



24 Mar
2020

Annual Review and Compliance
Report for
Maroota Sand Quarry
DA 267-11-99
Year Ending 31st December 2019



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Maroota Sand Quarry
Annual Review and Compliance Report 2019

Name of operation	Roberts Rd, Maroota Sand Quarry
Name of operator	Hodgson Quarries and Plant Pty Ltd
Development consent / project approval #	DA 267-11-99
Name of holder of development consent / project approval	Dr L. S. Martin
Mining lease #	N/A
Name of holder of mining lease	N/A
Water licence #	See section 3.3
Name of holder of water licence	See section 3.3
MOP/RMP start date	Not yet required
MOP/RMP end date	Not yet required
Annual Review start date	01/01/2019
Annual Review end date	31/12/2019

I, Lisa Thomson, certify that, to the best of my knowledge, this audit report is a true and accurate record of the compliance status of Roberts Rd, Maroota Sand Quarry for the period 1/1/2019 to 31/12/2019 and that I am authorised to make this statement on behalf of Hodgson Quarries and Plant Pty Ltd.

Note.

a) *The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.*

b) *The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).*

Name of authorised reporting officer	Lisa Thomson
Title of authorised reporting officer	Environmental Consultant
Signature of authorised reporting officer	

Revision Table

Date	Version	Author	Reviewed	Approved
23/03/2020	D0	SK / LT	LT	SR
24/03/2020	F0	SK / LT	LT	SR

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1 Statement of Compliance

Table 1. Statement of Compliance

Were all conditions of the relevant approvals(s) complied with?	
Development Consent # 267-11-99 as modified	No, see <i>Table 2</i> and <i>Appendix A</i>
Environmental Protection License 6535	Yes
NSW Office of Water Licenses	Yes

Compliance status key for use throughout document

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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Administrative	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 2. Summary of Non-Compliances: Consent 267-11-99 Mod 2

Conditions #	Condition Description (Summary)	Compliance status comments	Where addressed in Annual Review
2b	The Applicant shall: (b) comply with the conditions of this consent	Not all conditions compliant	
28	The Applicant shall take all practical steps to manage the development so that the ambient air quality goals for... particulate matter (PM10) of 50µg/m ³ (24 hours average) and 30 µg/m ³ (annual average)...	24-hour PM10 exceeded 50 µg/m ³ on a number of occasions during 2019 due to off-site influences. The Annual Average for 2019 was 31 µg/m ³ an exceedance of 1 µg/m ³ .	5.2

1.1 INDEPENDENT ENVIRONMENTAL AUDIT 2017

In accordance with consent condition 70, an Independent Environmental Audit was undertaken during 2017. The final report was submitted to the DPE on 14/9/17 along with a response and action plan. In an email dated 29/9/17, the DPE requested actions on conditions 40 and 45. A letter response was sent and received 11/10/17, and there has been no further correspondence. There are no outstanding actions from the Independent Audit.

1.2 ACTIONS REQUIRED FROM PREVIOUS REPORTS

The 2017 Annual Review and Conditions Compliance Report was submitted to DPE on 27th March 2018, covering the period January 2017 to December 2017. A request for the Report to include non-compliances from the Independent Audit was received on 18/7/18, and responded to on 26/7/18. The revised Annual Review and Compliance Report was acknowledged on 29/10/18, and a request for additional information was received on 29/11/18. A response letter was submitted and received on 19/12/18. An email requesting information was received on 21/1/19 and responded to on 21/2/19. A letter was received from the DPE dated 5/3/2019 stating that the Department had concluded its investigation. Correspondence is included in Appendix L.

The 2018 Annual Review and Conditions Compliance Report was submitted to DPE on 28th March 2019. Acknowledgement was received from DPE and NRAR in May 2019. No formal correspondence of the acceptance of the report nor any actions required has been received to date.

2 Introduction

2.1 PROJECT SITE

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

2.2 BACKGROUND

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

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

This Annual Review and Conditions Compliance Report covers the period January 2019 to December 2019 and has been conducted against the Modification 2 approved on 18/3/2016 and associated documents.

2.3 QUARRY CONTACTS

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

Figure One. Location

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Site Location	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018 & Google Maps 2018	Our Ref:	8566_HMA_ARCR2019_C001_V0_F1.cdr
Figure:	ONE	Council:	Hills Shire Council	Survey:	N/A	Plan By:	JD
Sheet:	1 of 1	Tenure:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 13/02/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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



Approx Scale: 0 1 2 3 4 5km

Approx Scale: 0 200m

Legend
 Site

3 Approvals

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

3.1 DEPARTMENT OF PLANNING AND ENVIRONMENT

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

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

3.1.1 Development Application Changes

There have been no consent changes during 2019.

3.1.2 Report Requirements

This Review is required under condition 6 (Conditions Compliance Report) and 66 (Annual Review) of the consolidated consent. Permission to consolidate the two reviews required under Mod 2 was obtained from the Department of Planning and Environment on 30/6/16.

Table 3. Review Requirements

Consent Condition No	Condition Text	Where addressed in this report
6	The Applicant will submit a Conditions Compliance Report to the Secretary prior to the commencement of extraction in areas that are not currently subject to extraction. Subsequent reports will be submitted annually for the first three years of extraction in areas not currently subject to extraction. Further reports shall be submitted as required by the Secretary.	This report and Appendix A
6 (a)	To enable ready comparison with the EIS's predictions, diagrams and tables, the Conditions Compliance Reports shall include, but not be limited to, the following matters:(a) a compliance audit of the performance of the project against conditions of Consent and statutory approvals	Appendix A
6 (b)	(b) a review of the effectiveness of the environmental management of the development	Section 5
6 (c)	(c) the results of environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;	Section 5
6 (d)	(d) a listing of any variations obtained to approvals applicable to the DA since the last report;	Section 3.1.1
6 (e)	(e) a record of all complaints and the actions taken to mitigate all such complaints;	Section 4.2

Consent Condition No	Condition Text	Where addressed in this report
6 (f)	(f) a report detailing the rehabilitation measures undertaken since the last report; and	Section 5.9
6 (g)	(g) environmental management targets and strategies for stages of the development yet to be completed.	Section 6
66	By the end of March each year (or as otherwise agreed by the Secretary), the Applicant shall review the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary. This review must:	Submitted March 2020
66 (a)	(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;	Sections 4, Section 5.9
66 (b)	(b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the: <ul style="list-style-type: none"> • relevant statutory requirements, limits or performance measures/criteria; • monitoring results of previous years; and • relevant predictions in the EIS, Modification 1 and Modification 2; 	Section 5
66 (c)	(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	Section 1, Appendix A
66 (d)	(d) identify any trends in the monitoring data over the life of the development;	Section 5
66 (e)	(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	Section 5
66 (f)	(f) describe what measures will be implemented over the next year to improve the environmental performance of the development.	Section 5

3.2 ENVIRONMENTAL PROTECTION AUTHORITY (EPA)

Environmental Protection License 6535 (see *Appendix C*) has been issued under the *Protection of the Environmental Operations Act, 1997* for Crushing, Grinding or Separating Works and Dredging Works. It is renewed annually on the 12th of March and requires monitoring for noise impacts (see section 5.7.2 for results). There have been no changes and no non-compliances recorded during the report period.

3.3 WATER NSW, NSW DEPARTMENT OF PLANNING, INDUSTRY & ENVIRONMENT - WATER (DPIE-W) AND NATIONAL RESOURCES ACCESS REGULATOR (NRAR)

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

Table 4. Relevant Water Licences Summary

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

NR = Not required: used for monitoring only

4 Operations Description

The site has approval to extract sand and gravels at the rate of 50 laden trucks per day and a maximum of 10 laden trucks movements per hour.

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

4.1 OPERATIONS 2019 CALENDAR YEAR

The site layout for 2019 is illustrated in *Figure Four*. The operation restricts activities to between the hours in *Table 5*.

Table 5. Operational Hours

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

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

Approximately 107,000 tonnes of material was sold during the report period, which was lower than 2018. While there is no limit on material extracted in the consent, there is a limit on the amount of material that can be transported. At no time during the report period did the number of laden trucks exceed 50 per day. The weighbridge is not capable of logging movements per hour. The maximum laden trucks per day was 28 on Monday 16th December 2019, which equates to an average of 2.5 movements per hour. Each truck takes 6-8 minutes to load, therefore no more than 10 laden movements per hour is possible.

Section 94A contributions are paid monthly.


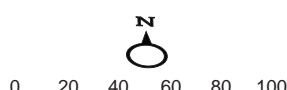
Table 6. Daily Loaded Trucks January 2019 - December 2019

Date	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
1st	0	9	14	15	15	4	14	12	0	9	10	0
2nd	3	5	5	8	11	0	16	12	14	15	3	7
3rd	0	0	0	24	16	13	9	10	11	11	0	8
4th	0	14	10	9	3	3	6	0	8	12	6	11
5th	0	13	14	9	0	6	9	10	11	0	5	11
6th	0	12	15	5	14	14	5	12	15	0	14	14
7th	3	10	12	0	13	13	0	10	0	0	15	3
8th	6	11	8	12	16	3	11	10	0	10	13	0
9th	8	5	6	16	13	0	8	10	9	10	1	10
10th	6	0	0	9	11	0	11	1	15	14	0	10
11th	6	9	11	14	12	9	13	0	10	11	11	11
12th	0	13	18	17	0	15	11	7	14	0	12	10
13th	0	8	11	4	11	13	1	18	9	0	8	8
14th	11	15	7	0	16	13	0	14	4	10	14	8
15th	11	11	9	11	21	5	8	11	0	11	11	0
16th	10	2	2	15	14	0	10	11	9	11	8	28
17th	7	0	0	13	16	10	13	3	2	12	0	17
18th	9	12	4	15	6	19	17	0	2	12	12	18
19th	1	12	3	0	0	12	8	12	1	4	8	13
20th	0	11	14	0	14	12	4	8	6	0	11	14
21st	12	11	12	0	11	14	0	22	3	10	7	3
22nd	17	13	16	0	16	6	5	5	0	9	10	0
23rd	8	6	1	5	15	0	11	14	10	11	4	0
24th	13	0	0	8	13	6	12	3	12	9	0	0
25th	14	11	5	1	2	11	14	0	12	9	13	0
26th	0	9	12	4	0	13	13	10	6	3	6	0
27th	0	13	15	4	11	12	3	11	11	0	12	0
28th	0	11	9	0	11	10	0	8	7	5	20	0
29th	10		10	15	12	4	11	3	0	10	11	0
30th	13		3	18	10	0	13	5	9	10	3	0
31st	9		0		12		11	3		9		0
Total per month	177	246	246	251	335	240	267	255	210	237	248	204
Max per day	17	15	18	24	21	19	17	22	15	15	20	28
Compliant (<50 per day)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Figure Two. Sequence of Extraction

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Sequence of Extraction	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018	Our Ref:	8566_HMA_ARCR2019_C002_V0_F2.cdr
Figure:	TWO	Council:	Hills Shire Council	Survey:	N/A	Plan By:	TO/JD/LT
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 13/02/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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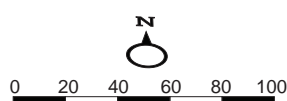




LEGEND		<i>Phases and Years are indicative only, and are dependent on market demand and product mixing requirements</i>	
	Property Boundary		
	Groundwater Monitoring Location		
	Surface Water Monitoring Location		
	Phase 1	} Years 1-2 (2015-2017)	
	Phase 2		
	Phase 3		
	Phase 4		
	Phase 5	} Years 2-5 (2016-2021)	
	Phase 6		
		} Years 5+ (2020+)	

Figure Three. Site Monitoring Locations

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Environmental Monitoring Locations	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018	Our Ref:	8566_HMA_ARCR2019_C003_V0_F3.cdr
Figure:	THREE	Council:	Hills Shire Council	Survey:	N/A	Plan By:	LT/JD
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 13/02/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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LEGEND	
	Property Boundary
	Surface Water Monitoring Location
	Monitoring Borehole Location
	Dust Gauge Location
	Dust and HVAS Location
	Weather Station Location
	Attended Noise Monitoring Location
	Road Noise Monitoring Location
	Sprinkler

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

* Volume calculated from 12D software to RL 187.2 from modelled contours.
All dams will be incorporated into the final landform.

4.2 COMPLAINTS AND COMMUNITY CONSULTATION

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

Regular, informal consultation is undertaken verbally with neighbours.

4.3 PROPOSED OPERATIONS 2020 CALENDAR YEAR

Operations are proposed to remain similar in 2020. The active cells are proposed to be phases 3 and 4 as illustrated on *Figure Two*.

The graph below illustrates production trends since January 2011. Production in 2019 was the lowest to date, at an average of less than 9,000 tonnes and 243 laden truck movements per month. Maximum production occurred in May, with a total of 12,391 tonnes and 335 laden truck movements in the month. The busiest transport day occurred on Monday December 16th, with 28 laden truck movements. This production level is well below the maximum 50 laden truck movements per day, or an average of 1500 per month.

Graph 1. Monthly Production Since January 2011

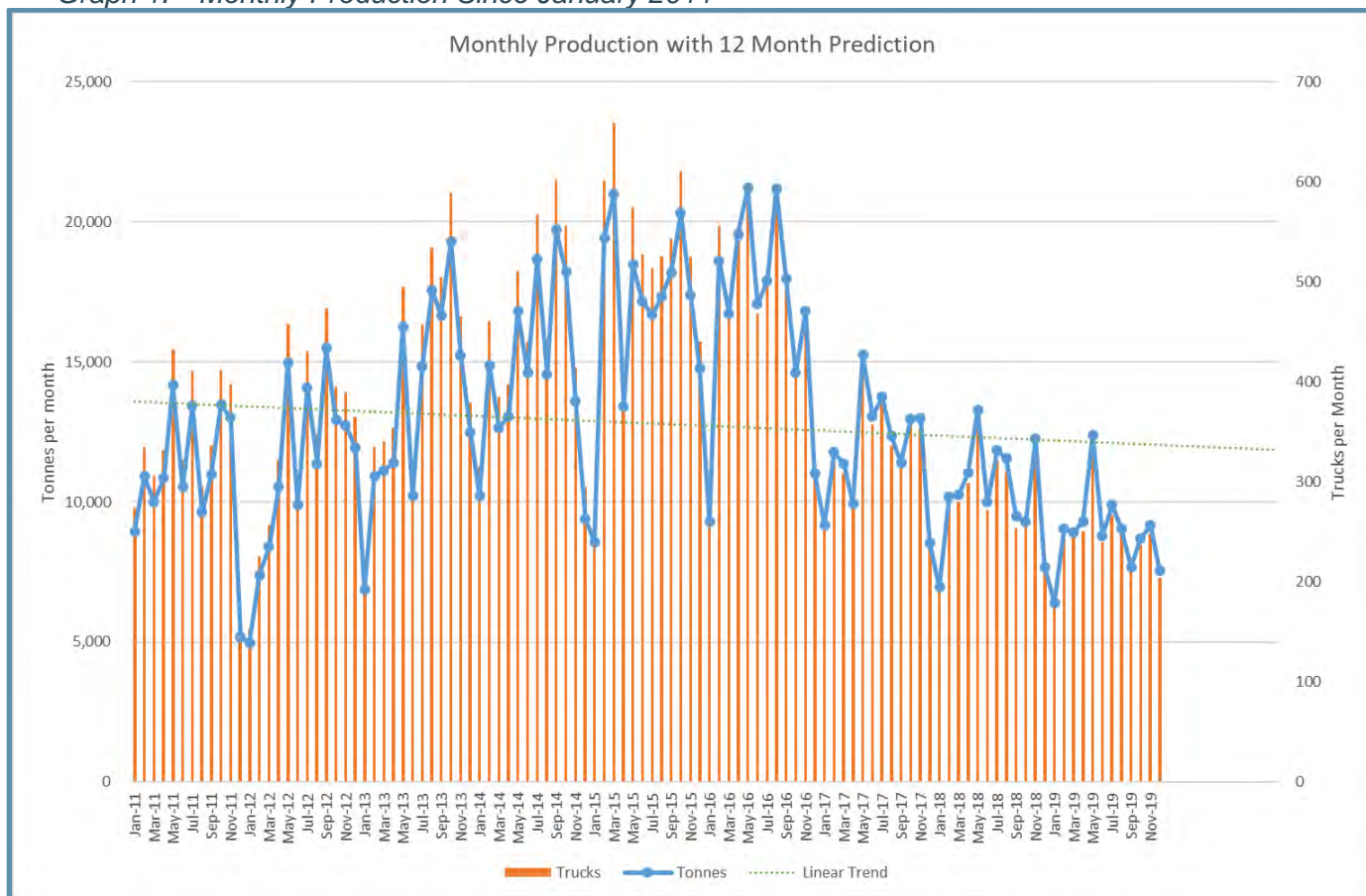



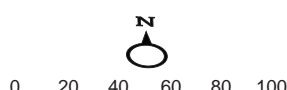
Table 7. Yearly Production over Last 5 Years

