	3.10	0.6811
20/07/2025	4:00:00 AM	0.5154	3.22	1.3079	3.43	11.8855	3.09	0.6796
20/07/2025	4:00:00 PM	0.5229	3.22	1.3134	3.43	11.893	3.09	0.6854
21/07/2025	4:00:00 AM	0.5228	3.22	1.3157	3.42	11.8942	3.08	0.6837
21/07/2025	4:00:00 PM	0.5274	3.21	1.32	3.42	11.896	3.08	0.6872
22/07/2025	4:00:00 AM	0.5303	3.21	1.319	3.42	11.8978	3.08	0.6888
22/07/2025	4:00:00 PM	0.529	3.21	1.3249	3.42	11.8976	3.08	0.6873
23/07/2025	4:00:00 AM	0.5161	3.22	1.3249	3.42	11.9003	3.08	0.6748
23/07/2025	4:00:00 PM	0.5207	3.22	1.3259	3.41	11.9003	3.08	0.6764
24/07/2025	4:00:00 AM	0.5166	3.22	1.3297	3.41	11.9096	3.07	0.6749
24/07/2025	4:00:00 PM	0.521	3.22	1.3367	3.40	11.9172	3.06	0.6821
25/07/2025	4:00:00 AM	0.5251	3.21	1.3393	3.40	11.9231	3.05	0.6856
25/07/2025	4:00:00 PM	0.5299	3.21	1.344	3.40	11.9245	3.05	0.688
26/07/2025	4:00:00 AM	0.5129	3.23	1.3358	3.40	11.915	3.06	0.6697
26/07/2025	4:00:00 PM	0.5239	3.22	1.3351	3.40	11.9158	3.06	0.6774
27/07/2025	4:00:00 AM	0.5289	3.21	1.3417	3.40	11.9242	3.05	0.686
27/07/2025	4:00:00 PM	0.5266	3.21	1.3524	3.39	11.928	3.05	0.6849
28/07/2025	4:00:00 AM	0.5311	3.21	1.3552	3.38	11.935	3.04	0.6884
28/07/2025	4:00:00 PM	0.5277	3.21	1.3621	3.38	11.9375	3.04	0.6868
29/07/2025	4:00:00 AM	0.5315	3.21	1.3645	3.38	11.9446	3.03	0.6867
29/07/2025	4:00:00 PM	0.5382	3.20	1.3706	3.37	11.9498	3.03	0.6916
30/07/2025	4:00:00 AM	0.5369	3.20	1.3708	3.37	11.9488	3.03	0.6854
30/07/2025	4:00:00 PM	0.5283	3.21	1.3712	3.37	11.9476	3.03	0.6741
31/07/2025	4:00:00 AM	0.5217	3.22	1.3722	3.37	11.9535	3.02	0.6638
31/07/2025	4:00:00 PM	0.504	3.24	1.3524	3.39	11.958	3.02	0.6584
1/08/2025	4:00:00 AM	0.4943	3.25	1.3116	3.43	11.961	3.02	0.6597
1/08/2025	4:00:00 PM	0.4522	3.29	1.1142	3.63	11.9623	3.02	0.6301
2/08/2025	4:00:00 AM	0.4752	3.26	1.0415	3.70	11.9596	3.02	0.6484
2/08/2025	4:00:00 PM	0.4521	3.29	0.9766	3.76	11.9434	3.03	0.626
3/08/2025	4:00:00 AM	0.4646	3.28	0.9332	3.81	11.9385	3.04	0.641
3/08/2025	4:00:00 PM	0.4762	3.26	0.9255	3.81	11.9286	3.05	0.6492
4/08/2025	4:00:00 AM	0.4911	3.25	0.9189	3.82	11.9224	3.06	0.6583
4/08/2025	4:00:00 PM	0.4981	3.24	0.9295	3.81	11.9132	3.06	0.664
5/08/2025	4:00:00 AM	0.5031	3.24	0.9355	3.80	11.9045	3.07	0.6656

5/08/2025	4:00:00 PM	0.5021	3.24	0.957	3.78	11.8959	3.08	0.6631
6/08/2025	4:00:00 AM	0.5049	3.24	0.9743	3.77	11.8935	3.08	0.6636
6/08/2025	4:00:00 PM	0.5081	3.23	1.0042	3.74	11.8896	3.09	0.6667
7/08/2025	4:00:00 AM	0.5117	3.23	1.0219	3.72	11.8923	3.09	0.6683
7/08/2025	4:00:00 PM	0.4957	3.24	1.0195	3.72	11.8936	3.08	0.6584
8/08/2025	4:00:00 AM	0.5052	3.23	1.039	3.70	11.8965	3.08	0.6681
8/08/2025	4:00:00 PM	0.5094	3.23	1.0542	3.69	11.8926	3.09	0.6691
9/08/2025	4:00:00 AM	0.4795	3.26	0.9463	3.79	11.8916	3.09	0.6363
9/08/2025	4:00:00 PM	0.4953	3.24	0.9338	3.81	11.8887	3.09	0.664
10/08/2025	4:00:00 AM	0.4983	3.24	0.9212	3.82	11.8846	3.09	0.6625
10/08/2025	4:00:00 PM	0.4995	3.24	0.9206	3.82	11.8801	3.10	0.6633
11/08/2025	4:00:00 AM	0.4903	3.25	0.9076	3.83	11.8737	3.10	0.6568
11/08/2025	4:00:00 PM	0.4986	3.24	0.9043	3.84	11.8699	3.11	0.663
12/08/2025	4:00:00 AM	0.4997	3.24	0.9085	3.83	11.8663	3.11	0.6631
12/08/2025	4:00:00 PM	0.5054	3.23	0.9251	3.81	11.8634	3.11	0.6677
13/08/2025	4:00:00 AM	0.5073	3.23	0.9331	3.81	11.8609	3.12	0.6672
13/08/2025	4:00:00 PM	0.5114	3.23	0.9538	3.79	11.8599	3.12	0.6707
14/08/2025	4:00:00 AM	0.513	3.23	0.9639	3.78	11.8575	3.12	0.67
14/08/2025	4:00:00 PM	0.4979	3.24	0.9519	3.79	11.8542	3.12	0.6503
15/08/2025	4:00:00 AM	0.4919	3.25	0.911	3.83	11.8503	3.13	0.6512
15/08/2025	4:00:00 PM	0.5029	3.24	0.9223	3.82	11.8469	3.13	0.6697
16/08/2025	4:00:00 AM	0.5041	3.24	0.9263	3.81	11.8434	3.13	0.6682
16/08/2025	4:00:00 PM	0.4969	3.24	0.9453	3.79	11.8319	3.15	0.6595
17/08/2025	4:00:00 AM	0.5063	3.23	0.9641	3.78	11.8418	3.14	0.6676
17/08/2025	4:00:00 PM	0.5096	3.23	0.9925	3.75	11.8451	3.13	0.6694
18/08/2025	4:00:00 AM	0.5122	3.23	1.0036	3.74	11.8469	3.13	0.6694
18/08/2025	4:00:00 PM	0.5111	3.23	1.0243	3.72	11.8511	3.13	0.661
19/08/2025	4:00:00 AM	0.5079	3.23	1.0007	3.74	11.8583	3.12	0.6614
19/08/2025	4:00:00 PM	0.503	3.24	1.0099	3.73	11.8501	3.13	0.6635
20/08/2025	4:00:00 AM	0.5148	3.23	1.0196	3.72	11.8498	3.13	0.6703
20/08/2025	4:00:00 PM	0.5129	3.23	1.0229	3.72	11.8439	3.13	0.6702
21/08/2025	4:00:00 AM	0.4936	3.25	0.9501	3.79	11.8409	3.14	0.6432
21/08/2025	4:00:00 PM	0.4945	3.25	0.9075	3.83	11.8604	3.12	0.6322
22/08/2025	4:00:00 AM	0.5022	3.24	0.8941	3.85	11.8514	3.13	0.6489
22/08/2025	4:00:00 PM	0.4932	3.25	0.8697	3.87	11.8467	3.13	0.6407
23/08/2025	4:00:00 AM	0.5049	3.24	0.8701	3.87	11.8416	3.14	0.6556
23/08/2025	4:00:00 PM	0.5104	3.23	0.8833	3.86	11.8406	3.14	0.6622
24/08/2025	4:00:00 AM	0.514	3.23	0.884	3.86	11.8332	3.14	0.6629
24/08/2025	4:00:00 PM	0.516	3.22	0.9009	3.84	11.8277	3.15	0.6673
25/08/2025	4:00:00 AM	0.5183	3.22	0.9054	3.83	11.8266	3.15	0.6664
25/08/2025	4:00:00 PM	0.5189	3.22	0.927	3.81	11.8222	3.16	0.6687
26/08/2025	4:00:00 AM	0.5244	3.22	0.9319	3.81	11.8202	3.16	0.6722
26/08/2025	4:00:00 PM	0.5271	3.21	0.947	3.79	11.8206	3.16	0.6759
27/08/2025	4:00:00 AM	0.5309	3.21	0.9408	3.80	11.8126	3.17	0.6774