Year	Yearly Tonnages	Yearly Laden Trucks
2015	202,667	6,198
2016	202,024	5,651
2017	142,633	3,937
2018	123,858	3,361
2019	106,907	2,916
<i>2020 Predicted</i>	<i>170,000</i>	<i>4,800</i>

Figure Four. Site Layout

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Site Layout	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018	Our Ref:	8566_HMA_ARCR2019_C004_V0_F4.cdr
Figure:	FOUR	Council:	Hills Shire Council	Survey:	N/A	Plan By:	LT/JD
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 13/02/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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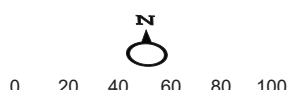

LEGEND	
	Property Boundary
	Spot Height Location

Figure Five. Domains 2019

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Domains 2019	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018 & Client	Our Ref:	8566_HMA_ARCR2019_C005_V0_F5.cdr
Figure:	FIVE	Council:	Hills Shire Council	Survey:	N/A	Plan By:	SK/JD
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 12/03/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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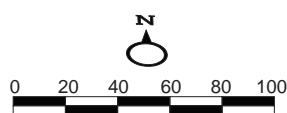




LEGEND		Area (Ha)
	Property Boundary	
DOMAIN TYPE		
Exposed and Active		2.7
	Active Extraction Area	2.1
	Access Tracks & Haul Roads (Unsealed)	0.6
Areas not Actively Creating Dust		
	Stripped Ahead of Mining (Accessed < Once Month)	2.8
	Infrastructure Area (Sealed)	2.3
	Water Management	4.3
	Bundwalls (Including Topsoil)	2.5
	Overburden Emplacement/ Machine Storage	1.1
	Land Being Prepared for Rehabilitation	1.8

Figure Six. Domains 2020

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Domains 2020	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018 & Client	Our Ref:	8566_HMA_ARCR2019_C006_V0_F6.cdr
Figure:	SIX	Council:	Hills Shire Council	Survey:	N/A	Plan By:	SK/JD
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 12/03/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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


LEGEND		Area (Ha)
	Property Boundary	
DOMAIN TYPE		
Exposed and Active		2.7
	Active Extraction Area	2.1
	Access Tracks & Haul Roads (Unsealed)	0.6
Areas not Actively Creating Dust		
	Stripped Ahead of Mining (Accessed < Once Month)	2.8
	Infrastructure Area (Sealed)	2.3
	Water Management	4.3
	Bundwalls (Including Topsoil)	2.5
	Overburden Emplacement/ Machine Storage	1.1
	Land Being Prepared for Rehabilitation	1.8

5 Environmental Management

5.1 CLIMATE SUMMARY

Weather data is collected on site and downloaded monthly. The temperature on the site station began malfunctioning in the previous reporting period and has not yet been repaired, therefore temperature data is presented from the BOM station at Richmond RAAF Base. The tables below are summaries of the data for 2019. Summary graphs are given in *Appendix F*.

Table 8. Temperature Summary for 2019 (°C)

Month	Mean Maximum	Mean Minimum	Month High	Date	Month Low	Date
1	33.8	21.1	41.4	17	17.6	7
2	30.2	17.2	39.5	18	12.7	26
3	28.6	16.6	38.1	6	10.7	31
4	25.6	12.2	33.8	8	5.2	28
5	22.4	7.4	26.8	21	-0.7	31
6	18.5	5.4	23.8	12	-0.5	22
7	19.4	3.4	24.6	21	-2.5	19
8	20.3	3.8	26.2	24	-3.3	15
9	23.8	7.8	32.2	6	1.6	12
10	27.1	10.9	35.9	25	6.2	20
11	30.3	13.3	38.7	19	7.3	6
12	33.0	15.9	45	31	10.6	5
2019	26.1	11.2	45	Dec	-3.3	Aug
2018	25.9	11.2	46.3	Jan	-4.3	Jul
2017	23.0	11.9	45.5	Feb	1.0	Jul
2016	23.8	12.7	40.2	Feb	1.4	Jul
2015	23.0	12.2	39.5	Nov	0.9	Jul

Table 9. Precipitation Summary for 2019 (mm)

Month	Month Total	Maximum Observed in One Day	Date	Days of Rain Greater Than		
				0.2	2	20
1	76.2	24.4	21	12	8	1
2	37.2	14.2	8	8	7	0
3	146.2	39.8	17	14	9	3
4	22.2	9.6	5	7	3	0
5	7.4	5.2	3	3	1	0
6	42.2	14	4	10	5	0
7	24.6	8.2	4	7	5	0
8	64.8	46	30	5	4	1
9	94.6	52.2	18	4	2	2
10	30.6	9	12	5	4	0
11	13	8.6	3	3	2	0
12	0.2	0.2	10 and 25	0	0	0
2019	559.2	52.2	Sept	21.4%	13.7%	1.9%
2018	557.3	44.6	Oct	41.9%	16.2%	1.6%
2017	574.0	50.2	Mar	34.0%	13.7%	1.9%
2016	775.6	82.2	Jan	43.3%	15.6%	3.6%
2015	745.5	36.0	Dec	52.0%	1.9%	2.2%

Table 10. Wind Speed 2019

Month	Month Average (m/s)	Month High (m/s)	Date	Dominant Direction
1	0.8	12.1	31	SE
2	1.0	16.1	12	SE
3	0.8	15.6	30	SE
4	0.4	13.0	26	SE
5	0.9	20.6	27	N
6	0.6	15.2	4	WSW
7	1.1	15.6	13	NNW
8	1.4	20.6	8/9	NNW
9	1.3	21.0	6	NNW
10	1.0	17.4	26	SE
11	1.4	18.3	8	SE
12	1.3	15.6	2	SE
2019	3.6	8.0	Sep	SE
2018	1.1	21.0	Nov	SE
2017	1.0	17.9	Aug	WSW
2016	1.1	17.9	Jan	SE
2015	0.9	15.6	Apr	WSW

5.2 AIR QUALITY

5.2.1 Requirements and Predictions

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

Table 11. Air Quality Criteria

Parameter	Criteria	Units	Averaging Period	Source
Total Suspended Particulates (TSP)	90	µg/m ³	Annual	DA Sched 2 Cond 28
PM₁₀	50	µg/m ³	24 hours	DA Sched 2 Cond 28
PM₁₀	30	µg/m ³	Annual	DA Sched 2 Cond 28
Insoluble Solids	4	g/m ² /month	Annual	DA Sched 2 Cond 28

The EPL specifies no limits on air quality.

The National Environment Protection Measures (National Environment Protection Council, February 2016) are advisory standards intended to be used by each state and territory against which to measure performance. These are given in the following table:

Table 12. NEPM Advisory Standards

Parameter	Criteria	Units	Averaging Period	Source
PM₁₀	50	µg/m ³	24 hours	Table 1
PM₁₀	25	µg/m ³	Annual	Table 1
PM_{2.5}	25	µg/m ³	24 hours	Table 1
PM_{2.5}	8	µg/m ³	Annual	Table 1

The Air Quality Impact Assessment prepared for the Environmental Assessment for Mod 2 (Nexus Environmental Planning Pty Ltd, September 2015) predicted the following impacts:

Table 13. Predicted Air Quality Impacts at Residences, 2015

(Wilkinson Murray Pty Ltd, June 2015)

Parameter	Prediction Max at Residences	Unit	Averaging Period	Source
Deposited Dust	1.7	g/m ² /month	Annual	Table 8-8
TSP	57	µg/m ³	Annual	Table 8-6
PM₁₀	15	µg/m ³	Annual	Table 8-4
PM₁₀	49	µg/m ³	24-hour	Table 8-2
PM_{2.5}	Not predicted	µg/m ³	Annual	
PM_{2.5}	Not predicted	µg/m ³	24-hour	

It should be noted that monitoring for these parameters is undertaken at the locations given on *Figure Three*, not at the residences.

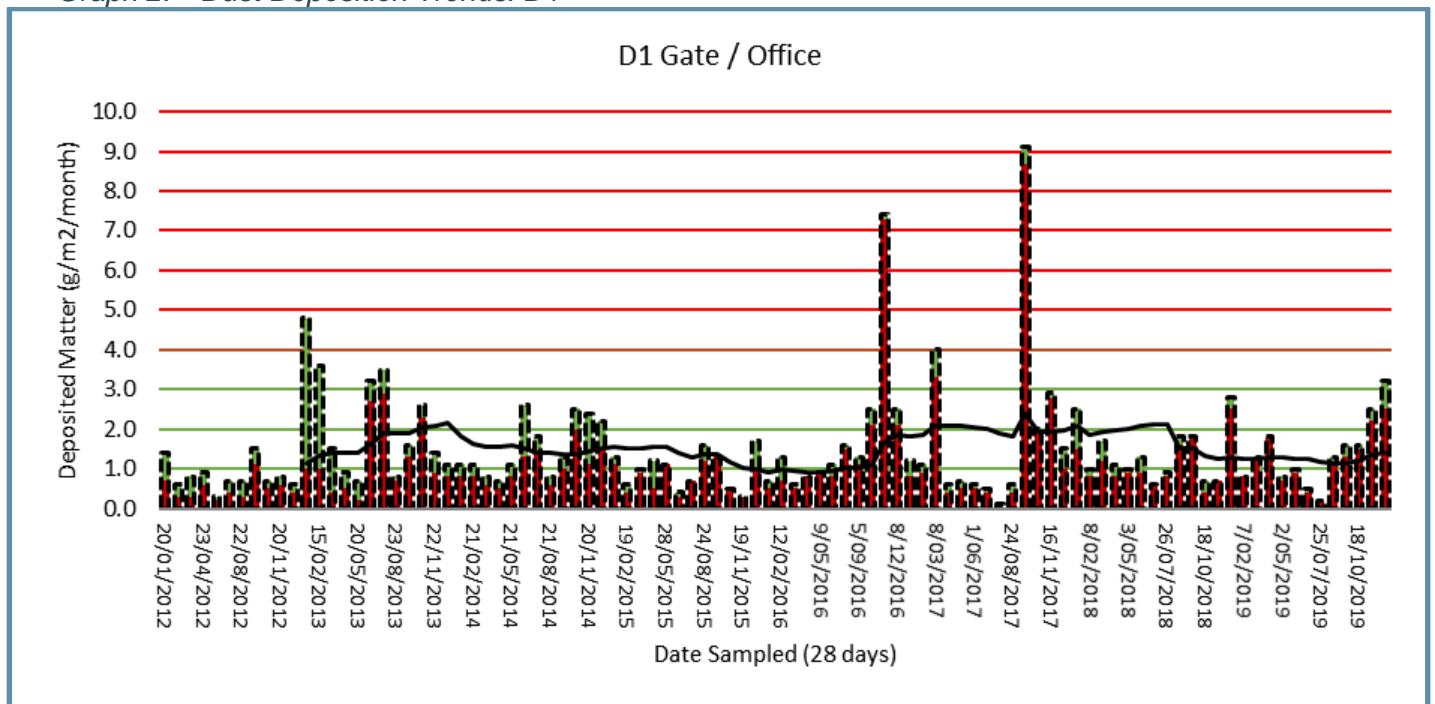
5.2.2 Monitoring Results Compliance and Trends

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

Table 14. Dust Deposition Gauge Results: D1 Office

Insoluble Solids g/m ² /month	Average	Maximum	Minimum	Std Deviation
2019	1.4	3.2	0.2	0.8
Compliant with DA	Yes			
Criteria	4			
Prediction	1.7			
2018	1.4	2.8	0.6	0.7
2017	1.9	9.1	0.1	2.4
2016	1.9	7.4	0.6	1.9
2015	1.0	1.7	0.3	0.5

Graph 2. Dust Deposition Trends: D1



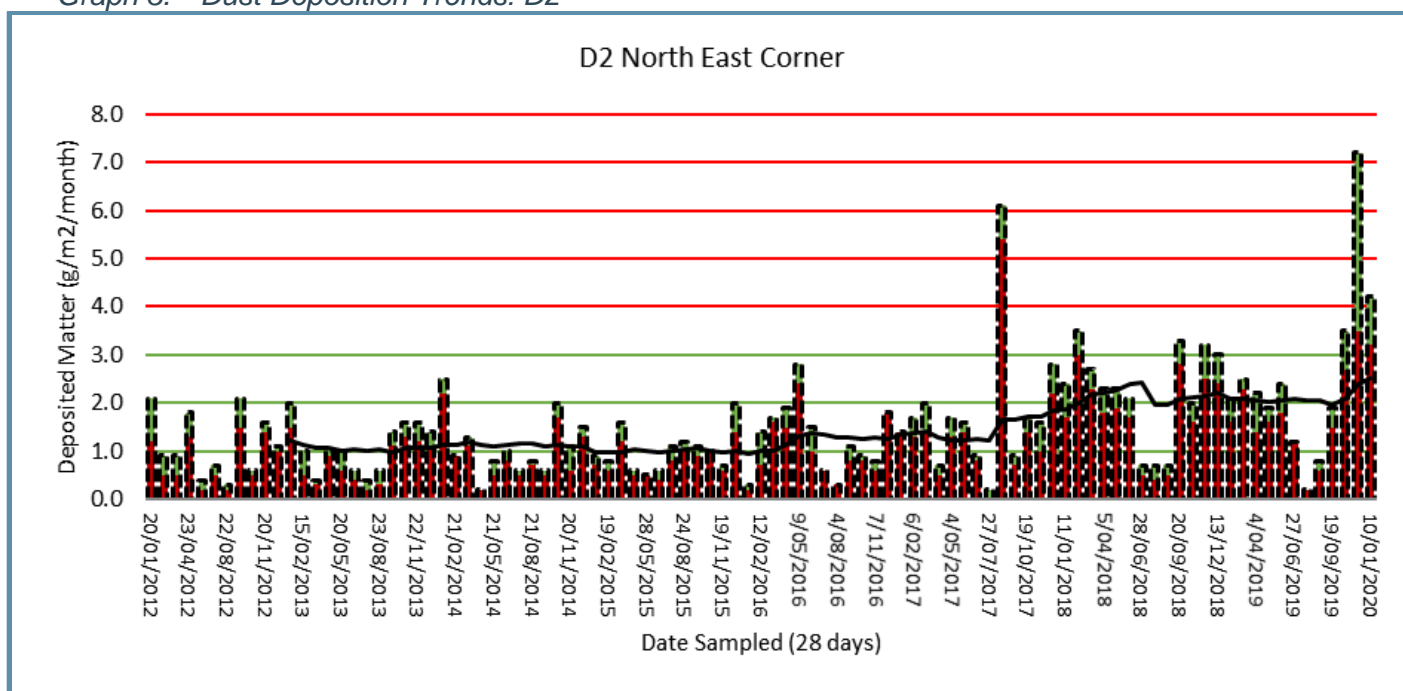
■ Combustible Matter
 ■ Ash
 Insoluble Solids
 12 Month Average Insoluble Solids

Table 15. Dust Deposition Gauge Results: D2 North East Corner

Insoluble Solids g/m ² /month	Average	Maximum	Minimum	Std Deviation
2019	2.5	7.2	0.2	1.8
Compliant with DA	Yes			
Criteria	4			
Prediction	1.7			
2018	2.2	3.5	0.7	1.0
2017	1.8	6.1	0.2	1.4
2016	1.3	2.8	0.3	0.7
2015	1.0	2.0	0.5	0.4

Trees encroach on the collection zone of the gauge. These trees are within the protection zone required by the flora management plan and cannot be removed. Trimming of branches is undertaken where possible.

Graph 3. Dust Deposition Trends: D2

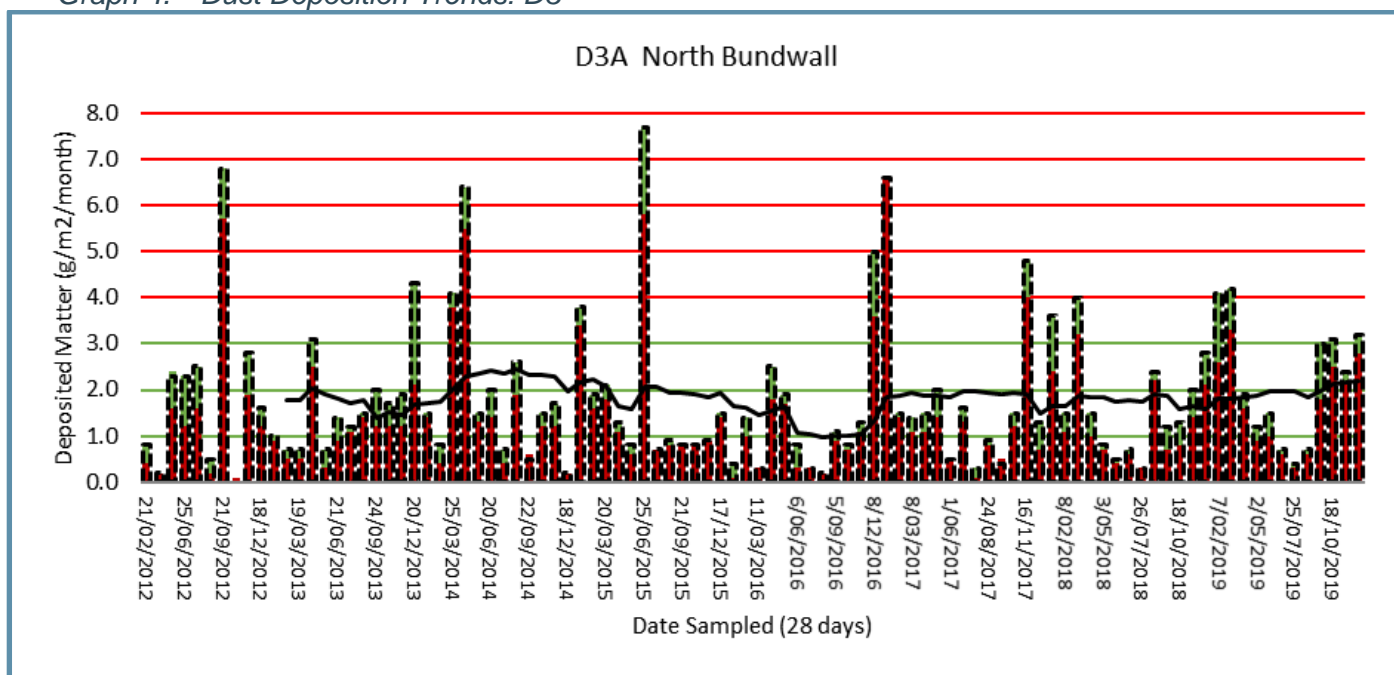


■ Combustible Matter
 ■ Ash
 Insoluble Solids
 — 12 Month Average Insoluble Solids

Table 16. Dust Deposition Gauge Results: D3 North Bundwall

Insoluble Solids g/m2/month	Average	Maximum	Minimum	Std Deviation
2019	2.2	4.2	0.3	1.33
Compliant with DA	Yes			
Criteria	4			
Prediction	1.7			
2018	0.7	4.0	0.3	1.2
2017	1.9	6.6	0.3	1.8
2016	1.3	5.0	0.2	1.3
2015	1.9	7.7	0.7	2.0

Graph 4. Dust Deposition Trends: D3



■ Combustible Matter
 ■ Ash
 Insoluble Solids
 12 Month Average Insoluble Solids

Table 17. Particulate Matter Annual Averages

Annual Averages	TSP $\mu\text{g}/\text{m}^3$	PM10 $\mu\text{g}/\text{m}^3$	PM2.5 $\mu\text{g}/\text{m}^3$
2019	48	32	26
Compliant with DA	Yes	No	Yes (no limit)
Jan to Oct 2019	33	19	14
Compliant with DA	Yes	Yes	Yes (no limit)
Criteria	90	30	N/A
NEPM Advisory Level	90	25	8
Prediction	57	15	N/A
2018	36	19	14
2017	29	15	12

Table 18. 24 Hour Maximum Particulate Measurements

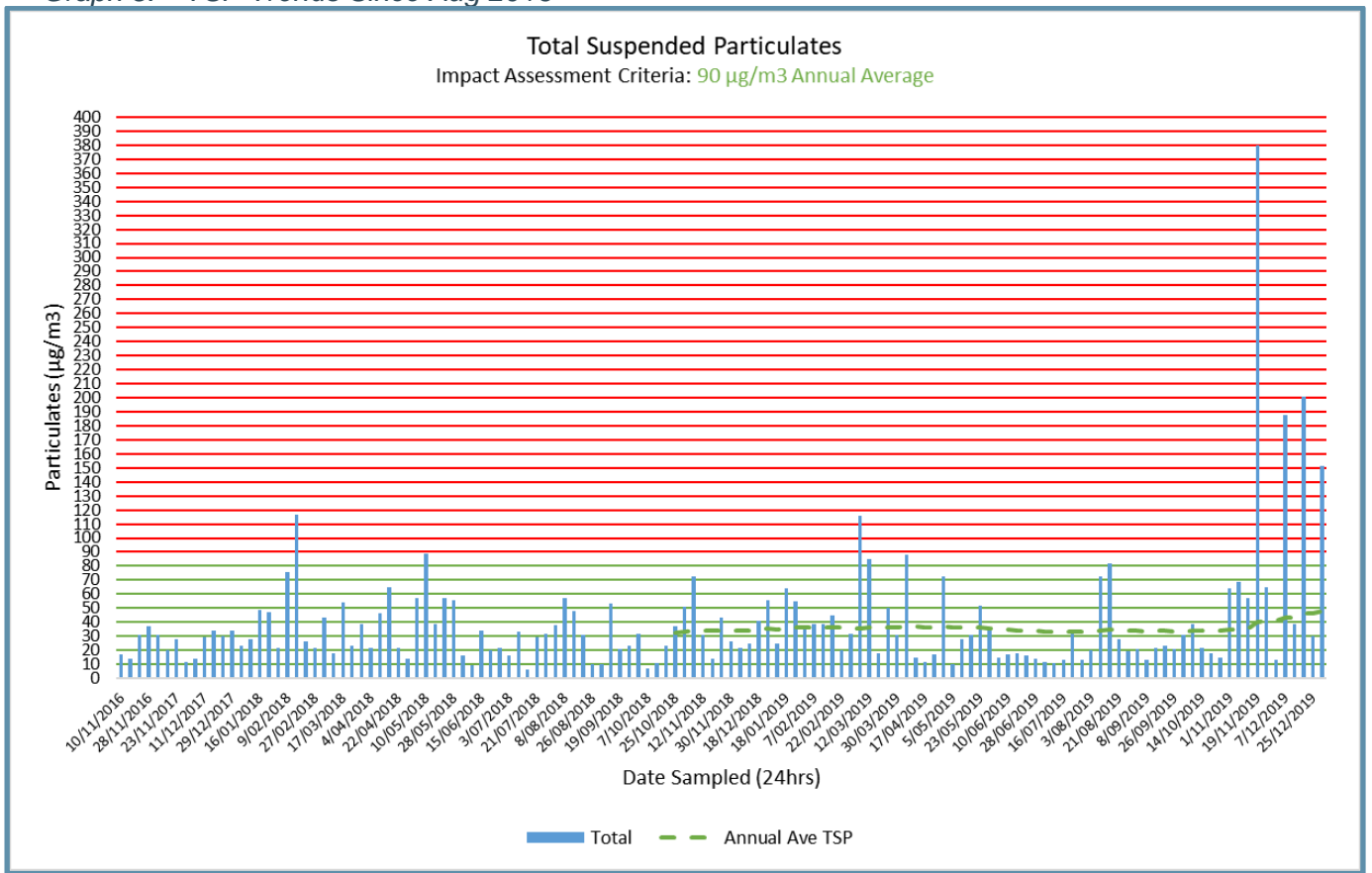
24 hr Maximum	TSP $\mu\text{g}/\text{m}^3$	PM10 $\mu\text{g}/\text{m}^3$	PM2.5 $\mu\text{g}/\text{m}^3$
2019	380	362	333
Compliant with DA	Yes (no limit)	No	Yes (no limit)
Criteria	N/A	50	N/A
NEPM Advisory Level	N/A	30	25
Prediction	N/A	49	N/A
2018	117	59	55
2017	81	48	54

N/A = Not applicable

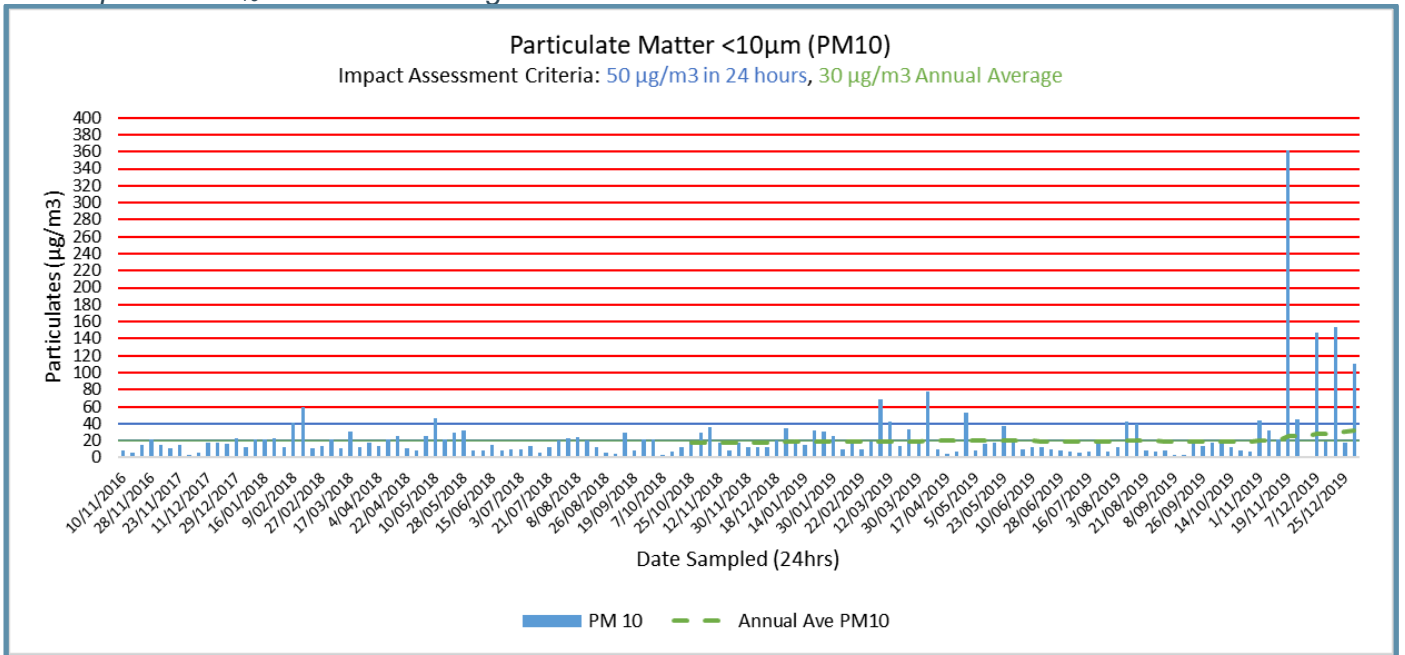
Table 19. Ratio of Size Fractions

Date	Ratio TSP/PM10	Ratio TSP/PM2.5	Ratio PM10/PM2.5
Average	1.9	2.7	1.5
Average Jan to Oct 2019	2.0	2.9	1.6
2018 Averages	1.9	3.2	1.7
2017 Averages	2.2	3.1	1.6

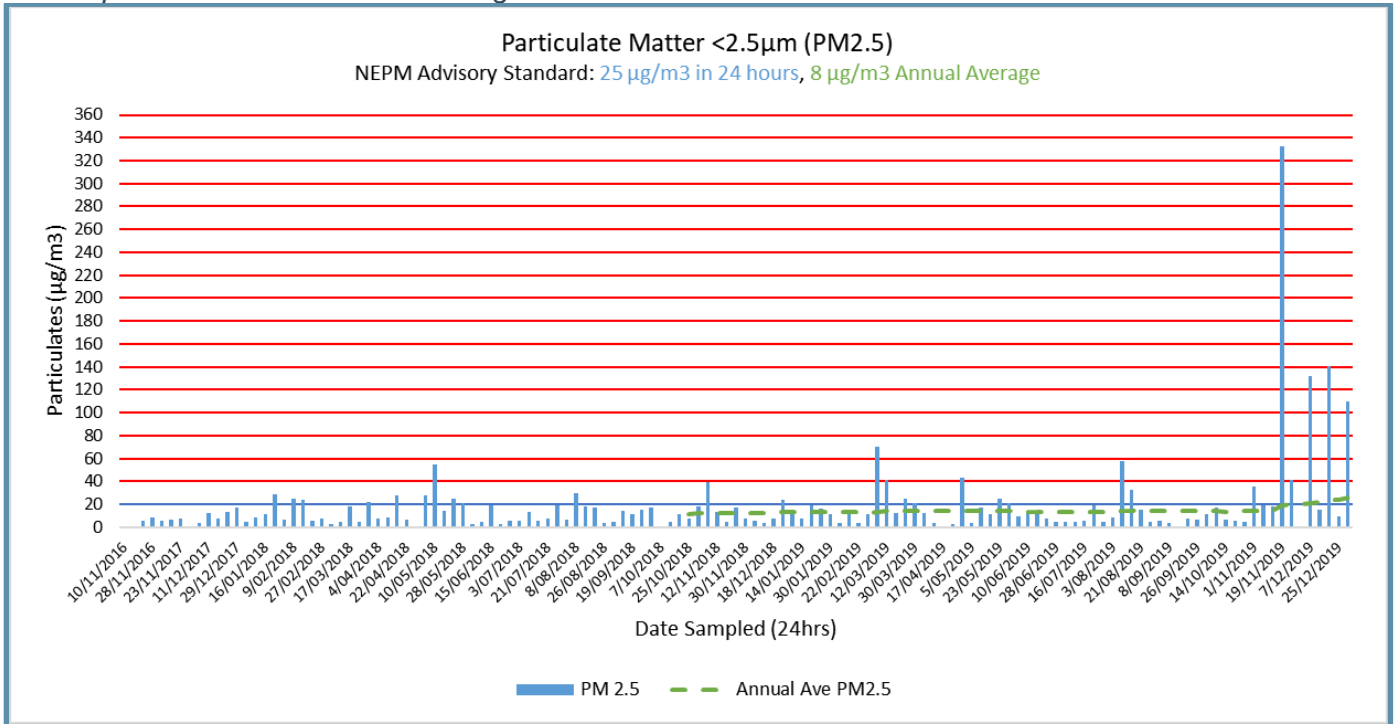
Graph 5. TSP Trends Since Aug 2016



Graph 6. PM₁₀ Trends Since Aug 2016



Graph 7. PM_{2.5} Trends Since Aug 2016



5.2.3 Interpretation and Effectiveness of Controls

Dust deposition (Insoluble Solids) and Total Suspended Particulates (TSP) were compliant with DA required criteria. Particulate Matter less than 10 µm in diameter (PM₁₀) exceeded the 24 hour criteria on the dates listed in red in Table 20 and the Annual Average criteria for 2019. There were uncontrolled bushfires surrounding the site on Roberts Road Maroota from mid-October 2019 continuously. Calculations of averages for January to October illustrate the site’s compliance prior to the bushfire crisis.

The site was undertaking dust management operations as per the approved AQMP. The only exceedances for PM₁₀ were during the bushfire emergency period. These incidents have been reported to the EPA and DPE and no actions have been requested.

The monitoring shows an increasing trend for each monitor during 2019 largely because of the prevalent bushfires during late 2019. The Insoluble Solids annual average has shown steady increase during 2019 only, as shown in Graph 2 to Graph 4. The Insoluble Matter and PM₁₀ results have increased to above that of predicted levels due to the presence of bushfire smoke.

The Particulate Matter less than 2.5 µm in diameter (PM_{2.5}) exceeded the NEPM advisory guideline of 25 µg/m³ for 24 hours 11 times.