27/08/2025	4:00:00 PM	0.5226	3.22	0.974	3.77	11.8092	3.17	0.6729
28/08/2025	4:00:00 AM	0.5266	3.21	0.9817	3.76	11.8144	3.16	0.6741
28/08/2025	4:00:00 PM	0.5248	3.22	1.0127	3.73	11.8237	3.15	0.6744
29/08/2025	4:00:00 AM	0.5311	3.21	1.0222	3.72	11.8195	3.16	0.6759
29/08/2025	4:00:00 PM	0.5346	3.21	1.0465	3.69	11.8248	3.15	0.6815
30/08/2025	4:00:00 AM	0.5317	3.21	1.0504	3.69	11.8177	3.16	0.6747
30/08/2025	4:00:00 PM	0.5181	3.22	1.0795	3.66	11.8352	3.14	0.6667
31/08/2025	4:00:00 AM	0.5304	3.21	1.0941	3.65	11.8443	3.13	0.6743
31/08/2025	4:00:00 PM	0.5419	3.20	1.1072	3.63	11.8561	3.12	0.685
1/09/2025	4:00:00 AM	0.5317	3.21	1.1069	3.63	11.8438	3.13	0.6722
1/09/2025	4:00:00 PM	0.5386	3.20	1.1152	3.62	11.8477	3.13	0.6792
2/09/2025	4:00:00 AM	0.5336	3.21	1.1181	3.62	11.8464	3.13	0.673
2/09/2025	4:00:00 PM	0.541	3.20	1.125	3.62	11.8506	3.13	0.6803
3/09/2025	4:00:00 AM	0.5341	3.21	1.1267	3.61	11.8468	3.13	0.6727
3/09/2025	4:00:00 PM	0.5401	3.20	1.137	3.60	11.8665	3.11	0.6819
4/09/2025	4:00:00 AM	0.5364	3.20	1.1392	3.60	11.8572	3.12	0.6756
4/09/2025	4:00:00 PM	0.5447	3.20	1.1497	3.59	11.8724	3.11	0.6849
5/09/2025	4:00:00 AM	0.5337	3.21	1.1487	3.59	11.8675	3.11	0.6733
5/09/2025	4:00:00 PM	0.5419	3.20	1.1611	3.58	11.8869	3.09	0.6819
6/09/2025	4:00:00 AM	0.5421	3.20	1.1646	3.58	11.8848	3.09	0.6783
6/09/2025	4:00:00 PM	0.5485	3.19	1.1712	3.57	11.891	3.09	0.6861
7/09/2025	4:00:00 AM	0.5478	3.19	1.1741	3.57	11.8848	3.09	0.6818
7/09/2025	4:00:00 PM	0.5444	3.20	1.1788	3.56	11.8862	3.09	0.6815
8/09/2025	4:00:00 AM	0.5473	3.19	1.1785	3.56	11.8814	3.10	0.6809
8/09/2025	4:00:00 PM	0.5513	3.19	1.1891	3.55	11.8922	3.09	0.6872
9/09/2025	4:00:00 AM	0.5475	3.19	1.1879	3.55	11.8891	3.09	0.6826
9/09/2025	4:00:00 PM	0.5512	3.19	1.1941	3.55	11.8888	3.09	0.6852
10/09/2025	4:00:00 AM	0.5505	3.19	1.1864	3.55	11.8827	3.10	0.6787
10/09/2025	4:00:00 PM	0.5366	3.20	1.1716	3.57	11.875	3.10	0.6701
11/09/2025	4:00:00 AM	0.5217	3.22	1.1662	3.57	11.8788	3.10	0.664
11/09/2025	4:00:00 PM	0.4907	3.25	1.1149	3.63	11.8935	3.08	0.6234
12/09/2025	4:00:00 AM	0.5028	3.24	1.1461	3.59	11.9017	3.08	0.6587
12/09/2025	4:00:00 PM	0.5171	3.22	1.1747	3.57	11.9082	3.07	0.6726
13/09/2025	4:00:00 AM	0.5196	3.22	1.186	3.55	11.9091	3.07	0.671
13/09/2025	4:00:00 PM	0.5276	3.21	1.1959	3.54	11.9143	3.06	0.6787
14/09/2025	4:00:00 AM	0.5281	3.21	1.1974	3.54	11.9106	3.07	0.6761
14/09/2025	4:00:00 PM	0.5334	3.21	1.2046	3.54	11.915	3.06	0.6832
15/09/2025	4:00:00 AM	0.5288	3.21	1.2049	3.54	11.9135	3.06	0.6768
15/09/2025	4:00:00 PM	0.5378	3.20	1.214	3.53	11.923	3.06	0.687
16/09/2025	4:00:00 AM	0.5313	3.21	1.2129	3.53	11.9157	3.06	0.678
16/09/2025	4:00:00 PM	0.541	3.20	1.2211	3.52	11.9231	3.05	0.6886
17/09/2025	4:00:00 AM	0.5369	3.20	1.2212	3.52	11.9212	3.06	0.6816
17/09/2025	4:00:00 PM	0.542	3.20	1.231	3.51	11.9338	3.04	0.6893
18/09/2025	4:00:00 AM	0.5377	3.20	1.2336	3.51	11.9319	3.05	0.6831

18/09/2025	4:00:00 PM	0.5524	3.19	1.2385	3.50	11.929	3.05	0.6935
19/09/2025	4:00:00 AM	0.5493	3.19	1.2387	3.50	11.9168	3.06	0.686
19/09/2025	4:00:00 PM	0.5627	3.18	1.2463	3.49	11.9273	3.05	0.6983
20/09/2025	4:00:00 AM	0.5495	3.19	1.2377	3.50	11.9092	3.07	0.6705
20/09/2025	4:00:00 PM	0.5475	3.19	1.2494	3.49	11.9266	3.05	0.6853
21/09/2025	4:00:00 AM	0.5509	3.19	1.2526	3.49	11.9325	3.05	0.6877
21/09/2025	4:00:00 PM	0.5612	3.18	1.2606	3.48	11.9441	3.03	0.7003
22/09/2025	4:00:00 AM	0.5513	3.19	1.2613	3.48	11.9395	3.04	0.687
22/09/2025	4:00:00 PM	0.5573	3.18	1.2693	3.47	11.9528	3.03	0.6952
23/09/2025	4:00:00 AM	0.5414	3.20	1.2482	3.49	11.9457	3.03	0.6498
23/09/2025	4:00:00 PM	0.5516	3.19	1.2729	3.47	11.9532	3.02	0.685
24/09/2025	4:00:00 AM	0.5532	3.19	1.272	3.47	11.9467	3.03	0.6878
24/09/2025	4:00:00 PM	0.5578	3.18	1.28	3.46	11.9576	3.02	0.6938
25/09/2025	4:00:00 AM	0.5548	3.19	1.2823	3.46	11.9529	3.03	0.6901
25/09/2025	4:00:00 PM	0.5599	3.18	1.2882	3.45	11.9623	3.02	0.6983
26/09/2025	4:00:00 AM	0.5599	3.18	1.2893	3.45	11.9585	3.02	0.6958
26/09/2025	4:00:00 PM	0.5649	3.18	1.2995	3.44	11.9692	3.01	0.7039
27/09/2025	4:00:00 AM	0.562	3.18	1.2999	3.44	11.9651	3.01	0.6972
27/09/2025	4:00:00 PM	0.5676	3.17	1.3062	3.43	11.9681	3.01	0.7011
28/09/2025	4:00:00 AM	0.566	3.17	1.305	3.44	11.9645	3.01	0.6964
28/09/2025	4:00:00 PM	0.5608	3.18	1.3114	3.43	11.9735	3.00	0.6944
29/09/2025	4:00:00 AM	0.5653	3.17	1.3145	3.43	11.9728	3.01	0.6925
29/09/2025	4:00:00 PM	0.5707	3.17	1.3193	3.42	11.9785	3.00	0.7008
30/09/2025	4:00:00 AM	0.5687	3.17	1.3169	3.42	11.9729	3.01	0.6951
30/09/2025	4:00:00 PM	0.5776	3.16	1.3253	3.41	11.9785	3.00	0.7055
1/10/2025	4:00:00 AM	0.5625	3.18	1.3211	3.42	11.9689	3.01	0.6885
1/10/2025	4:00:00 PM	0.576	3.16	1.3344	3.41	11.9873	2.99	0.7069
2/10/2025	4:00:00 AM	0.5729	3.17	1.3341	3.41	11.9873	2.99	0.7023
2/10/2025	4:00:00 PM	0.5751	3.16	1.3456	3.39	12.0019	2.98	0.7105
3/10/2025	4:00:00 AM	0.5781	3.16	1.3483	3.39	12.008	2.97	0.7091
3/10/2025	4:00:00 PM	0.5851	3.15	1.3568	3.38	12.0176	2.96	0.7194
4/10/2025	4:00:00 AM	0.5794	3.16	1.3596	3.38	12.015	2.96	0.7109
4/10/2025	4:00:00 PM	0.5869	3.15	1.3668	3.37	12.0236	2.95	0.7188
5/10/2025	4:00:00 AM	0.5845	3.16	1.3658	3.37	12.0178	2.96	0.7119
5/10/2025	4:00:00 PM	0.5941	3.15	1.375	3.37	12.0254	2.95	0.7233
6/10/2025	4:00:00 AM	0.5851	3.15	1.3709	3.37	12.0186	2.96	0.7108
6/10/2025	4:00:00 PM	0.5818	3.16	1.3809	3.36	12.027	2.95	0.7132
7/10/2025	4:00:00 AM	0.5834	3.16	1.3829	3.36	12.0288	2.95	0.703
7/10/2025	4:00:00 PM	0.5911	3.15	1.3866	3.35	12.03	2.95	0.7111
8/10/2025	4:00:00 AM	0.5851	3.15	1.3866	3.35	12.0297	2.95	0.7042
8/10/2025	4:00:00 PM	0.5961	3.14	1.3933	3.35	12.0364	2.94	0.72
9/10/2025	4:00:00 AM	0.5826	3.16	1.3927	3.35	12.0352	2.94	0.7079
9/10/2025	4:00:00 PM	0.5913	3.15	1.4038	3.34	12.0446	2.93	0.7192
10/10/2025	4:00:00 AM	0.5919	3.15	1.4021	3.34	12.0413	2.94	0.7166