Table 20. 24-hour Particulate Exceedances During Reporting Period

24 hrs Monitored	PM2.5 µg/m ³	PM10 µg/m ³	TSP µg/m ³	Laden Truck Movements	Samplings Comments
06/03/2019	70	69	116	15	N/A
24/03/2019	25	33	50	0	N/A
05/04/2019	4	78	10	3	N/A
29/04/2019	43	53	73	15	Backburning while HVAS running
23/05/2019	25	37	52	15	Smokey conditions from backburning
09/08/2019	58	42	73	10	Very windy conditions
15/08/2019	33	40	82	11	Smokey conditions from backburning
19/11/2019	333	362	380	8	All machines shut down early due to filter clogging from local bushfires
25/11/2019	41	45	65	13	Smokey conditions from local bushfires
7/12/2019	132	147	188	3	Smokey conditions from local bushfires
19/12/2019	141	154	201	13	Smokey conditions from local bushfires
31/12/2019	110	110	151	0	Smokey conditions from local bushfires

5.2.3.1 Potential Sources of Dust

Sources of dust from the site activities are:

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

Background sources of dust include:

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

5.2.3.2 Effectiveness of Air Quality Management Controls

Table 21. Effectiveness of Air Quality Management Controls

Control	Interpretation	Effective?
Increase use of water-cart in dry weather	Dust results do not increase with truck movements, nor on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Delaying non-essential earth-moving activities during periods of high wind	Dust results do not increase with truck movements, nor on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Reducing truck speeds	Dust results do not increase with truck movements	Yes
No more than 3 hectares exposed and active at any one time	Dust results do not increase on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Damping down	Dust results do not increase with truck movements, nor on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Installation of a mobile sprinkler in 2019	Sprinklers are installed. Dust results do not increase on high wind days. Examination of wind direction during monitoring shows sources are off site.	Yes
Trucks covered when entering and leaving the site	Dust results do not increase with truck movements	Yes

During the previous AR, it was determined that the controls relating to truck movements, including covering the vehicles, lowering the speed limit, damping down material being loaded, and use of the water-cart over un-sealed roads has been effective. Exceedances this report period have been attributed to either back-burning in the local area, or the large regional bushfires from October to December. The average of results from January to October shows trends similar to previous years, indicating that prior to the bushfires, dust management activities had been effective. The extraordinary conditions during the latter quarter of the calendar year contributed to high dust results over the whole of Eastern Australia.

5.2.4 Measures Proposed for Improvement

Air quality management controls have been effective for the 2019 calendar year and will be maintained during 2020. A sprinkler distributes water to disturbed areas that the water cart has difficulty accessing. Dust will continue to be monitored using high volume air samplers and dust deposition gauges.

Relocation of the monitors adjacent to the office may be investigated so that results are greater reflective of impacts outside of the property boundary. Any new site will require reliable power and security, as well as compliance with the Australian Standard AS3580.1.

A review of calibration has been undertaken which shows there have been minimal adjustments in the High Volume Air Samplers at each 2-monthly calibration. The client has therefore decided to extend the calibration period to 6-months.

5.3 SURFACE WATER, SEDIMENT AND EROSION

The Water Management Plan (version July 2018) has been submitted to the DoI Water and DPE to comply with the current conditions of consent (Mod 2) and was approved by DPE on 22nd August 2018.

5.3.1 Requirements and Predictions

5.3.1.1 Water Testing

There are no quality parameters for water testing within the consent conditions or the EPL. Requirements regarding surface water monitoring in the Mod 2 consent condition 42 (b) are given below:

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

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

5.3.1.2 WMP Monitoring and Maintenance

Table 22. Monitoring and Maintenance from the WMP 2018

Parameter	Source	Compliance	Comments
Topsoil stripping to be visually monitored to check moisture content of soil and depth of stripping.	WMP 2018-Section 11	Yes	
Stockpiles to be visually assessed at time of forming to check they do not exceed three metres high.	WMP 2018-Section 11	Yes	
Visual check of stability and operation of all banks, ponds, channels and spillways to be undertaken monthly. Effecting any necessary repairs.	WMP 2018-Section 11	Yes	
Removal of spilled sand or other materials from hazard areas, including lands closer than five metres from areas of likely concentrated or high velocity flows, especially waterways and access roads.	WMP 2018-Section 11	Yes	
Removal of trapped sediment whenever less than design capacity remains for the sediment basins.	WMP 2018-Section 11	Yes	Sediment dams meet required storm event capacity
Ensuring rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate	WMP 2018-Section 11	Yes	Not yet applicable
Constructing additional erosion and/or sediment control works as might become necessary to ensure the desired water control is achieved.	WMP 2018-Section 11	Yes	Not yet applicable
Automatic data loggers to monitor the dam levels to assist in the water balance modelling.	WMP 2018-Section 11	Yes	Loggers installed in all surface dams

Parameter	Source	Compliance	Comments
All on-site dams to be sampled and water quality tested on a quarterly basis to determine if there is a relationship to the groundwater and to ascertain the water quality. This will continue for a two year period. Following this period the monitoring frequency will be reviewed.	WMP 2018-Section 11	Yes	Table 23 Commenced April 2018
Water quality will be compared to the ANZECC Irrigation Water criteria	WMP 2018-Section 11	Yes	This criteria is not suitable as a performance criteria due to the naturally low pH in the groundwater

5.3.2 Monitoring Results Compliance and Trends

5.3.2.1 Water Quality

Surface water quality was tested in July 2017 and January and April 2018 before the WMP was approved in August 2018. Results are given below. There are no approved limits against which to compare these levels, and although the results have been compared to the ANZECC 2000 Irrigation criteria, this is only relevant to the final land use and cannot be used as a performance criteria due to the naturally low pH in the groundwater.

Table 23. Surface Water Quality Results

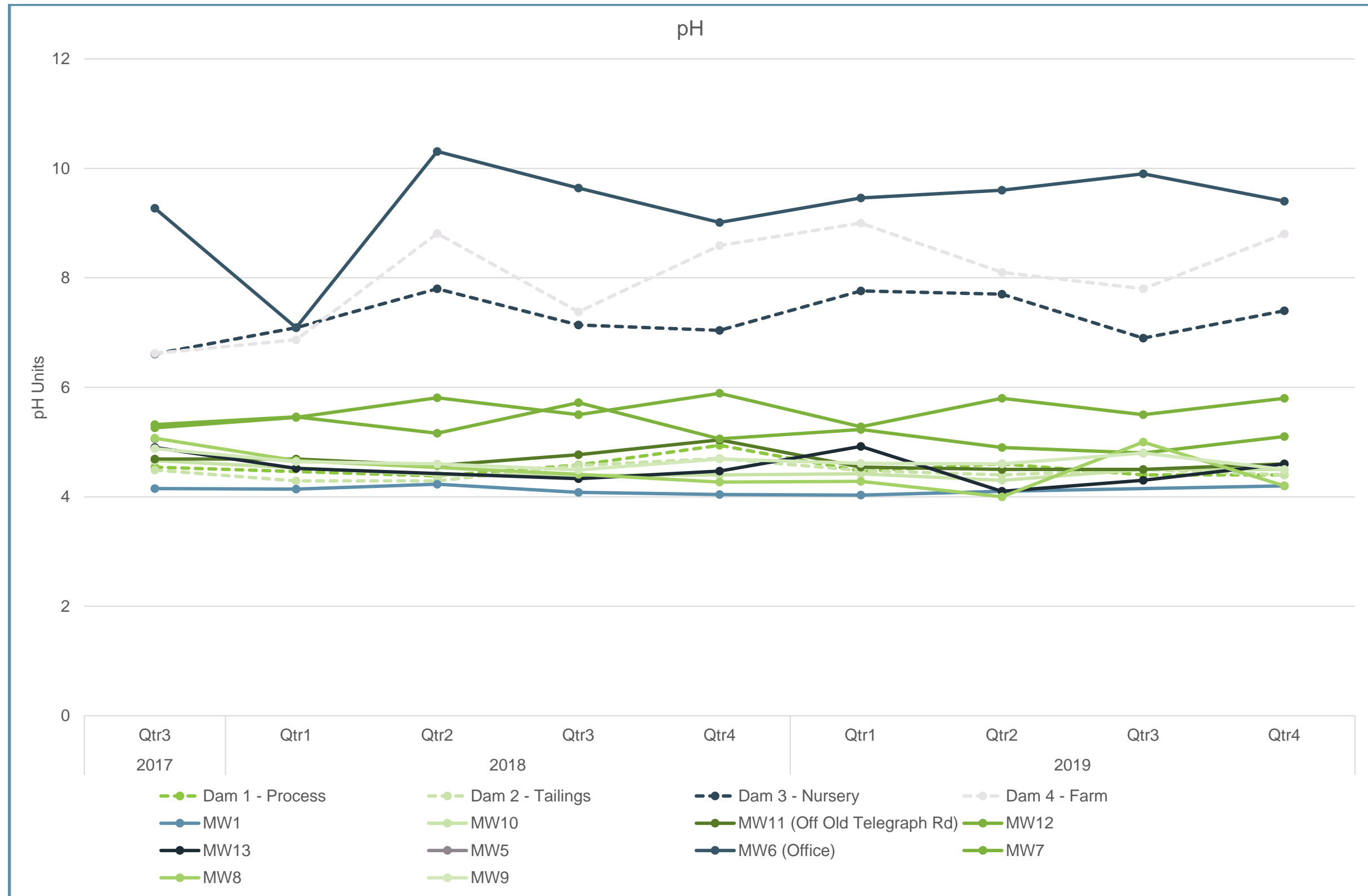
Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO ₃ mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9.0</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6.0</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
4610/13	Dam 1 - Process	27/07/2017	4.5	134	90	25	4	<5	<0.5	2	16	2			
5280/12	Dam 1 - Process	11/01/2018	No Water												
5665/12	Dam 1 - Process	5/04/2018	4.4	229	143	48	4	<30	0.8	3	29	3		0.90	14
6195/12	Dam 1 - Process	26/07/2018	4.6	209	131	57	2	<30	0.6	4	27	4		1.8	17
6496/12	Dam 1 - Process	18/10/2018	4.9	100	63	23	3	<30	0.7	1	11	2		0.59	6.5
6891/12	Dam 1 - Process	10/01/2019	4.5	162.3	101	35	2	<30	0.5	1.6	18	1.8		0.84	7.9
7210/12	Dam 1 - Process	4/04/2019	4.6	127	79	26	3		<0.5	1.6	11	2.2		0.5	6
7778/12	Dam 1 - Process	25/07/2019	4.4	167	104	41	2		<0.5	3.2	19	4.3		1.3	13
8153/12	Dam 1 - Process	18/10/2019	4.4	148	93	29	3		<0.5	1.9	16	3		0.5	8
	<i>Dam 1 - Process</i>	<i>2019 Average</i>	<i>4.5</i>	<i>151.075</i>	<i>94.25</i>	<i>32.75</i>	<i>2.5</i>	<i>#DIV/0!</i>	<i>0.5</i>	<i>2.075</i>	<i>16</i>	<i>2.825</i>	<i>#DIV/0!</i>	<i>0.785</i>	<i>8.725</i>
		<i>2019 Min</i>	<i>4.4</i>	<i>127</i>	<i>79</i>	<i>26</i>	<i>2</i>	<i>0</i>	<i>0.5</i>	<i>1.6</i>	<i>11</i>	<i>1.8</i>	<i>0</i>	<i>0.5</i>	<i>6</i>
		<i>2019 Max</i>	<i>4.6</i>	<i>167</i>	<i>104</i>	<i>41</i>	<i>3</i>	<i>0</i>	<i>0.5</i>	<i>3.2</i>	<i>19</i>	<i>4.3</i>	<i>0</i>	<i>1.3</i>	<i>13</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>1</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>4</i>	<i>4</i>
4610/14	Dam 2 - Tailings	27/07/2017	4.5	139	75	25	4	<5	<0.5	2	17	3			
5280/13	Dam 2 - Tailings	11/01/2018	4.3	254	159								<5		
5665/13	Dam 2 - Tailings	5/04/2018	4.3	249	156	48	8	<30	0.9	3	30	3		1.0	14
6195/13	Dam 2 - Tailings	26/07/2018	4.6	215	134	57	4	<30	0.5	4	25	4		1.7	17
6496/13	Dam 2 - Tailings	18/10/2018	4.7	112	70	24	2	<30	0.7	1	12	2		0.68	6.5
6891/13	Dam 2 - Tailings	10/01/2019	4.48	169.3	106	35	<1	<30	<0.5	1.6	19	1.6		0.96	6.6

Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9.0</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6.0</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
7210/13	Dam 2 - Tailings	4/04/2019	4.4	119	74	27	2		<0.5	1.3	11	2.4		0.57	5
7778/13	Dam 2 - Tailings	25/07/2019	4.5	168	105	41	2		<0.5	3.1	19	4.3		1.3	13
8153/13	Dam 2 - Tailings	18/10/2019	4.4	162	101	30	3		<0.5	1.9	17	3.1		0.62	8
	<i>Dam 2 - Tailings</i>	<i>2019 Average</i>	<i>4.4</i>	<i>154.6</i>	<i>96.5</i>	<i>33.3</i>	<i>2.3</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>2.0</i>	<i>16.5</i>	<i>2.9</i>	<i>#DIV/0!</i>	<i>0.9</i>	<i>8.2</i>
		<i>2019 Min</i>	<i>4.4</i>	<i>119.0</i>	<i>74.0</i>	<i>27.0</i>	<i>2.0</i>	<i>0.0</i>	<i>0.0</i>	<i>1.3</i>	<i>11.0</i>	<i>1.6</i>	<i>0.0</i>	<i>0.6</i>	<i>5.0</i>
		<i>2019 Max</i>	<i>4.5</i>	<i>169.3</i>	<i>106.0</i>	<i>41.0</i>	<i>3.0</i>	<i>0.0</i>	<i>0.0</i>	<i>3.1</i>	<i>19.0</i>	<i>4.3</i>	<i>0.0</i>	<i>1.3</i>	<i>13.0</i>
		<i>2019 Count</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>3.0</i>	<i>0.0</i>	<i>0.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>0.0</i>	<i>4.0</i>	<i>4.0</i>
4610/15	Dam 3 - Nursery	27/07/2017	6.6	133	77	20	9	13	3.5	3	13	4			
5280/14	Dam 3 - Nursery	11/01/2018	7.1	177	111								<5		
5665/14	Dam 3 - Nursery	5/04/2018	7.8	223	139	32	11	<30	5.3	5	17	6		<0.005	34
6195/14	Dam 3 - Nursery	26/07/2018	7.1	165	103	36	21	<30	4.5	5	17	5		<0.005	33
6496/14	Dam 3 - Nursery	18/10/2018	7.0	189	118	34	20	<30	4.2	4	16	6		0.10	27
6891/14	Dam 3 - Nursery	10/01/2019	7.76	214	134	33	16	<30	4.2	3.5	17	5.9		<0.005	25
7210/14	Dam 3 - Nursery	4/04/2019	7.7	197	123	35	14		5.2	4.6	15	5.5		<0.005	32
7778/14	Dam 3 - Nursery	25/07/2019	6.9	156	97	30	13		4	4.2	15	4.2		<0.005	27
8153/14	Dam 3 - Nursery	18/10/2019	7.4	183	114	28	13		4.4	4.3	15	4.8		<0.005	29
6891/14	Dam 3 - Nursery	10/01/2019	7.76	214	134	33	16	<30	4.2	3.5	17	5.9		<0.005	25
7210/14	Dam 3 - Nursery	4/04/2019	7.7	197	123	35	14		5.2	4.6	15	5.5		<0.005	32
7778/14	Dam 3 - Nursery	25/07/2019	6.9	156	97	30	13		4	4.2	15	4.2		<0.005	27
8153/14	Dam 3 - Nursery	18/10/2019	7.4	183	114	28	13		4.4	4.3	15	4.8		<0.005	29
	<i>Dam 3 - Nursery</i>	<i>2019 Average</i>	<i>7.4</i>	<i>187.5</i>	<i>117.0</i>	<i>31.5</i>	<i>14.0</i>	<i>#DIV/0!</i>	<i>4.5</i>	<i>4.2</i>	<i>15.5</i>	<i>5.1</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>28.3</i>
		<i>2019 Min</i>	<i>6.9</i>	<i>156.0</i>	<i>97.0</i>	<i>28.0</i>	<i>13.0</i>	<i>0.0</i>	<i>4.0</i>	<i>3.5</i>	<i>15.0</i>	<i>4.2</i>	<i>0.0</i>	<i>0.0</i>	<i>25.0</i>
		<i>2019 Max</i>	<i>7.8</i>	<i>214.0</i>	<i>134.0</i>	<i>35.0</i>	<i>16.0</i>	<i>0.0</i>	<i>5.2</i>	<i>4.6</i>	<i>17.0</i>	<i>5.9</i>	<i>0.0</i>	<i>0.0</i>	<i>32.0</i>

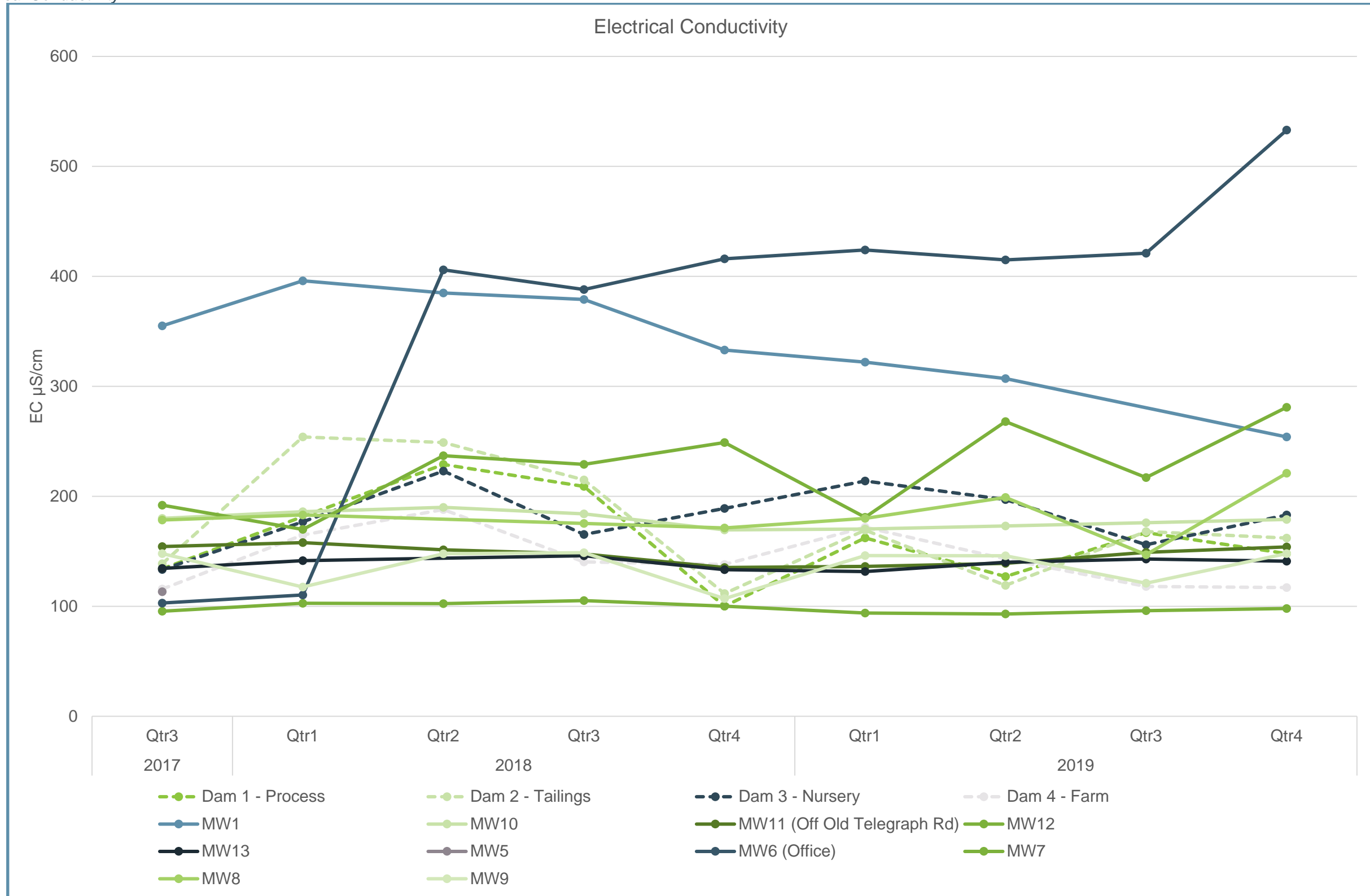
Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9.0</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6.0</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
		<i>2019 Count</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>0.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>0.0</i>	<i>0.0</i>	<i>4.0</i>
4610/16	Dam 4 - Farm	27/07/2017	6.6	116	63	20	3	15	1.7	3	13	2			
5280/15	Dam 4 - Farm	11/01/2018	6.9	165	103								<5		
5665/15	Dam 4 - Farm	5/04/2018	8.8	188	117	30	8	<30	2.8	4	18	3		0.11	25
6195/15	Dam 4 - Farm	26/07/2018	7.4	140	88	32	8	<30	2.3	4	16	2		<0.005	23
6496/15	Dam 4 - Farm	18/10/2018	8.6	138	86	26	7	<30	1.9	3	14	3		0.030	17
6891/15	Dam 4 - Farm	10/01/2019	9	171.9	107	29	7	<30	1.8	2.7	17	3.2		<0.005	16
7210/15	Dam 4 - Farm	4/04/2019	8.1	143	90	27	6		2.4	3.7	12	2.3		<0.005	21
7778/15	Dam 4 - Farm	25/07/2019	7.8	118	74	29	13		4	4.3	15	4.2		<0.005	28
8153/15	Dam 4 - Farm	18/10/2019	8.8	117	73	18	3		2.1	2.8	11	2.1		<0.005	17
	<i>Dam 4 - Farm</i>	<i>2019 Average</i>	<i>8.4</i>	<i>137.5</i>	<i>86.0</i>	<i>25.8</i>	<i>7.3</i>	<i>#DIV/0!</i>	<i>2.6</i>	<i>3.4</i>	<i>13.8</i>	<i>3.0</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>20.5</i>
		<i>2019 Min</i>	<i>7.8</i>	<i>117.0</i>	<i>73.0</i>	<i>18.0</i>	<i>3.0</i>	<i>0.0</i>	<i>1.8</i>	<i>2.7</i>	<i>11.0</i>	<i>2.1</i>	<i>0.0</i>	<i>0.0</i>	<i>16.0</i>
		<i>2019 Max</i>	<i>9.0</i>	<i>171.9</i>	<i>107.0</i>	<i>29.0</i>	<i>13.0</i>	<i>0.0</i>	<i>4.0</i>	<i>4.3</i>	<i>17.0</i>	<i>4.2</i>	<i>0.0</i>	<i>0.0</i>	<i>28.0</i>
		<i>2019 Count</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>0.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>4.0</i>	<i>0.0</i>	<i>0.0</i>	<i>4.0</i>
4610/17	Drying Area	27/07/2017	4.9	77	49	15	2	<5	<0.5	1	11	2			

The pH is naturally low in the groundwater, and since the surface water has such low buffering capacity, the water from PB1 has a high influence on the pH of the Process Dam and Dam 2. Dams 3 and 4 show little similarity to the groundwater, with pH closer to neutral.

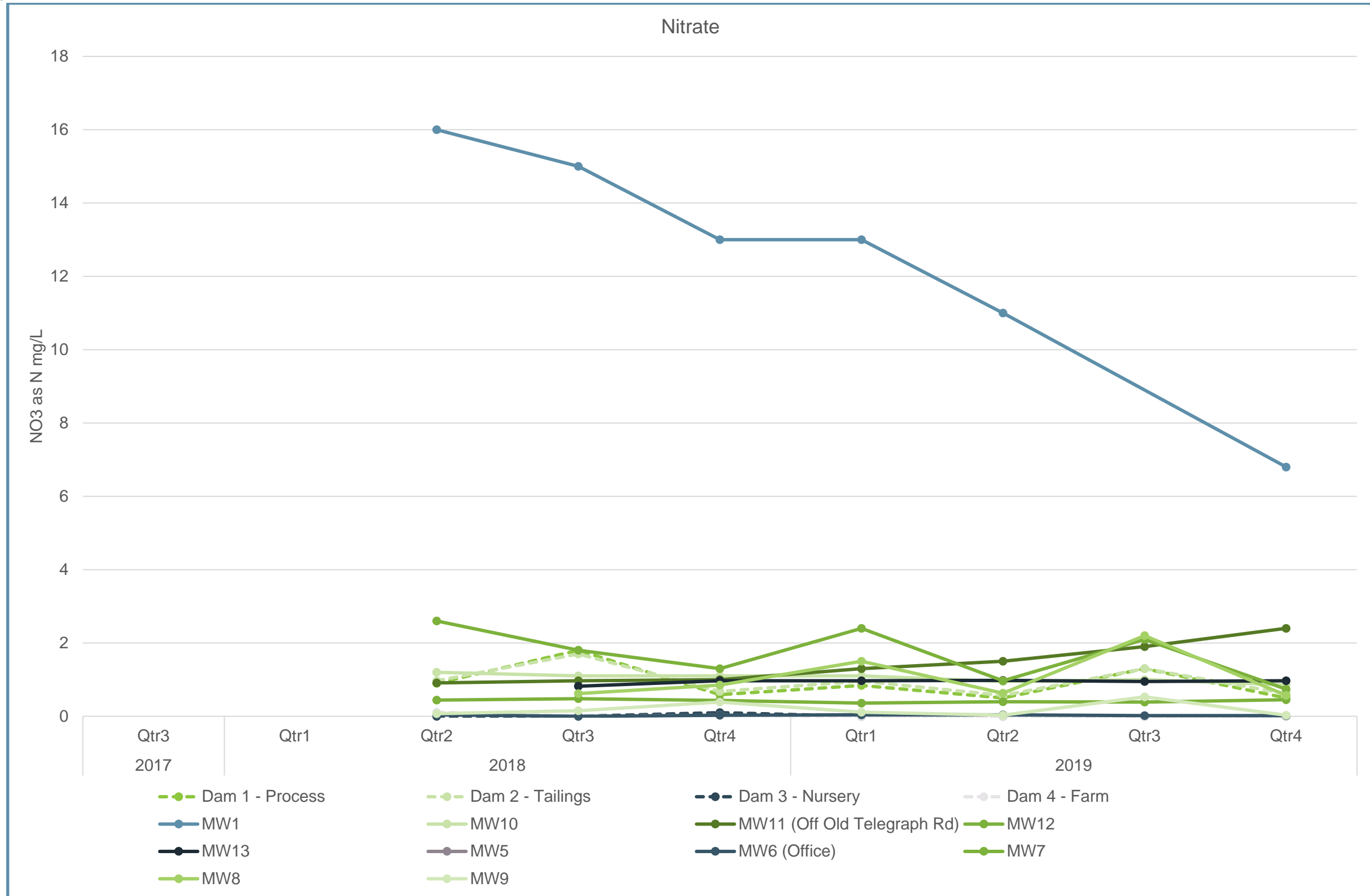
Graph 8. pH



Graph 9. Electrical Conductivity



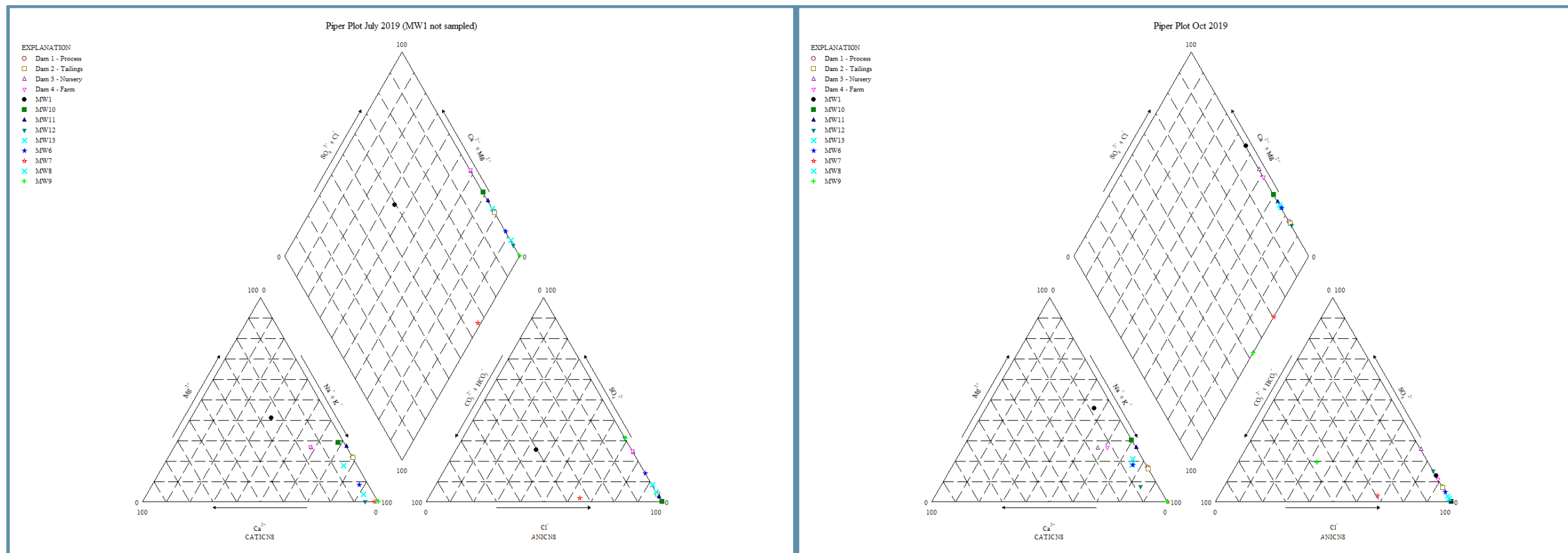
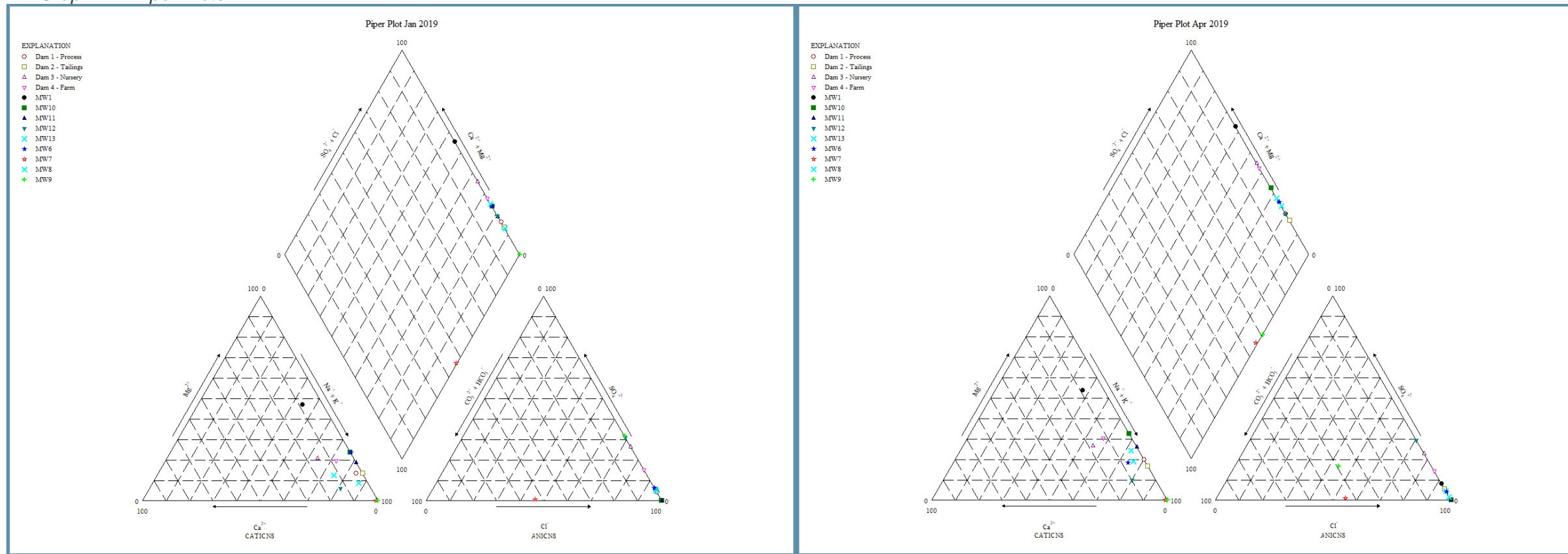
Graph 10. Nitrate



Dams 3 and 4 are influenced by surface inflows.

MW1 was not able to be sampled in the third quarter of 2019 due to reeds blocking the pump access.