10/10/2025	4:00:00 PM	0.5978	3.14	1.412	3.33	12.0529	2.93	0.7301
11/10/2025	4:00:00 AM	0.595	3.15	1.4126	3.33	12.0522	2.93	0.7219
11/10/2025	4:00:00 PM	0.6013	3.14	1.421	3.32	12.0637	2.91	0.7379
12/10/2025	4:00:00 AM	0.6	3.14	1.4211	3.32	12.0654	2.91	0.7324
12/10/2025	4:00:00 PM	0.5944	3.15	1.4298	3.31	12.0685	2.91	0.7353
13/10/2025	4:00:00 AM	0.5963	3.14	1.4313	3.31	12.0703	2.91	0.7329
13/10/2025	4:00:00 PM	0.6006	3.14	1.4371	3.30	12.0782	2.90	0.7458
14/10/2025	4:00:00 AM	0.6083	3.13	1.4397	3.30	12.0805	2.90	0.7447
14/10/2025	4:00:00 PM	0.6116	3.13	1.4471	3.29	12.0882	2.89	0.7582
15/10/2025	4:00:00 AM	0.6018	3.14	1.4483	3.29	12.0836	2.89	0.7408
15/10/2025	4:00:00 PM	0.6195	3.12	1.456	3.28	12.0975	2.88	0.7647
16/10/2025	4:00:00 AM	0.612	3.13	1.4568	3.28	12.092	2.89	0.7468
16/10/2025	4:00:00 PM	0.6212	3.12	1.4604	3.28	12.1186	2.86	0.7686
17/10/2025	4:00:00 AM	0.6112	3.13	1.459	3.28	12.1113	2.87	0.748
17/10/2025	4:00:00 PM	0.6324	3.11	1.4695	3.27	12.1274	2.85	0.7745
18/10/2025	4:00:00 AM	0.6048	3.14	1.4683	3.27	12.1151	2.86	0.715
18/10/2025	4:00:00 PM	0.6124	3.13	1.474	3.27	12.122	2.86	0.7299
19/10/2025	4:00:00 AM	0.608	3.13	1.4755	3.26	12.1263	2.85	0.725
19/10/2025	4:00:00 PM	0.6131	3.13	1.4822	3.26	12.1349	2.84	0.7379
20/10/2025	4:00:00 AM	0.6185	3.12	1.4789	3.26	12.1354	2.84	0.74
20/10/2025	4:00:00 PM	0.6196	3.12	1.4866	3.25	12.1435	2.83	0.7537
21/10/2025	4:00:00 AM	0.6115	3.13	1.4884	3.25	12.1426	2.84	0.7411
21/10/2025	4:00:00 PM	0.6296	3.11	1.4961	3.24	12.1547	2.82	0.7726
22/10/2025	4:00:00 AM	0.6213	3.12	1.4853	3.25	12.1395	2.84	0.7488
22/10/2025	4:00:00 PM	0.6281	3.11	1.5004	3.24	12.1524	2.83	0.7728
23/10/2025	4:00:00 AM	0.6126	3.13	1.5048	3.24	12.1558	2.82	0.7526
23/10/2025	4:00:00 PM	0.6363	3.10	1.5114	3.23	12.1709	2.81	0.787
24/10/2025	4:00:00 AM	0.6338	3.11	1.51	3.23	12.1691	2.81	0.7665
24/10/2025	4:00:00 PM	0.6225	3.12	1.5169	3.22	12.1734	2.80	0.7769
25/10/2025	4:00:00 AM	0.6369	3.10	1.5213	3.22	12.1808	2.80	0.774
25/10/2025	4:00:00 PM	0.6377	3.10	1.5251	3.21	12.1801	2.80	0.7832
26/10/2025	4:00:00 AM	0.6329	3.11	1.5217	3.22	12.1792	2.80	0.7658
26/10/2025	4:00:00 PM	0.6446	3.10	1.5305	3.21	12.1899	2.79	0.7875
27/10/2025	4:00:00 AM	0.6337	3.11	1.53	3.21	12.1885	2.79	0.7685
27/10/2025	4:00:00 PM	0.6208	3.12	1.5369	3.20	12.1932	2.78	0.7826
28/10/2025	4:00:00 AM	0.632	3.11	1.5436	3.20	12.2028	2.78	0.774
28/10/2025	4:00:00 PM	0.6118	3.13	1.5469	3.19	12.2055	2.77	0.6809
29/10/2025	4:00:00 AM	0.6214	3.12	1.5402	3.20	12.2061	2.77	0.7045
29/10/2025	4:00:00 PM	0.6205	3.12	1.5454	3.19	12.2082	2.77	0.7083
30/10/2025	4:00:00 AM	0.6206	3.12	1.5469	3.19	12.2077	2.77	0.7096
30/10/2025	4:00:00 PM	0.6302	3.11	1.5525	3.19	12.2194	2.76	0.7239
31/10/2025	4:00:00 AM	0.6248	3.12	1.5528	3.19	12.2168	2.76	0.7197
31/10/2025	4:00:00 PM	0.6347	3.11	1.5591	3.18	12.2245	2.75	0.7369
1/11/2025	4:00:00 AM	0.5959	3.14	1.5537	3.19	12.2047	2.77	0.6973