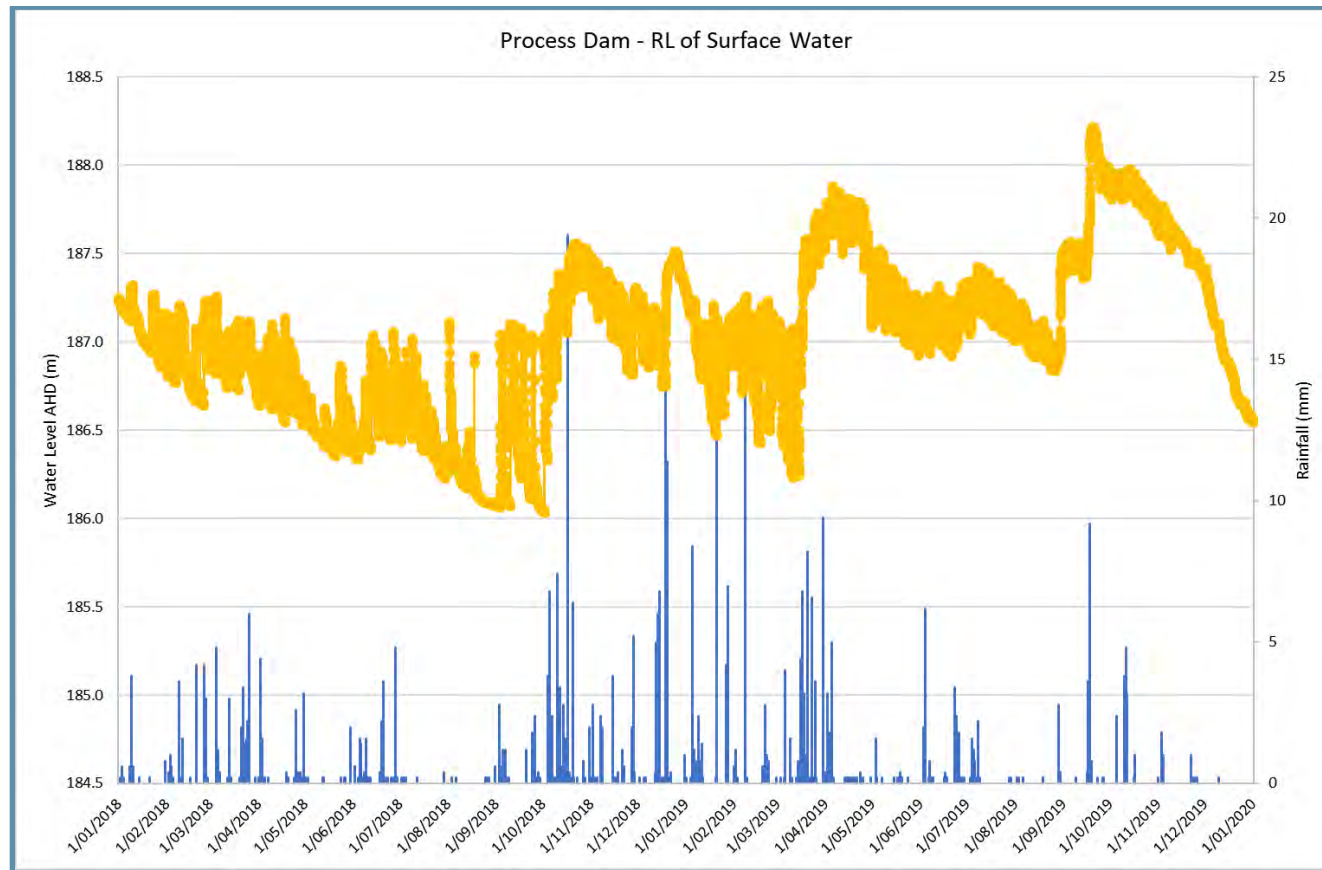
Graph 11. Piper Plots



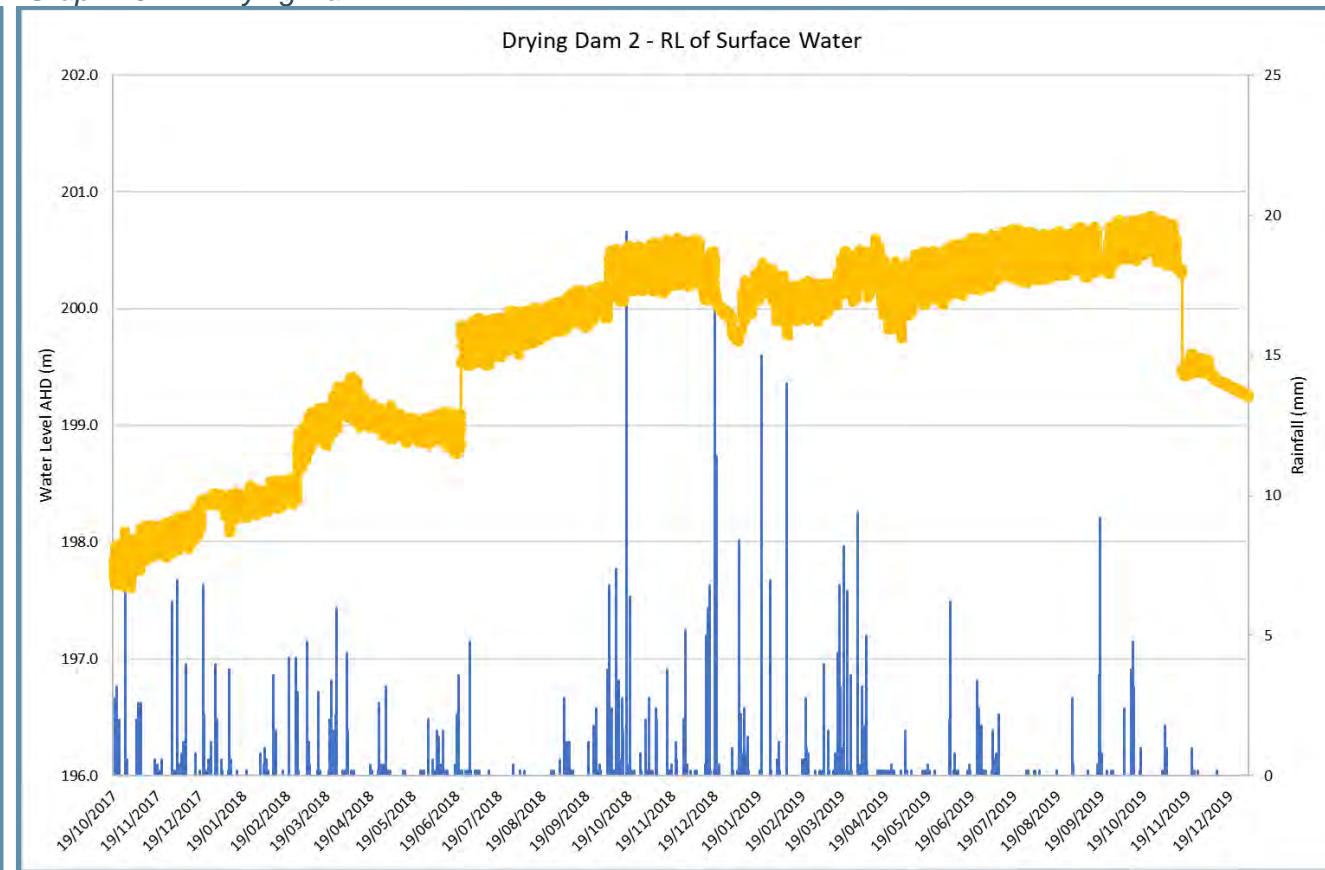
5.3.2.2 Water Depth

Automatic depth loggers were installed in all surface water dams during 2017 in accordance with consent conditions and DoI-Water requirements. Results are shown in the following graphs. Logger and Dam locations are shown on *Figure Three*.

Graph 12. Process Dam Water Level



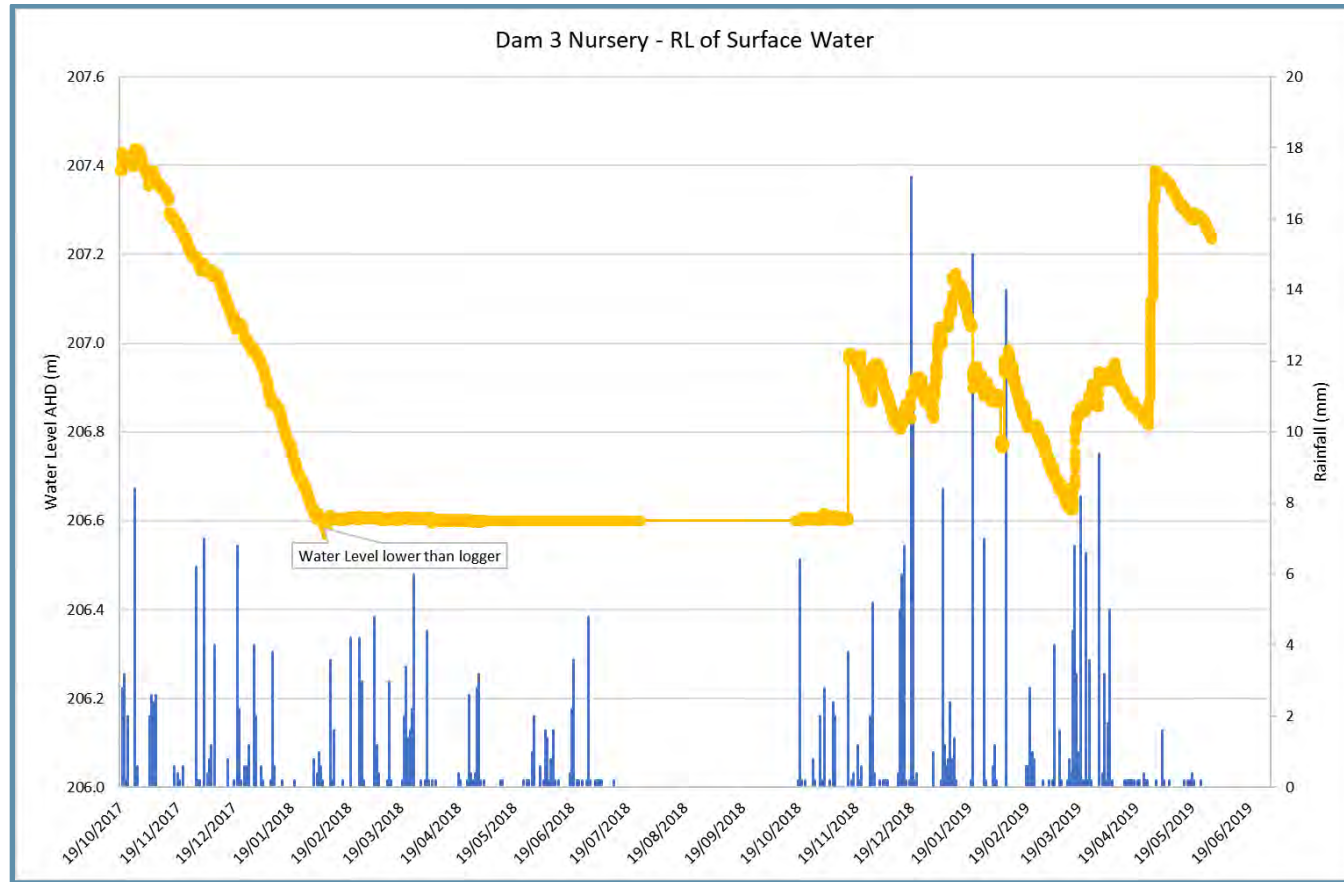
Graph 13. Drying Dam 2



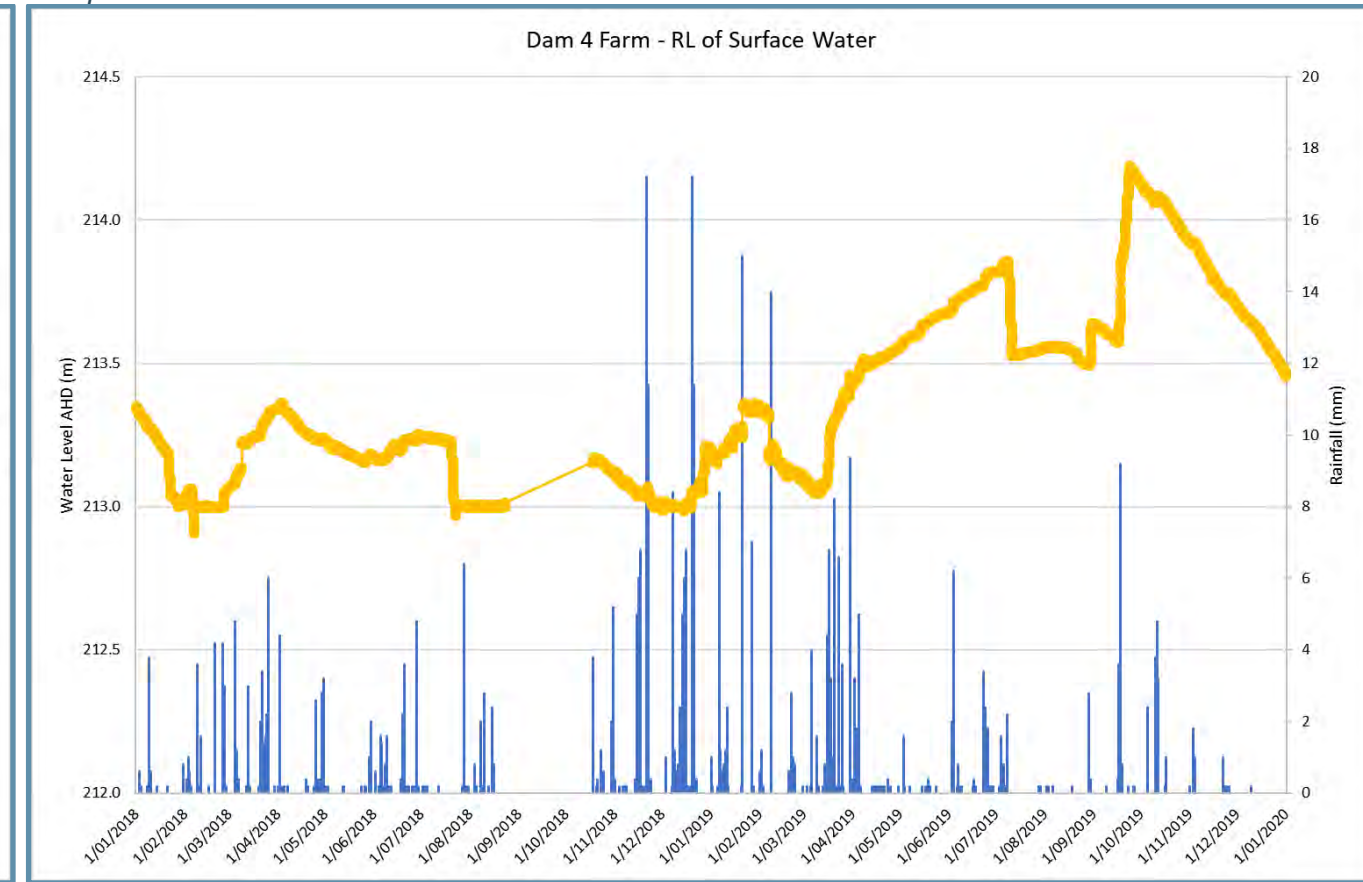
The water level in the Process Dam was below the level of silt during most of the year. The Process Dam is replenished from Dam 2.

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

Graph 14. Nursery Dam 3



Graph 15. Farm Dam 4



The water from both Dam 3 and Dam 4 is used by the landowner in the Nursery and farming activities and not by the quarry operations. Both dams were dry for a significant portion of the year. Loggers were removed for repairs in July 2018 and replaced in October 2018.

5.3.3 Interpretation and Effectiveness of Controls

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

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

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

5.3.4 Measures Proposed for Improvement

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

- Surface water depth and quality monitoring will continue during the next reporting period.

5.4 GROUNDWATER

A Groundwater Study, Groundwater Management Plan (GWMP) and Groundwater Monitoring Program was submitted to the DPE and DoI-W to comply with the current conditions of consent (Mod 2), and approved by the DPE in August 2018.

5.4.1 Requirements and Predictions

5.4.1.1 Groundwater Monitoring

There are no performance criteria for water quality parameters within the consent conditions or the EPL. Groundwater level monitoring is required under the Mod 2 consent conditions 42-44. It is not possible to measure depth within PT84PB1 due to the attached infrastructure; the pumping records are supplied in *Appendix H*. PT84PB2 is owned and operated by the landowner; the quarry operators have no use or access.