1/11/2025	4:00:00 PM	0.6313	3.11	1.5604	3.18	12.2222	2.76	0.726
2/11/2025	4:00:00 AM	0.6297	3.11	1.56	3.18	12.2223	2.76	0.7233
2/11/2025	4:00:00 PM	0.6376	3.10	1.5636	3.18	12.2258	2.75	0.7356
3/11/2025	4:00:00 AM	0.636	3.10	1.5606	3.18	12.2238	2.75	0.7307
3/11/2025	4:00:00 PM	0.6422	3.10	1.5669	3.17	12.2282	2.75	0.7454
4/11/2025	4:00:00 AM	0.6278	3.11	1.5718	3.17	12.2257	2.75	0.7233
4/11/2025	4:00:00 PM	0.6396	3.10	1.5769	3.16	12.2465	2.73	0.7621
5/11/2025	4:00:00 AM	0.6366	3.10	1.58	3.16	12.2532	2.72	0.7596
5/11/2025	4:00:00 PM	0.6491	3.09	1.5872	3.15	12.2665	2.71	0.7928
6/11/2025	4:00:00 AM	0.6427	3.10	1.5904	3.15	12.2641	2.71	0.7747
6/11/2025	4:00:00 PM	0.6552	3.08	1.5976	3.14	12.2705	2.71	0.806
7/11/2025	4:00:00 AM	0.6501	3.09	1.5986	3.14	12.2663	2.71	0.7835
7/11/2025	4:00:00 PM	0.6616	3.08	1.6039	3.14	12.2667	2.71	0.8134
8/11/2025	4:00:00 AM	0.6563	3.08	1.6033	3.14	12.2625	2.72	0.7883
8/11/2025	4:00:00 PM	0.6533	3.09	1.6092	3.13	12.263	2.72	0.8014
9/11/2025	4:00:00 AM	0.6477	3.09	1.6113	3.13	12.2644	2.71	0.7878
9/11/2025	4:00:00 PM	0.664	3.08	1.6181	3.12	12.2793	2.70	0.8251
10/11/2025	4:00:00 AM	0.6618	3.08	1.6224	3.12	12.2806	2.70	0.8022
10/11/2025	4:00:00 PM	0.6752	3.06	1.6292	3.11	12.2885	2.69	0.8353
11/11/2025	4:00:00 AM	0.6654	3.07	1.63	3.11	12.2849	2.69	0.8031
11/11/2025	4:00:00 PM	0.6823	3.06	1.6389	3.10	12.2976	2.68	0.8467
12/11/2025	4:00:00 AM	0.6723	3.07	1.6429	3.10	12.3	2.68	0.8244
12/11/2025	4:00:00 PM	0.6908	3.05	1.6497	3.09	12.3139	2.66	0.856
13/11/2025	4:00:00 AM	0.6853	3.05	1.6526	3.09	12.3103	2.67	0.825
13/11/2025	4:00:00 PM	0.7022	3.04	1.6607	3.08	12.2987	2.68	0.8599
14/11/2025	4:00:00 AM	0.6863	3.05	1.6621	3.08	12.2999	2.68	0.8237
14/11/2025	4:00:00 PM	0.7008	3.04	1.6673	3.07	12.3061	2.67	0.8539
15/11/2025	4:00:00 AM	0.6997	3.04	1.6717	3.07	12.3035	2.67	0.828
15/11/2025	4:00:00 PM	0.71	3.03	1.6771	3.06	12.3086	2.67	0.8561
16/11/2025	4:00:00 AM	0.6862	3.05	1.6751	3.06	12.3036	2.67	0.8001
16/11/2025	4:00:00 PM	0.7099	3.03	1.6819	3.06	12.3077	2.67	0.8614
17/11/2025	4:00:00 AM	0.7007	3.04	1.6852	3.05	12.3119	2.67	0.8334
17/11/2025	4:00:00 PM	0.7091	3.03	1.6911	3.05	12.3171	2.66	0.8681
18/11/2025	4:00:00 AM	0.7055	3.03	1.6965	3.04	12.3228	2.66	0.8427
18/11/2025	4:00:00 PM	0.7251	3.01	1.7058	3.03	12.3362	2.64	0.8848
19/11/2025	4:00:00 AM	0.7166	3.02	1.7073	3.03	12.3323	2.65	0.8515
19/11/2025	4:00:00 PM	0.735	3.01	1.7166	3.02	12.3417	2.64	0.8937
20/11/2025	4:00:00 AM	0.7254	3.01	1.7183	3.02	12.3378	2.64	0.8586
20/11/2025	4:00:00 PM	0.7187	3.02	1.7246	3.02	12.3397	2.64	0.8659
21/11/2025	4:00:00 AM	0.7358	3.00	1.7282	3.01	12.3458	2.63	0.8616
21/11/2025	4:00:00 PM	0.7396	3.00	1.732	3.01	12.3464	2.63	0.8806
22/11/2025	4:00:00 AM	0.7344	3.01	1.7326	3.01	12.346	2.63	0.8453
22/11/2025	4:00:00 PM	0.7455	2.99	1.7367	3.00	12.3496	2.63	0.8725
23/11/2025	4:00:00 AM	0.7385	3.00	1.7343	3.01	12.3492	2.63	0.8295

23/11/2025	4:00:00 PM	0.7434	3.00	1.7393	3.00	12.348	2.63	0.865
24/11/2025	4:00:00 AM	0.7384	3.00	1.7431	3.00	12.3521	2.63	0.8467
24/11/2025	4:00:00 PM	0.7502	2.99	1.749	2.99	12.359	2.62	0.8947
25/11/2025	4:00:00 AM	0.7488	2.99	1.7461	2.99	12.3555	2.62	0.8606
25/11/2025	4:00:00 PM	0.738	3.00	1.7535	2.99	12.3393	2.64	0.8605
26/11/2025	4:00:00 AM	0.7489	2.99	1.7586	2.98	12.3636	2.61	0.8675
26/11/2025	4:00:00 PM	0.7781	2.96	1.764	2.98	12.3787	2.60	0.9085
27/11/2025	4:00:00 AM	0.7558	2.98	1.7686	2.97	12.3731	2.60	0.8764
27/11/2025	4:00:00 PM	0.7721	2.97	1.7776	2.96	12.384	2.59	0.9242
28/11/2025	4:00:00 AM	0.7667	2.97	1.7827	2.96	12.3832	2.59	0.8952
28/11/2025	4:00:00 PM	0.7907	2.95	1.7905	2.95	12.3927	2.59	0.9405
29/11/2025	4:00:00 AM	0.7873	2.95	1.7913	2.95	12.3906	2.59	0.9073
29/11/2025	4:00:00 PM	0.792	2.95	1.7977	2.94	12.3967	2.58	0.9427
30/11/2025	4:00:00 AM	0.7883	2.95	1.8037	2.94	12.397	2.58	0.9211
30/11/2025	4:00:00 PM	0.8114	2.93	1.8094	2.93	12.4053	2.57	0.9623
1/12/2025	4:00:00 AM	0.8032	2.94	1.8145	2.93	12.412	2.57	0.9371
1/12/2025	4:00:00 PM	0.8122	2.93	1.8239	2.92	12.4187	2.56	0.9683
2/12/2025	4:00:00 AM	0.8096	2.93	1.8283	2.91	12.4222	2.56	0.913
2/12/2025	4:00:00 PM	0.8236	2.92	1.835	2.91	12.4289	2.55	0.9763
3/12/2025	4:00:00 AM	0.8201	2.92	1.8398	2.90	12.4324	2.55	0.9506
3/12/2025	4:00:00 PM	0.8424	2.90	1.8473	2.89	12.4445	2.53	0.994
4/12/2025	4:00:00 AM	0.8287	2.91	1.8494	2.89	12.4393	2.54	0.9541
4/12/2025	4:00:00 PM	0.8553	2.88	1.8598	2.88	12.4504	2.53	1.0089
5/12/2025	4:00:00 AM	0.8394	2.90	1.8608	2.88	12.4472	2.53	0.9666
5/12/2025	4:00:00 PM	0.8645	2.88	1.8706	2.87	12.4572	2.52	1.0209
6/12/2025	4:00:00 AM	0.8505	2.89	1.8715	2.87	12.4555	2.52	0.979
6/12/2025	4:00:00 PM	0.8848	2.86	1.882	2.86	12.4649	2.51	1.0404
7/12/2025	4:00:00 AM	0.8629	2.88	1.8836	2.86	12.4594	2.52	0.9946
7/12/2025	4:00:00 PM	0.8743	2.87	1.8887	2.85	12.4652	2.51	1.0236
8/12/2025	4:00:00 AM	0.87	2.87	1.8922	2.85	12.4676	2.51	0.9928
8/12/2025	4:00:00 PM	0.8875	2.85	1.8992	2.84	12.4728	2.51	1.041
9/12/2025	4:00:00 AM	0.8705	2.87	1.9022	2.84	12.4715	2.51	0.9989
9/12/2025	4:00:00 PM	0.8973	2.84	1.91	2.83	12.4793	2.50	1.0528
10/12/2025	4:00:00 AM	0.8831	2.86	1.9158	2.82	12.4808	2.50	1.0173
10/12/2025	4:00:00 PM	0.9009	2.84	1.9203	2.82	12.4847	2.49	1.048
11/12/2025	4:00:00 AM	0.88	2.86	1.92	2.82	12.48	2.50	1

Report Number: 17301

Date Issued: 17/01/2025

Revision Number: 00

Site/Job: Redisand Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 1 sample(s) were received on 10/01/2025 07:45

Sample Reference	Date Sampled	Sampled by	Comments
Sand	9/01/2025		Sampled by Client

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 17/01/2025.

Test Report Number: 17301

Date Issued: 17/01/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	17301/1
		Sample Date Sample ID Units/Matrix	9/01/2025 Sand Soil
pH(f)	(QASSIT) 2004	pH units	6.1
pH(fox)	(QASSIT) 2004	pH units	5.7
pH Difference	(QASSIT) 2004	pH units	0.4
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely

Report Comments:

Where applicable, results in **bold** indicate an exceedance of the relevant guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 17495

Date Issued: 13/02/2025

Revision Number: 00

Site/Job: Redisand Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 1 sample(s) were received on 6/02/2025 06:33

Sample Reference	Date Sampled	Sampled by	Comments
Sand	6/02/2025		Sampled by Client

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 13/02/2025.

Test Report Number: 17495

Date Issued: 13/02/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	17495/1
		Sample Date Sample ID Units/Matrix	6/02/2025 Sand Soil
pH(f)	(QASSIT) 2004	pH units	5.8
pH(fox)	(QASSIT) 2004	pH units	5.7
pH Difference	(QASSIT) 2004	pH units	0.1
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely

Report Comments:

Guideline applied - .
Results in **bold** indicate an exceedance of the applied guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.
<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 17594

Date Issued: 12/03/2025

Revision Number: 00

Site/Job: Redisand Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 1 sample(s) were received on 7/03/2025 12:49

Sample Reference	Date Sampled	Sampled by	Comments
Sand	6/03/2025		Sampled by Client

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 12/03/2025.

Test Report Number: 17594

Date Issued: 12/03/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	17594/1
		Sample Date Sample ID	6/03/2025 Sand
		Units/Matrix	Soil
pH(f)	(QASSIT) 2004	pH units	6.9
pH(fox)	(QASSIT) 2004	pH units	6.2
pH Difference	(QASSIT) 2004	pH units	0.7
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely

Report Comments:

Guideline applied - .
Results in **bold** indicate an exceedance of the applied guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.
<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 17716

Date Issued: 11/04/2025

Revision Number: 00

Site/Job: Redisand Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 1 sample(s) were received on 3/04/2025 12:41

Sample Reference	Date Sampled	Sampled by	Comments
Sand	3/04/2025		Sampled by Client

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 11/04/2025.

Test Report Number: 17716

Date Issued: 11/04/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	17716/1
		Sample Date Sample ID Units/Matrix	3/04/2025 Sand Soil
pH(f)	(QASSIT) 2004	pH units	6.6
pH(fox)	(QASSIT) 2004	pH units	6.1
pH Difference	(QASSIT) 2004	pH units	0.5
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely

Report Comments:

Guideline applied - .
Results in **bold** indicate an exceedance of the applied guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.
<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 18061

Date Issued: 2/06/2025

Revision Number: 00

Site/Job: Redisand Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 1 sample(s) were received on 29/05/2025 09:48

Sample Reference	Date Sampled	Sampled by	Comments
Sand	29/05/2025	Client	

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 2/06/2025.

Test Report Number: 18061

Date Issued: 2/06/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	18061/1
		Sample Date Sample ID Units/Matrix	29/05/2025 Sand Soil
pH(f)	(QASSIT) 2004	pH units	6.9
pH(fox)	(QASSIT) 2004	pH units	5.8
pH Difference	(QASSIT) 2004	pH units	1.0
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely

Report Comments:

Guideline applied - .
Results in **bold** indicate an exceedance of the applied guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.
<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 18296

Date Issued: 7/07/2025

Revision Number: 00

Site/Job: Redisand Quarterly Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 2 sample(s) were received on 30/06/2025 10:03

Sample Reference	Date Sampled	Sampled by	Comments
Sand 1	26/06/2025	Client	
Sand 2	26/06/2025	Client	

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 7/07/2025.

Test Report Number: 18296

Date Issued: 7/07/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	18296/1	18296/2
		Sample Date	26/06/2025	26/06/2025
		Sample ID	Sand 1	Sand 2
		Units/Matrix	Soil	Soil
pH(f)	(QASSIT) 2004	pH units	6.4	6.1
pH(fox)	(QASSIT) 2004	pH units	5.8	5.8
pH Difference	(QASSIT) 2004	pH units	0.6	0.3
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction	No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous	N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely	Highly Unlikely

Report Comments:

Guideline applied - .
Results in **bold** indicate an exceedance of the applied guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.
<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 18853

Date Issued: 23/09/2025

Revision Number: 00

Site/Job: Redisand Quarterly Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 2 sample(s) were received on 18/09/2025 09:28

Sample Reference	Date Sampled	Sampled by	Comments
Sand 1	18/09/2025	Client	
Sand 2	18/09/2025	Client	

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)



Anthony Crane
Laboratory Manager

Authorised by:

Results have been approved and report finalised on 23/09/2025.

Test Report Number: 18853

Date Issued: 23/09/2025

Revision No: 00

Results

Acid Sulphate Soil Screen	Method	Lab ID	18853/1	18853/2
		Sample Date	18/09/2025	18/09/2025
		Sample ID	Sand 1	Sand 2
		Units/Matrix	Soil	Soil
pH(f)	(QASSIT) 2004	pH units	6.0	6.0
pH(fox)	(QASSIT) 2004	pH units	5.6	5.4
pH Difference	(QASSIT) 2004	pH units	0.4	0.6
Reaction Rating pH(fox)	(QASSIT) 2004		No reaction	No reaction
Fizz Test for Carbonates	(QASSIT) 2004		N - non-calcareous	N - non-calcareous
Potential ASS?	(QASSIT) 2004		Highly Unlikely	Highly Unlikely

Report Comments:

Guideline applied - .
Results in **bold** indicate an exceedance of the applied guideline.
When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.
<https://www.vgt.com.au/measurement-uncertainty>

[NT]: Not tested

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

Report Number: 19215

Date Issued: 15/12/2025

Revision Number: 00

Site/Job: Redisand Quarterly Sand

Client: Redisand NSW
Address: PO Box 186
HRMC NSW 2310
Contact: Grant Stevenson

The following 2 sample(s) were received on 12/12/2025 14:11

Sample Reference	Date Sampled	Sampled by	Comments
Sand 1	11/12/2025	Client	
Sand 2	11/12/2025	Client	

The information in this table is supplied by the client. VGT takes no responsibility for its validity.

The sample(s) have been tested as received and results relate specifically to the samples tested.

The following reports are included:

- Test Report: Results apply to the sample(s) as submitted.
- Chain of Custody (if available)

Authorised by:



Anthony Crane
Laboratory Manager

Results have been approved and report finalised on 15/12/2025.

Test Report Number: 19215

Date Issued: 15/12/2025

Revision No: 00

Results

Potential Acid Sulphate Soil Screen (PASS)	Method	Lab ID	19215/1	19215/2
		Sample Date Sample ID	11/12/2025 Sand 1	11/12/2025 Sand 2
		Units/Matrix	Soil	Soil
pH _F Temp	(NASSG) 2018	°C	21.2	21.6
pH _F	(NASSG) 2018	pH units	6.1	6.0
pH _{FOX} Temp	(NASSG) 2018	°C	20.0	22.0
pH _{FOX}	(NASSG) 2018	pH units	5.2	5.1
pH Difference	(NASSG) 2018	pH units	0.9	0.9
Reaction Rating pH _{FOX}	(NASSG) 2018		L - Low reaction	L - Low reaction
Fizz Test for Carbonates	(NASSG) 2018		N - non calcareous	N - non calcareous
Potential ASS?	(NASSG) 2018		No	No
Date Tested	(NASSG) 2018	--	15/12/2025	15/12/2025

Report Comments:

Location Analysed : 4/30 Glenwood Dr Thornton NSW 2322.

[NT]: Not tested

When considering the pass or fail of tests the measurement of uncertainty of each parameter must be considered.

<https://www.vgt.com.au/measurement-uncertainty>

**Appendix H –
DPHI Correspondence**

NSW Planning ref: MP07_0094-PA-47

Grant Stevenson
A.T.B. Morton Pty Limited
Worimi Country
9 Janet Parade
SALT ASH NSW 2318

23 May 2025

Sent via the Major Projects Portal only

Subject: Salt Ash Quarry - Non-compliance notification (PM_{2.5}, 28 January 2025)

Dear Mr Stevenson

I refer to the non-compliance notification submitted to the NSW Department of Planning, Housing and Infrastructure on 15 April 2025 as required by Schedule 5, Condition 7 of Project Approval 07_0094 as modified (the approval) for Salt Ash Sand Quarry.

The Department has reviewed the notification and notes that the 24-hour PM_{2.5} concentration measured on 28 January 2025 exceeded the criterion in Schedule 2 Condition 8 the approval. The PM_{2.5} concentration has exceeded the criterion on two other occasions since the monitor was relocated from the site entrance, which was approved in the current Air Quality Management Plan for the site and where results have been generally compliant.

The current monitoring location, near a machinery storage area, is temporary until the Department has reviewed an alternative location included in the revised Air Quality Management Plan, submitted by ATB Morton Pty Ltd on 16 May 2025. This temporary location may not be representative of PM_{2.5} emissions from the site at neighbouring residences on privately-owned land. Accordingly, we have determined to not take any enforcement action for the breach of Schedule 2 Condition 8 of the approval.

Should you wish to discuss the matter, please contact me on 02 6575 3420 or email compliance@planning.nsw.gov.au

Yours sincerely

A handwritten signature in grey ink, appearing to read "Jse", located below the "Yours sincerely" text.

Jennifer Sage
Senior Compliance Officer
Compliance - Northern

NSW Planning ref: ENF-87159712

Redisand Pty Ltd
Worimi Country
7 Janet Parade
SALT ASH NSW 2318
03/07/2025

To the Proper Officer

Subject: **WARNING LETTER** – BREACH OF SECTION 4.2 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Following an investigation, I, Heidi Watters, an authorised person for the purposes of the *Environmental Planning and Assessment Act 1979* (the Act) have formed the opinion that Redisand Pty Ltd has committed an offence against section 4.2 of the Act by carrying out development not in accordance with the conditions of development consent. Further details of the breach are set out below.

PARTICULARS OF THE BREACH

On 29 October 2010, the A/Deputy Director-General, as delegate for the Minister for Planning, issued development consent MP07_0094 (the consent) to ATB Morton (NSW) Pty Ltd (ATB Morton), to carry out the development of the Salt Ash Sand Project (the development) at Lot 4042 DP1090633 and Lots 622 and 633 DP609506 subject to a number of conditions.

The consent has subsequently been modified 5 times, with the latest modification (MOD 5) granted on 7 September 2022.

The Applicant is defined in the consent, as modified, as *ATB Morton Pty Limited, or any other person or company relying on the consent to carry out the development that is the subject of the consent*. Redisand Pty Ltd (Redisand) is the operator of the Salt Ash Quarry Project and relies on the consent, as modified, to carry out the development.

Schedule 5 condition 9 of the consent requires the Applicant to commission and pay the full cost of an Independent Environmental Audit (IEA) of the development every three years, unless the Secretary directs otherwise.

On 21 January 2021, Redisand submitted an IEA report to the Department of Planning, Industry and Environment for the period 14 October 2017 to 13 October 2020 (inclusive). Therefore, the next IEA audit period was due to end on 13 October 2023.

On 9 July 2024, Redisand submitted an IEA report to the Department of Planning, Housing and Infrastructure (NSW Planning) for the period 14 October 2020 to 23 April 2024. This audit period ended some six months after the required date of 14 October 2023.

WARNING LETTER

The breach of Schedule 5 condition 9 of the consent has been assessed in accordance with the NSW Planning Compliance Policy and it has been determined to issue Redisand with a Warning Letter for the breach. In reaching this decision, NSW Planning has considered the particulars of the breach set out above and the following matters:

- Redisand was aware that the IEA was due to be undertaken by October 2023, as it was reported in the 2022 Annual Review for the development
- The duration of the breach was short
- There were no impacts to the natural or built environment, human health and safety, or heritage items

A Warning Letter is an informal action taken where a breach has been established and NSW Planning has determined that no formal action is warranted under the circumstances.

The issue of a Warning Letter does not preclude NSW Planning from taking further enforcement action in relation to the breach, should it become apparent that an alternative response is more appropriate.

Please note NSW Planning will retain a record of this Warning Letter, and will have regard to it, should it become necessary for NSW Planning to consider taking any further enforcement action against Redisand in the future.

Should you wish to discuss the matter further, please contact me on 02 6575 3401 or email compliance@planning.nsw.gov.au

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader
Compliance

Authorised person under the Environmental Planning and Assessment Act 1979

NSW Planning ref: ENF-87207960

Redisand Pty Ltd
Worimi Country
7 Janet Parade
SALT ASH NSW 2318
03/07/2025

To the Proper Officer

Subject: **WARNING LETTER** – BREACH OF SECTION 4.2 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Following an investigation, I, Heidi Watters, an authorised person for the purposes of the *Environmental Planning and Assessment Act 1979* (the Act) have formed the opinion that Redisand Pty Ltd has committed an offence against section 4.2 of the Act by carrying out development not in accordance with the conditions of development consent. Further details of the breach are set out below

PARTICULARS OF THE BREACH

On 29 October 2010, the A/Deputy Director-General, as delegate for the Minister for Planning, issued development consent MP07_0094 (the consent) to ATB Morton (NSW) Pty Ltd (ATB Morton), to carry out the development of the Salt Ash Sand Project (the development) at Lot 4042 DP1090633 and Lots 622 and 633 DP609506 subject to a number of conditions.

The consent has subsequently been modified 5 times, with the latest modification (MOD 5) granted on 7 September 2022.

Schedule 5 condition 7 of the consent requires the Applicant to notify the Department of Planning, Housing and Infrastructure (NSW Planning) of a non-compliance within 7 days of becoming aware of a non-compliance.

The Applicant is defined in the consent, as modified, as *ATB Morton Pty Limited, or any other person or company relying on the consent to carry out the development that is the subject of the consent*. Redisand Pty Ltd (Redisand) is the operator of the Salt Ash Quarry Project and relies on the consent, as modified, to carry out the development.

On 28 March 2024, Redisand submitted the 2023 Annual Review to NSW Planning, for the period 1 January 2023 to 31 December 2023, inclusive (the reporting period).

Table 3 of the 2023 Annual Review reported the following non-compliances against the consent, as modified, occurred during the reporting period:

1. Schedule 3, Condition 8 – exceedance of the annual average PM_{2.5} criteria
2. Schedule 3, Condition 17 – failure to implement the Groundwater Monitoring Plan by not recording groundwater levels
3. Schedule 5, Condition 9 – failing to commission an Independent Environmental Audit within the required 3-year timeframe.

A search of NSW Planning records failed to find notification from Redisand, or any other party, of the above non-compliances:

- A. at any time during the 2023 reporting period
- B. within 7 days of the end of the reporting period (that is by 7 January 2024) or
- C. within 7 days of submission of the 2023 Annual Review (that is by 4 April 2024), the latest date Redisand became aware of the non-compliances.

A Show Cause was issued to Redisand on 18 November 2024 (the Show Cause notice) in relation to the non-compliance. ATB Morton on behalf of Redisand provided a response to the Show Cause notice on 3 December 2024.

I have considered Redisand's response to the Show Cause notice. I note that Redisand has acknowledged and accepted that the non-compliances occurred.

WARNING LETTER

The breach of Schedule 5 condition 7 of the consent been assessed in accordance with the NSW Planning Compliance Policy and it has been determined to issue Redisand with a Warning Letter for the breach. In reaching this decision, NSW Planning has considered the particulars of the breach set out above and the following matters:

- Redisand was previously issued a Warning Letter for non-compliance with Schedule 3 condition 7 of the consent on 27 November 2023
- The non-compliances during the 2023 reporting period were administrative in nature and
- Redisand has acknowledged and expressed regret for the breach.

A Warning Letter is an informal action taken where a breach has been established and NSW Planning has determined that no formal action is warranted under the circumstances.

The issue of a Warning Letter does not preclude NSW Planning from taking further enforcement action in relation to the breach, should it become apparent that an alternative response is more appropriate.

Please note NSW Planning will retain a record of this Warning Letter, and will have regard to it, should it become necessary for NSW Planning to consider taking any further enforcement action against Redisand in the future.

Should you wish to discuss the matter further, please contact me on 02 6575 3401 or email compliance@planning.nsw.gov.au

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader
Compliance

Authorised person under the Environmental Planning and Assessment Act 1979

NSW Planning ref: INV-76970206

Redisand Pty Ltd
9 Old Punt Road
TOMAGO NSW 2322
06/08/2025

Attention: Grant Stevenson, Quarry Manager

NOTICE TO FURNISH INFORMATION AND RECORDS

To the Proper Officer

I, Heidi Watters, departmental investigation officer, pursuant to the powers conferred by section 9.22 of the *Environmental Planning and Assessment Act 1979 (Act)*, require you to furnish me with the information and records set out below in relation to the matter described below.

The information and records are required in relation to the NSW Department of Planning, Housing and Infrastructure (NSW Planning) investigation of whether there has been compliance with, or contravention of section 4.2 of the Act. Further details of the matter being investigated are set out below.

BACKGROUND

On 29 October 2010, the A/Deputy Director-General, as delegate for the Minister for Planning, issued development consent MP07_0094 (**the consent**) to ATB Morton (NSW) Pty Ltd (**ATB Morton**), to carry out the development of the Salt Ash Sand Project (**the development**) at Lot 4042 DP1090633 and Lots 622 and 633 DP609506 subject to a number of conditions.

The consent has subsequently been modified 5 times, with the latest modification (MOD 5) granted on 7 September 2022.

The Applicant is defined in the consent, as modified, as ATB Morton Pty Limited, or any other person or company relying on the consent to carry out the development that is the subject of the consent. Redisand Pty Ltd (**Redisand**) is the operator of the Salt Ash Quarry Project and relies on the consent, as modified, to carry out the development.

RELEVANT CONDITIONS TO THIS NOTICE

Schedule 3

Landscape Management Plan

23. The Applicant must prepare a Landscape Management Plan for the development to the satisfaction of the Secretary. This plan must:

(a) be prepared:

by suitably qualified person(s), approved by the Secretary; and

in consultation with Council;

(b) be submitted to the Secretary for approval prior to commencing quarrying operations; and

(c) include:

a Rehabilitation Management Plan; and

a Long Term Management Strategy.

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

The Applicant must implement the plan as approved by the Secretary.

MATTER BEING INVESTIGATED

The current Landscape Management Plan (**LMP**) dated July 2017 was approved by the Director Resource Assessment as delegate of the Planning Secretary on 26 July 2017.

Section 3.1.1 of the LMP describes the Nest Box Program and includes the following:

Nest boxes shall be subject to 2-yearly maintenance for the life of the quarry and for 5 years beyond quarry closure by a suitably qualified and experienced fauna ecologist. Feral bees found to colonise the nest boxes shall be eradicated by a specialist pest contractor. Damaged nest boxes would be repaired

(where possible) or replaced.

In the 2021 Annual Review, prepared as required by Schedule 5, condition 3 of the consent and submitted to NSW Planning on 30 March 2022, Redisand reported:

Nest box monitoring and reporting is required to be completed on a two-year basis for the life of the quarry and for five years after quarry closure.

*All nest boxes were physically inspected in December 2021. Any evidence of fauna presence in the nest boxes was recorded, including direct sightings, scats and traces of fur or feathers. Inspections were all carried out to detect the presence of *A. mellifera* (European Honeybee) in any nest boxes.*

In the 2023 Annual Review, prepared as required by Schedule 5, condition 3 of the consent and submitted to NSW Planning on 28 March 2024, Redisand reported:

Nest box monitoring and reporting is required to be completed on a two-year basis for the life of the quarry and for five years after quarry closure. No nest box monitoring was completed in 2022 and the next monitoring event will be in 2023.

Nest box monitoring was not conducted during the 2023 reporting period due to staff safety access. The nest boxes have been deemed unstable, and monitoring of the nest boxes is unsafe, see Appendix H.

In the 2024 Annual Review, prepared as required by Schedule 5, condition 3 of the consent and submitted to NSW Planning on 31 March 2025, Redisand reported:

Unfortunately, our ecologist (Firebird ecoSultants) did not complete the work on time despite being engaged well in advance. This report will be updated and resubmitted with the final information from Firebird ecoSultants once it is received.

You are required to provide the following:

Information:

1. Who is responsible for organising the nest box monitoring at the development?
2. Did any nest box monitoring occur at the development during the period 1 January 2022 to 31 December 2024 (inclusive)?
3. If the answer to Question 2 is yes, who undertook the monitoring and when did the monitoring occur?
4. If the answer to Question 2 is no, why did the nest box monitoring not occur?

Records:

- A. Provide a copy of all nest box monitoring records for the period 1 January 2022 to 31 December 2024 (inclusive)
- B. Provide a copy of all correspondence and reports relating to the nest box monitoring program between Redisand and the person or company engaged to undertake nest box monitoring for the period 1 January 2022 to 31 December 2024 (inclusive)

FORM OF AND TIME FOR COMPLIANCE WITH NOTICE

So far as it requires you to furnish records, this Notice requires you to furnish existing records that are in your possession or that are within your power to obtain lawfully. You are required to furnish the information and records in digital form. Digital files must be in portable document format (PDF), uncorrupted and virus free.

So far as it requires you to furnish information, this notice requires you to furnish information in writing yourself and not via a third party.

You are required to provide the information and records identified in this Notice no later than 4pm on Thursday 28 August 2025 to:

Heidi Watters Team Leader - North Compliance Department of Planning, Housing, and Infrastructure Compliance@planning.nsw.gov.au and heidi.watters@planning.nsw.gov.au
--

INFORMATION AND WARNING ABOUT THIS NOTICE

It is an offence under section 9.25 of the Act to fail to comply with this Notice unless you have a reasonable excuse for not complying. It is also an offence to furnish information in response to this Notice knowing that the information is false or misleading in a material respect. Further it is an offence to intentionally delay or obstruct an Investigation Officer in exercising the officer's power.

The maximum penalty for such an offence is a monetary fine in the sum of \$1 million in the case of a corporation, and \$250,000 in the case of an individual. A further penalty of \$2,500 may be payable for each day the offence continues.

This warning is given for the purposes of section 9.31 of the Act.

If any of the information or records that this Notice requires might incriminate you, that does not excuse you from having to comply with this Notice and that does not make such information or records inadmissible against you in criminal proceedings.

Should you wish to discuss the matter further, please contact me on 02 6575 3401 or email compliance@planning.nsw.gov.au

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader
Compliance

Departmental Investigation Officer appointed under section 9.14 of the Act

NSW Planning ref: INV-76970206

Redisand Pty Ltd
9 Old Punt Road
TOMAGO NSW 2322
27/08/2025

Attention: Grant Stevenson, Quarry Manager

SALT ASH SAND QUARRY (MP07_0094) – SHOW CAUSE

To the Proper Officer

The NSW Department of Planning, Housing and Infrastructure (NSW Planning) alleges that Redisand Pty Ltd (Redisand) has committed an offence against section 4.2 of the *Environmental Planning and Assessment Act 1979* (the Act) by carrying out development not in accordance with the conditions of development consent MP07_0094. Further details of the alleged breach are set out below.

The purpose of this letter is to give Redisand the opportunity to make representations as to why NSW Planning should not take formal enforcement action in relation to the alleged breach.

Representations should be received no later than 5:00pm Wednesday 10 September 2025, or as otherwise agreed.

After considering any representations made by Redisand, NSW Planning will determine what enforcement action it will take in relation to the alleged breach in accordance with NSW Planning's Compliance Policy (available [here](#)).

BACKGROUND

On 29 October 2010, the A/Deputy Director-General, as delegate for the Minister for Planning, issued development consent MP07_0094 (the consent) to ATB Morton (NSW) Pty Ltd (ATB Morton), to carry out the development of the Salt Ash Sand Project (the development) at Lot 4042 DP1090633 and Lots 622 and 633 DP609506 subject to a number of conditions. The consent has subsequently been modified 5 times, with the latest modification (MOD 5) granted on 7 September 2022.

The Applicant is defined in the consent, as modified, as ATB Morton Pty Limited, or any other person or company relying on the consent to carry out the development that is the subject of the consent. Redisand is the operator of the Salt Ash Quarry Project and relies on the consent, as modified, to carry out the development.

ALLEGED BREACH

Schedule 3 condition 23 of the consent requires the Applicant to prepare and implement a Landscape Management Plan for the development.

The current Landscape Management Plan (LMP) dated July 2017 was approved by the Director Resource Assessment as delegate of the Planning Secretary on 26 July 2017.

Section 3.1.1 of the LMP describes the Nest Box Program and includes the following:

"Nest boxes shall be subject to 2-yearly maintenance for the life of the quarry and for 5 years beyond quarry closure by a suitably qualified and experienced fauna ecologist. Feral bees found to colonise the nest boxes shall be eradicated by a specialist pest contractor. Damaged nest boxes would be repaired (where possible) or replaced."

Nest box monitoring or maintenance was not undertaken at the development at any time during the 3-year period 1 January 2022 to 31 December 2024. Therefore, it is alleged that Redisand have failed to implement the Landscape Management Plan as required by the Schedule 3 condition 23 of the consent.

Should you wish to discuss the matter further, please contact me on 02 6575 3401 or email compliance@planning.nsw.gov.au

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader
Compliance

NSW Planning ref: INV-76970206

Redisand Pty Ltd
9 Old Punt Road
TOMAGO NSW 2322
3/09/25

Attention: April Shearer – Graduate Environmental Consultant

SALT ASH SAND QUARRY (MP07_0094) – SHOW CAUSE EXTENSION REQUEST

Dear April

I refer to your correspondence dated 2 September 2025 requesting an extension to 31 October 2025 to respond to the Show Cause Notice issued on 27 August 2025 (SCN). The SCN relates to an alleged breach of Schedule 3, Condition 23 of development consent MP07_0094, as modified (the consent).

As set out in the SCN, the purpose of the Show Cause process is to provide an opportunity to make representations as to why formal enforcement action should not be taken in relation to the alleged breach. The process provides an opportunity to explain the circumstances that led to the alleged non-compliance. While the engagement of a new ecologist and the scheduling of monitoring works are noted, these prospective actions do not provide an appropriate basis for seeking an extension to respond to an alleged breach that has already occurred.

You may include in your formal show cause response details of any planned or proposed remedial actions which the Department will take into account as part of that response.

In the circumstances, NSW Planning is prepared to extend the timeframe for the submission of formal representations in response to the SCN by 2 weeks. Any such representations must now be submitted to NSW Planning by 5:00pm on 24 September 2025.

Should you wish to discuss the matter further, please contact me on 02 6575 3401 or email compliance@planning.nsw.gov.au

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader
Compliance

Department of Planning, Housing and Infrastructure

NSW Planning ref: ENF-97256207

Redisand Pty Ltd
9 Old Punt Road
TOMAGO NSW 2322
29/10/2025

To the Proper Officer

Attention: Grant Stevenson, Quarry Manager

Subject: OFFICIAL CAUTION – BREACH OF SECTION 4.2 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Following an investigation, I, Heidi Watters, an authorised person for the purposes of the *Environmental Planning and Assessment Act 1979* (the Act) have formed the opinion that Redisand Pty Ltd (Redisand) [ACN 122 497 394] has committed an offence against section 4.2 of the Act by carrying out development not in accordance with the conditions of development consent. Further details of the breach are set out below.

PARTICULARS OF BREACH

On 29 October 2010, the A/Deputy Director-General, as delegate for the Minister for Planning, issued development consent MP07_0094 (the consent) to ATB Morton (NSW) Pty Ltd (ATB Morton), to carry out the development of the Salt Ash Sand Project (the development) at Lot 4042 DP1090633 and Lots 622 and 633 DP609506 subject to a number of conditions. The consent has subsequently been modified 5 times, with the latest modification (MOD 5) granted on 7 September 2022.

The Applicant is defined in the consent, as modified, as ATB Morton Pty Limited, or any other person or company relying on the consent to carry out the development that is the subject of the consent. Redisand is the operator of the Salt Ash Quarry Project and relies on the consent, as modified, to carry out the development.

Schedule 3 condition 23 of the consent requires the Applicant to prepare and implement a Landscape Management Plan for the development.

The current Landscape Management Plan (LMP) dated July 2017 was approved by the Director Resource Assessment as delegate of the Planning Secretary on 26 July 2017. Section 3.1.1 of the LMP describes the Nest Box Program and includes the following:

“Nest boxes shall be subject to 2-yearly maintenance for the life of the quarry and for 5 years beyond quarry closure by a suitably qualified and experienced fauna ecologist. Feral bees found to colonise the nest boxes shall be eradicated by a specialist pest contractor. Damaged nest boxes would be repaired (where possible) or replaced.”

Department of Planning, Housing and Infrastructure

Nest box monitoring or maintenance was not undertaken at the development at any time during the 3-year period 1 January 2022 to 31 December 2024. Therefore, it is alleged that Redisand have failed to implement the Landscape Management Plan as required by the Schedule 3 condition 23 of the consent.

A Show Cause was issued to Redisand on 27 August 2025 (the Show Cause notice) in relation to the alleged breach of the consent. Redisand provided a response to the Show Cause notice on 23 September 2025

I have considered Redisand's response to the Show Cause notice and correspondence. I note that Redisand has acknowledged that nest box maintenance was not completed in the period 1 January 2022 to 31 December 2024. I further note that Redisand since engaged an ecologist to undertake nest box maintenance, which was completed on 15 September 2025.

OFFICIAL CAUTION

The breach has been assessed in accordance with the NSW Department of Planning, Housing and Infrastructure (NSW Planning) Compliance Policy and the Attorney General's Caution Guidelines and it has been determined to issue Redisand with an Official Caution for the breach.

An Official Caution is a formal enforcement action issued under Section 19A of the *Fines Act 1996* where it appears to an authorised person that a person has committed a Penalty Notice offence and that it is appropriate to issue an Official Caution in the circumstances. Section 4.2 of the Act is a Penalty Notice offence.

The issue of an Official Caution does not preclude NSW Planning from taking further enforcement action in relation to the breach, if it becomes apparent that an alternative response is more appropriate.

Please note NSW Planning will retain a record of this Official Caution, and will have regard to it, should it become necessary for NSW Planning to consider taking any further enforcement action against Redisand in the future.

SECRETARY DIRECTION

As noted above, the current LMP was approved by the Director Resource Assessment as delegate of the Planning Secretary on 26 July 2017.

Under the provisions of Schedule 2, Condition 3 of the consent, I, Heidi Watters, as nominee of the Planning Secretary, direct Redisand to undertake a review of the LMP and submit a notification of confirmation of the review via the Major Projects portal by 29 January 2026, or as otherwise agreed. The notification must clearly state whether the LMP will be revised, provide the reasons for that decision, and include a proposed timeframe for submitting any revised LMP to NSW Planning for approval.

Should you wish to discuss the matter further, please contact me on 02 6575 3401 or email compliance@planning.nsw.gov.au

Department of Planning, Housing and Infrastructure

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters
Team Leader - Hunter
Compliance

Authorised person under the Environmental Planning and Assessment Act 1979

Department of Planning, Housing and Infrastructure

Reference: MP07_0094-PA-54

Grant Stevenson
Quarry Manager
Redisand Pty Limited
17/03/2026

Sent via the Major Projects Portal only

Subject: Salt Ash Quarry - Non-Compliance - Air Quality Impacts

Dear Mr Stevenson

I refer to your non-compliance notification, submitted as required by Schedule 5, Condition 7 of MP07_0094 as modified (the approval) to the NSW Department of Planning, Housing and Infrastructure (the Department) on 21 January 2026.

The Department has reviewed the non-compliance notification and notes the following:

- Redisand Pty Limited (Redisand) monitoring records indicate that on 6 December 2025 24-hour PM_{2.5} and PM₁₀ criterion, detailed in Table 3 of the approval, was exceeded at the monitoring location.
- Redisand reports that a large bushfire was active in the Bulahdelah region, which is considered in close proximity to the Salt Ash Quarry site.
- Redisand report that a smoke haze was visible on 6 December 2025.
- Redisand report that the Salt Ash Quarry site was not operational on 6 December 2025.
- Redisand report that meteorological records indicate that the prevailing winds on 6 December 2025 transported smoke from the bushfire towards the air quality monitoring location.

Taking into consideration the information and records provided by Redisand relating to the air quality criterion exceedance on 6 December 2025, I, as a delegate of the Planning Secretary, agree that this monitoring result should be excluded due to extraordinary events (bushfires) influencing background dust levels. This incident will not be recorded as a non-compliance.

The Department's acceptance of this non-compliance notification is not an endorsement of the compliance status of the project.

Should you wish to discuss the matter further, please contact Joel Fleming, (Senior Compliance Officer) on 02 6575 3416 or email compliance@planning.nsw.gov.au

Yours sincerely



Heidi Watters
Team Leader - Hunter
Compliance

As nominee of the Planning Secretary