Table 24. Groundwater Level Monitoring

Parameter	Criteria	Units	Source
Groundwater Level	Monitored continuously	Metres AHD	Consent Mod 2 condition 43

5.4.2 Monitoring Results Compliance and Trends

The following graphs illustrate the groundwater level monitoring results from the continuous automatic data loggers and corresponding manual measurements undertaken each month. Groundwater levels are currently monitored in nine boreholes located on the site. Groundwater levels are manually measured for depth each month using a groundwater dipper. Data is downloaded from groundwater loggers where present. MW1 logger was installed prior to 2015; the remaining loggers were installed in 2017. Following anomalous readings from the MW5 logger during 2017, the bore was investigated and discovered to have collapsed. The logger was relocated to a functioning bore and MW5 abandoned and replaced by nearby MW8.

Loggers in MW1 and MW12 were reinstated in November 2018 following repairs undertaken between May/June 2018 and October 2018. During this time manual readings continued.

The groundwater quality results are shown in Table 24, with trends shown in the graphs in *section 5.3.2.1 and Graph 16*.

Graph 16. Groundwater Depth Trends

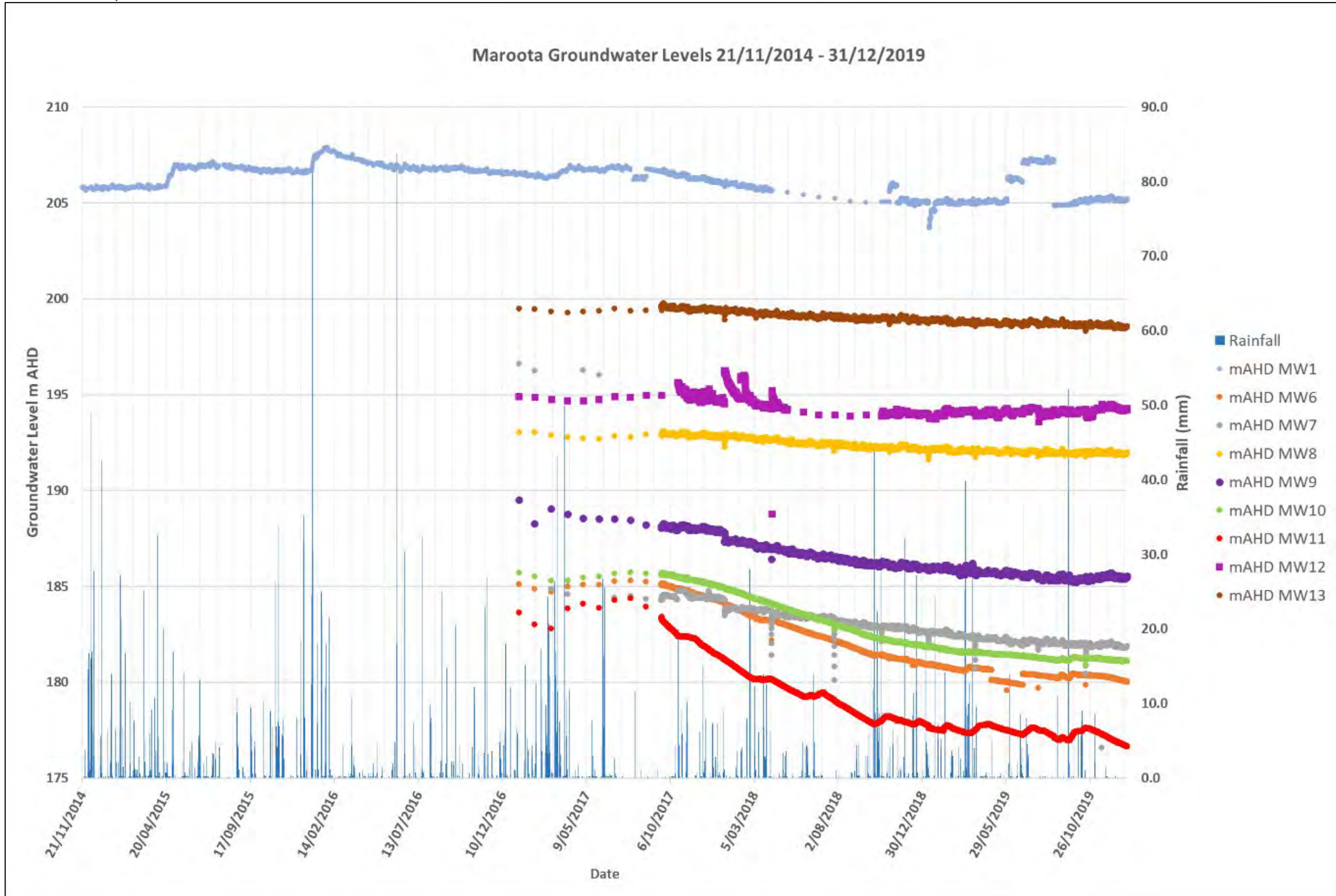


Table 25. Groundwater Quality Results

Reference	Description	Date	pH	Electrical Conductivity $\mu\text{S/cm}$	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO_3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	1/01/2018	9	4500		700					460				
	<i>ANZECC Irrigation Use min</i>	1/01/2018	6	1900		350					230				
4610/1	MW1	27/07/2017	4.2	355	247	47	4	<5	5.5	14	25	4			
5280/1	MW1	11/01/2018	4.1	396	247								<5		
5665/1	MW1	5/04/2018	4.2	385	241	57	5	<30	7	17	24	3		16	88
6195/1	MW1	26/07/2018	4.1	379	237	63	61	<30	5.4	18	18	4		15	87
6496/1	MW1	1/11/2018	4	333	208	62	10	<30	4.5	14	16	4		13	70
6891/1	MW1	10/01/2019	4.03	322	201	50	4	<30	3.6	12	19	4.5		13	58
7210/1	MW1	4/04/2019	4.1	307	192	51	6		3.6	13	15	3.6		11	63
7778/1	MW1	25/07/2019													
8153/1	MW1	18/10/2019	4.2	254	159	41	8		2.9	10	17	3.4		6.8	49
	<i>MW1</i>	<i>2019 Average</i>	4	294	184	47	6	#DIV/0!	3	12	17	4	#DIV/0!	10	57
		<i>2019 Min</i>	4	254	159	41	4	0	3	10	15	3	0	7	49
		<i>2019 Max</i>	4	322	201	51	8	0	4	13	19	5	0	13	63
		<i>2019 Count</i>	3	3	3	3	3	0	3	3	3	3	0	3	3
4610/7	MW10	27/07/2017	4.7	180	108	39	<1	<5	0.6	4	27	1			
5280/6	MW10	11/01/2018	4.5	186	116								<5		
5665/6	MW10	5/04/2018	4.4	190	119	43	<1	<30	<0.5	4	24	1		1.2	17
6195/6	MW10	26/07/2018	4.4	184	115	45	3	<30	<0.5	<0.5	23	<0.5		1.1	<3
6496/6	MW10	1/11/2018	4.4	170	106	49	<1	<30	0.8	4	16	1		1.1	17
6891/6	MW10	10/01/2019	4.42	170.2	106	41	<1	<30	<0.5	3	18	0.5		1.1	13
7210/6	MW10	4/04/2019	4.3	173	108	44	<1		<0.5	4.4	17	0.6		0.95	18
7778/6	MW10	25/07/2019	4.5	176	110	38	<1		0.6	4.1	18	0.8		1	19
8153/6	MW10	18/10/2019	4.5	179	112	38	<1		<0.5	4.2	18	0.6		0.86	17
	<i>MW10</i>	<i>2019 Average</i>	4	175	109	40	#DIV/0!	#DIV/0!	1	4	18	1	#DIV/0!	1	17
		<i>2019 Min</i>	4	170	106	38	0	0	1	3	17	1	0	1	13
		<i>2019 Max</i>	5	179	112	44	0	0	1	4	18	1	0	1	19
		<i>2019 Count</i>	4	4	4	4	0	0	1	4	4	4	0	4	4
4610/8	MW11 (Off Old Telegraph Rd)	27/07/2017	4.7	154	90	32	<1	<5	<0.5	3	19	1			
5280/7	MW11 (Off Old Telegraph Rd)	11/01/2018	4.7	158	99								<5		

Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
5665/7	MW11 (Off Old Telegraph Rd)	5/04/2018	4.6	151	95	36	<1	<30	<0.5	3	19	2		0.91	13
6195/7	MW11 (Off Old Telegraph Rd)	26/07/2018	4.8	148	92	36	2	<30	<0.5	3	16	2		0.97	13
6496/7	MW11 (Off Old Telegraph Rd)	1/11/2018	5.0	135	85	39	2	<30	3	2	14	2		1	17
6891/7	MW11 (Off Old Telegraph Rd)	10/01/2019	4.5	136.3	85	32	<1	<30	<0.5	1.9	15	1.1		1.3	8
7210/7	MW11 (Off Old Telegraph Rd)	4/04/2019	4.5	139	87	33	<1		<0.5	2.9	15	1.3		1.5	12
7778/7	MW11 (Off Old Telegraph Rd)	25/07/2019	4.5	149	93	29	1		<0.5	3.3	16	1.4		1.9	14
8153/7	MW11 (Off Old Telegraph Rd)	18/10/2019	4.6	154	96	28	<1		<0.5	3.2	16	1.3		2.4	13
	<i>MW11 (Off Old Telegraph Rd)</i>	<i>2019 Average</i>	<i>5</i>	<i>145</i>	<i>90</i>	<i>31</i>	<i>1</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>3</i>	<i>16</i>	<i>1</i>	<i>#DIV/0!</i>	<i>2</i>	<i>12</i>
		<i>2019 Min</i>	<i>5</i>	<i>136</i>	<i>85</i>	<i>28</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>15</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>8</i>
		<i>2019 Max</i>	<i>5</i>	<i>154</i>	<i>96</i>	<i>33</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>3</i>	<i>16</i>	<i>1</i>	<i>0</i>	<i>2</i>	<i>14</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>4</i>	<i>4</i>
4610/9	MW12	27/07/2017	5.3	96	72	13	7	11	1.9	1	12	<0.5			
5280/8	MW12	11/01/2018	5.5	103	64								<5		
5665/8	MW12	5/04/2018	5.2	103	64	14	9	<30	1.5	1	13	<0.5		0.44	6
6195/8	MW12	26/07/2018	5.7	105	66	16	13	35	<0.5	<0.5	20	<0.5		0.48	<3
6496/8	MW12	18/10/2018	5.1	100	63	18	11	<30	1.5	<0.5	15	<0.5		0.43	3.7
6891/8	MW12	10/01/2019	5.23	93.9	59	15	9	<30	1.8	0.5	13	<0.5		0.36	6.6
7210/8	MW12	4/04/2019	4.9	93	58	16	9		1.2	0.7	11	<0.5		0.4	6
7778/8	MW12	25/07/2019	4.8	96	60	13	8		0.6	<0.5	12	<0.5		0.39	<3
8153/8	MW12	18/10/2019	5.1	98	61	100	24		1	0.6	13	<0.5		0.45	5
	<i>MW12</i>	<i>2019 Average</i>	<i>5</i>	<i>95</i>	<i>60</i>	<i>36</i>	<i>13</i>	<i>#DIV/0!</i>	<i>1</i>	<i>1</i>	<i>12</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>0</i>	<i>6</i>
		<i>2019 Min</i>	<i>5</i>	<i>93</i>	<i>58</i>	<i>13</i>	<i>8</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>11</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>5</i>
		<i>2019 Max</i>	<i>5</i>	<i>98</i>	<i>61</i>	<i>100</i>	<i>24</i>	<i>0</i>	<i>2</i>	<i>1</i>	<i>13</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>7</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>4</i>	<i>3</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>3</i>
4610/10	MW13	27/07/2017	4.9	134	92	27	1	<5	1.6	2	16	<0.5			
5280/9	MW13	11/01/2018	4.5	142	88								<5		
5665/9	MW13	5/04/2018													
6195/9	MW13	26/07/2018	4.3	146	91	28	4	<30	<0.5	<0.5	23	<0.5		0.82	<3
6496/9	MW13	1/11/2018	4.5	133	83	36	3	<30	1.6	2	14	1		0.97	11

Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
6891/9	MW13	10/01/2019	4.92	131.6	82	29	2	<30	2.3	1.4	16	<0.5		0.97	11
7210/9	MW13	4/04/2019	4.1	140	88	32	2		0.7	1.7	13	<0.5		0.98	9
7778/9	MW13	25/07/2019	4.3	143	89	29	2		1	1.9	15	0.8		0.95	10
8153/9	MW13	18/10/2019	4.6	141	88	28	1		1.1	2	16	<0.5		0.97	11
	<i>MW13</i>	<i>2019 Average</i>	<i>4</i>	<i>139</i>	<i>87</i>	<i>30</i>	<i>2</i>	<i>#DIV/0!</i>	<i>1</i>	<i>2</i>	<i>15</i>	<i>1</i>	<i>#DIV/0!</i>	<i>1</i>	<i>10</i>
		<i>2019 Min</i>	<i>4</i>	<i>132</i>	<i>82</i>	<i>28</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>13</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>9</i>
		<i>2019 Max</i>	<i>5</i>	<i>143</i>	<i>89</i>	<i>32</i>	<i>2</i>	<i>0</i>	<i>2</i>	<i>2</i>	<i>16</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>11</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>1</i>	<i>0</i>	<i>4</i>	<i>4</i>
4610/2	MW5	27/07/2017	5.1	113	61	22	2	5	1.4	2	13	2			
4610/3	MW6 (Office)	27/07/2017	9.3	103	55	18	<1	19	2.3	1	12	5			
5280/2	MW6 (Office)	11/01/2018	7.1	110	69								<5		
5665/2	MW6 (Office)	5/04/2018	10.3	406	254	49	21	83	<0.5	<0.5	84	1		0.04	<3
6195/2	MW6 (Office)	26/07/2018	9.6	388	242	65	8	76	0.8	<0.5	71	1		<0.005	<3
6496/2	MW6 (Office)	1/11/2018	9	416	260	84	2	87	1.6	1	78	1		0.03	7.5
6891/2	MW6 (Office)	10/01/2019	9.46	424	265	75	1	74	0.7	<0.5	110	1		0.04	<3
7210/2	MW6 (Office)	4/04/2019	9.6	415	259	85	2		0.7	<0.5	96	1.1		0.04	<3
7778/2	MW6 (Office)	25/07/2019	9.9	421	263	85	3		0.7	<0.5	59	1.2		0.02	<3
8153/2	MW6 (Office)	18/10/2019	9.4	533	333	88	5		<0.5	<0.5	61	0.9		0.02	<3
	<i>MW6 (Office)</i>	<i>2019 Average</i>	<i>10</i>	<i>448</i>	<i>280</i>	<i>83</i>	<i>3</i>	<i>74</i>	<i>1</i>	<i>#DIV/0!</i>	<i>82</i>	<i>1</i>	<i>#DIV/0!</i>	<i>0</i>	<i>#DIV/0!</i>
		<i>2019 Min</i>	<i>9</i>	<i>415</i>	<i>259</i>	<i>75</i>	<i>1</i>	<i>74</i>	<i>1</i>	<i>0</i>	<i>59</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>
		<i>2019 Max</i>	<i>10</i>	<i>533</i>	<i>333</i>	<i>88</i>	<i>5</i>	<i>74</i>	<i>1</i>	<i>0</i>	<i>110</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>1</i>	<i>3</i>	<i>0</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>4</i>	<i>0</i>
4610/4	MW7	27/07/2017	5.3	192	215	29	9	12	<0.5	<0.5	59	<0.5			
5280/3	MW7	11/01/2018	5.5	170	106								<5		
5665/3	MW7	5/04/2018	5.8	237	148	30	18	<30	<0.5	<0.5	52	<0.5		2.6	<3
6195/3	MW7	26/07/2018	5.5	229	143	30	23	<30	<0.5	<0.5	40	<0.5		1.8	<3
6496/3	MW7	18/10/2018	5.9	249	156	34	22	34	<0.5	<0.5	50	<0.5		1.3	<3
6891/3	MW7	10/01/2019	5.28	181	113	29	18	<30	<0.5	<0.5	46	<0.5		2.4	<3
7210/3	MW7	4/04/2019	5.8	268	167	45	23		<0.5	<0.5	62	0.6		0.97	<3

Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
7778/3	MW7	25/07/2019	5.5	217	136	28	17		<0.5	<0.5	27	<0.5		2.1	<3
8153/3	MW7	18/10/2019	5.8	281	176	31	24		<0.5	<0.5	49	<0.5		0.74	<3
	<i>MW7</i>	<i>2019 Average</i>	<i>6</i>	<i>237</i>	<i>148</i>	<i>33</i>	<i>21</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>46</i>	<i>1</i>	<i>#DIV/0!</i>	<i>2</i>	<i>#DIV/0!</i>
		<i>2019 Min</i>	<i>5</i>	<i>181</i>	<i>113</i>	<i>28</i>	<i>17</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>27</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>0</i>
		<i>2019 Max</i>	<i>6</i>	<i>281</i>	<i>176</i>	<i>45</i>	<i>24</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>62</i>	<i>1</i>	<i>0</i>	<i>2</i>	<i>0</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>1</i>	<i>0</i>	<i>4</i>	<i>0</i>
4610/5	MW8	27/07/2017	5.1	179	116	37	2	8	3.8	3	26	<0.5			
5280/4	MW8	11/01/2018	4.7	183	114								<5		
5665/4	MW8	5/04/2018	No sample												
6195/4	MW8	26/07/2018	4.4	175	110	46	2	<30	0.8	4	19	<0.5		0.62	16
6496/4	MW8	1/11/2018	4.3	171	107	49	5	<30	<0.5	2	17	<0.5		0.85	9.1
6891/4	MW8	10/01/2019	4.28	180	112	38	3	<30	1.1	1.4	27	<0.5		1.5	8.7
7210/4	MW8	4/04/2019	4	199	124	47	1		0.7	3	17	<0.5		0.63	14
7778/4	MW8	25/07/2019	5	147	92	25	3		1	0.5	25	<0.5		2.2	5
8153/4	MW8	18/10/2019	4.2	221	138	45	1		1	3.1	21	<0.5		0.57	15
	<i>MW8</i>	<i>2019 Average</i>	<i>4</i>	<i>187</i>	<i>117</i>	<i>39</i>	<i>2</i>	<i>#DIV/0!</i>	<i>1</i>	<i>2</i>	<i>23</i>	<i>#DIV/0!</i>	<i>#DIV/0!</i>	<i>1</i>	<i>11</i>
		<i>2019 Min</i>	<i>4</i>	<i>147</i>	<i>92</i>	<i>25</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>17</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>5</i>
		<i>2019 Max</i>	<i>5</i>	<i>221</i>	<i>138</i>	<i>47</i>	<i>3</i>	<i>0</i>	<i>1</i>	<i>3</i>	<i>27</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>15</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>4</i>
4610/6	MW9	27/07/2017	4.9	148	96	24	2	<5	2.6	2	16	1			
5280/5	MW9	11/01/2018	4.6	118	73								<5		
5665/5	MW9	5/04/2018	4.6	148	92	32	2	<30	1.5	2	20	<0.5		0.07	11
6195/5	MW9	26/07/2018	4.5	149	93	32	8	<30	1	2	16	<0.5		0.15	10
6496/5	MW9	1/11/2018	4.7	107	67	29	6	<30	3.1	1	14	<0.5		0.39	11
6891/5	MW9	10/01/2019	4.61	146.2	91	33	3	<30	<0.5	3.3	20	0.5		0.11	13
7210/5	MW9	4/04/2019	4.6	146	91	35	2		1.3	2	15	0.5		0.03	11
7778/5	MW9	25/07/2019	4.8	121	76	23	5		0.6	0.8	16	<0.5		0.53	5
8153/5	MW9	18/10/2019	4.5	148	92	30	2		1	2	16	<0.5		0.03	11
	<i>MW9</i>	<i>2019 Average</i>	<i>5</i>	<i>140</i>	<i>88</i>	<i>30</i>	<i>3</i>	<i>#DIV/0!</i>	<i>1</i>	<i>2</i>	<i>17</i>	<i>1</i>	<i>#DIV/0!</i>	<i>0</i>	<i>10</i>

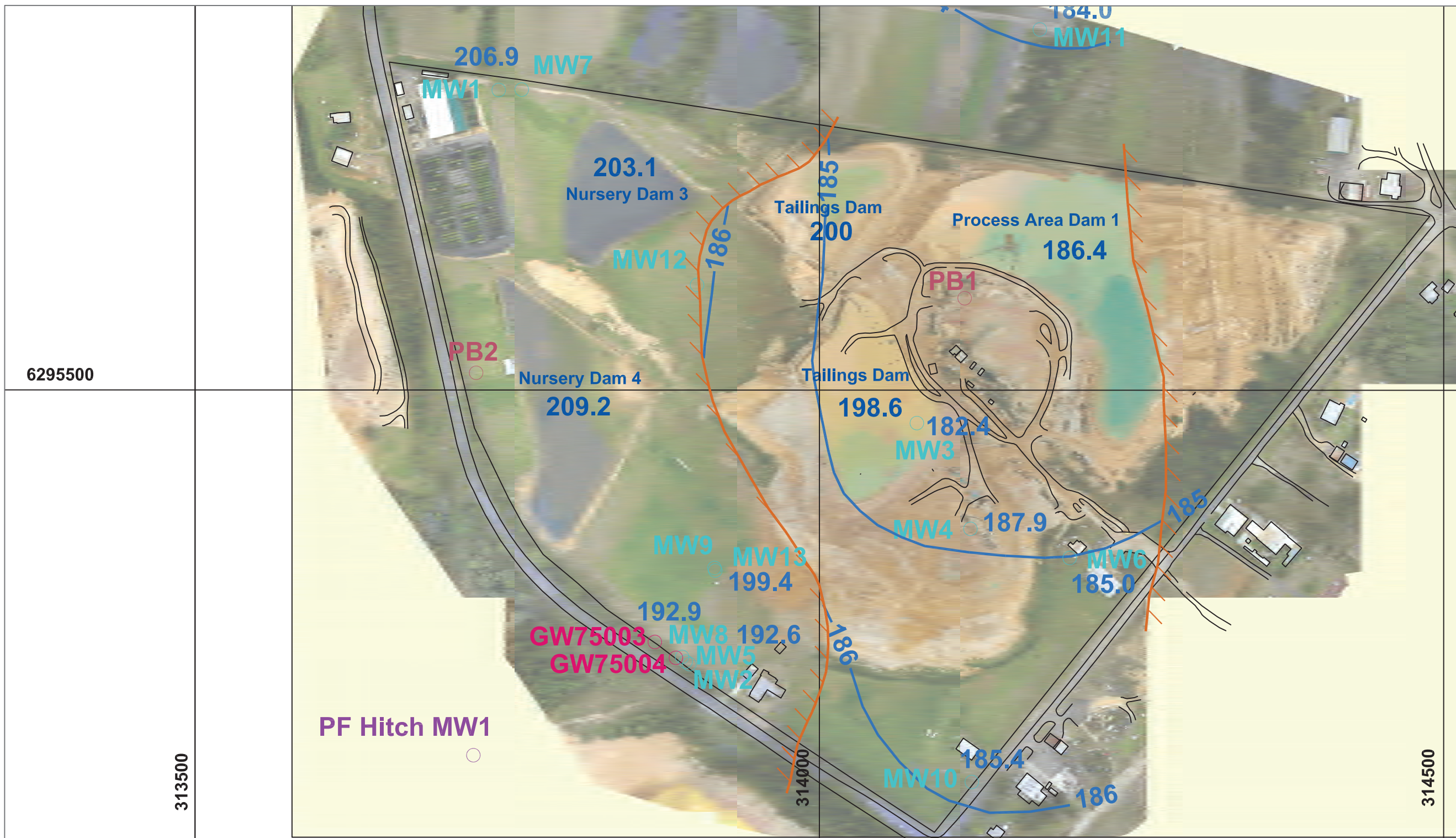
Reference	Description	Date	pH	Electrical Conductivity µS/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sulphate mg/L	Total Alkalinity as CaCO3 mg/L	Calcium mg/L	Magnesium mg/L	Sodium mg/L	Potassium mg/L	Oil and Grease mg/L	Nitrate as N mg/L	Total Hardness mg/L
	<i>ANZECC Irrigation Use max</i>	<i>1/01/2018</i>	<i>9</i>	<i>4500</i>		<i>700</i>					<i>460</i>				
	<i>ANZECC Irrigation Use min</i>	<i>1/01/2018</i>	<i>6</i>	<i>1900</i>		<i>350</i>					<i>230</i>				
		<i>2019 Min</i>	<i>5</i>	<i>121</i>	<i>76</i>	<i>23</i>	<i>2</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>15</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>5</i>
		<i>2019 Max</i>	<i>5</i>	<i>148</i>	<i>92</i>	<i>35</i>	<i>5</i>	<i>0</i>	<i>1</i>	<i>3</i>	<i>20</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>13</i>
		<i>2019 Count</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>4</i>	<i>0</i>	<i>3</i>	<i>4</i>	<i>4</i>	<i>2</i>	<i>0</i>	<i>4</i>	<i>4</i>
4610/11	PB1	27/07/2017	4.6	148	88	30	<1	<5	<0.5	3	19	1			

MW1 was unable to be sampled in July 2019 due to rootlets blocking the pump.

Figure Seven. Wet Weather High Groundwater Level

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Wet Weather High Groundwater Level Maroota Sands (Feb 2018)	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	Dundon Consulting Pty Ltd Figure 7 Dwg No. 06-0318-020d 08/03/2018	Our Ref:	8566_HMA_ARCR2019_C007_V0_F7.cdr
Figure:	SEVEN	Council:	Hills Shire Council	Survey:	Dundon Consulting Pty Ltd 08/03/2018	Plan By:	LT/JD
Sheet:	1 of 2	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V0 13/02/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton


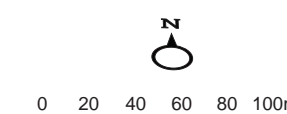
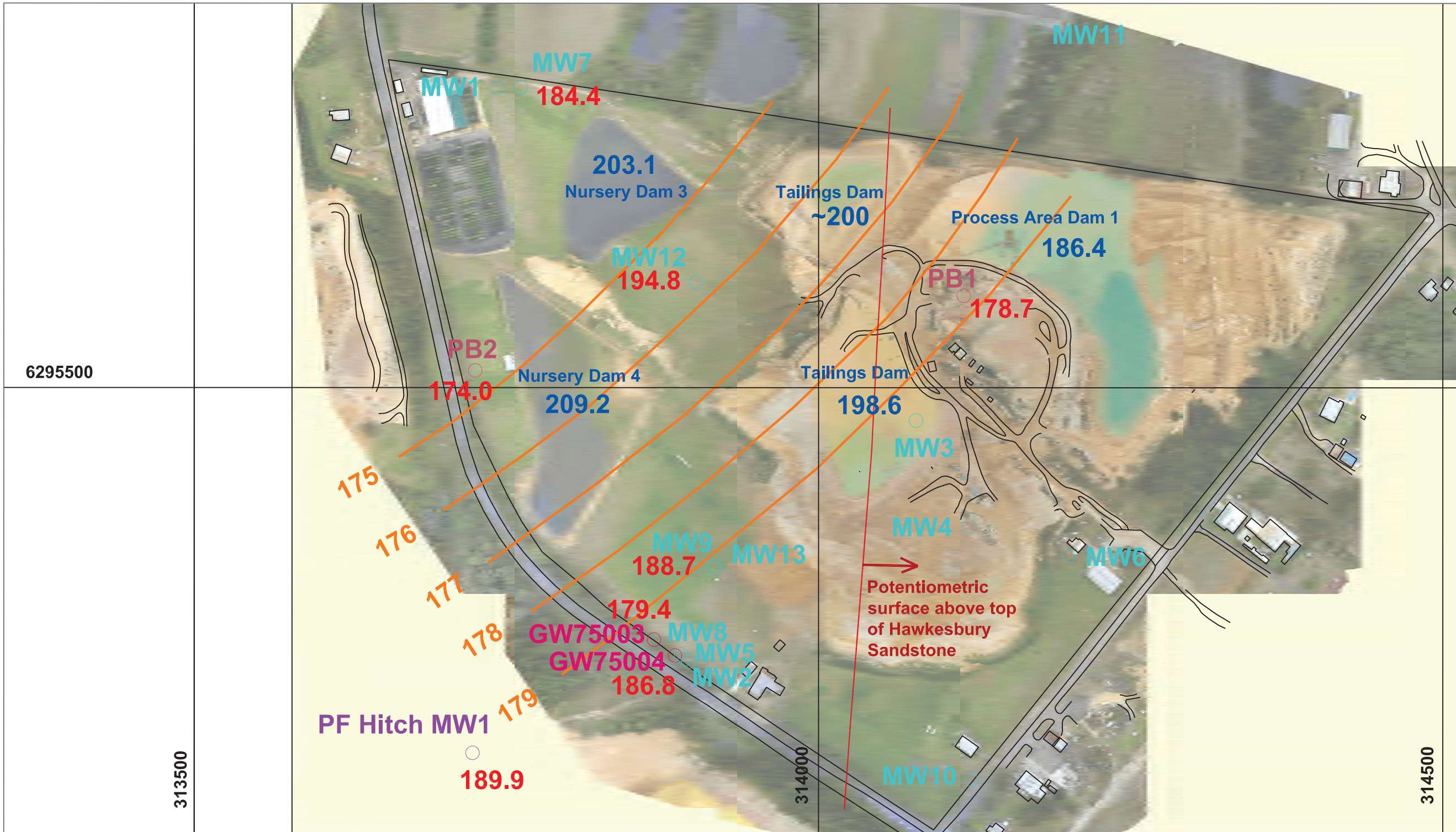
This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.



LEGEND: Hodgson monitoring bore Hodgson production bore 185.2 Maroota Sands water level Contours of wet weather high GW level Edge of saturated Maroota Sands	DATE: 8 March 2018 SCALE:	Hodgson Quarry and Plant Pty Ltd ROBERTS ROAD MAROOTA SAND QUARRY Wet Weather High Groundwater Level Maroota Sands (February 2018)
	PROJECT NO: 06-0318 AUTHOR: PD	
	DRAWING NO: 06-0318-020d REVISION: D	
	Dundon Consulting Pty Ltd	
		Figure 7

Plan of:	Annual Review & Compliance Report 2019 for Roberts Road Maroota Sand Quarry - Wet Weather High Groundwater Level Hawkesbury Sandstone (Feb 2018)	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	Dundon Consulting Pty Ltd Figure 16 Dwg No. 06-0318-021d 08/03/2018	Our Ref:	8566_HMA_ARCR2019_C007_V0_F7.cdr
Figure:	SEVEN	Council:	Hills Shire Council	Survey:	Dundon Consulting Pty Ltd 08/03/2018	Plan By:	LT/JD
Sheet:	2 of 2	Tenures:	N/A	Projection:	MGA	Project Manager:	LT
Version/Date:	V0 13/02/2020	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	1m	Office:	Thornton

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

LEGEND:

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

DATE:	8 March 2018	SCALE:	
PROJECT NO:	06-0318	AUTHOR:	PD
DRAWING NO:	06-0318-021d	REVISION:	D
Dundon Consulting Pty Ltd			

Hodgson Quarry and Plant Pty Ltd

ROBERTS ROAD MAROOTA SAND QUARRY
Wet Weather High Groundwater Level
Hawkesbury Sandstone (February 2018)

Figure 16

5.4.3 Interpretation and Effectiveness of Controls

As the limit on the depth of extraction is defined to be 2m above the Wet Weather High Groundwater level, groundwater monitoring is essential to determine this limit. Consent Mod 2 defines the Wet Weather high groundwater level as *'the rolling average of all recorded groundwater level measurements at any monitoring location on the site, as the first recorded following any rainfall event of at least 50mm over any 24hour period, and as contour mapped using this data'*. Rainfall data is also required to assist in the determining of the limit of extraction. The site received 52.2mm rainfall on 18th September 2019. As can be seen on Graph 16 following the rainfall event groundwater levels for most holes temporarily rose then continued to fall at similar rates to previous. As the groundwater level did not rise above previously recorded levels, the Wet Weather High Groundwater Level remains as shown on Figure Seven.

Aerial survey was undertaken May 2016 as shown in *Figure Four*. Spot survey has not been obtained this report period.

5.4.4 Measures Proposed for Improvement

Specific monitoring improvements to be investigated are as follows.

- Continue groundwater and surface water level monitoring and report in accordance with the approved Groundwater Monitoring Program and Groundwater Management Plan.
- Undertake water quality monitoring and reporting in accordance with the approved Groundwater Monitoring Program and Water Management Plan.

5.5 SITE WATER BALANCE

A Surface Water Management Plan including the Site Water Balance was submitted to the DoI-W and DPE to comply with the current conditions of consent (Mod 2) and was approved by the DPE in August 2018.

5.5.1 Requirements and Predictions

Condition 42 (a) of the Mod 2 consent states:

[The Surface Water Management Plan includes]:

Site Water Balance that:

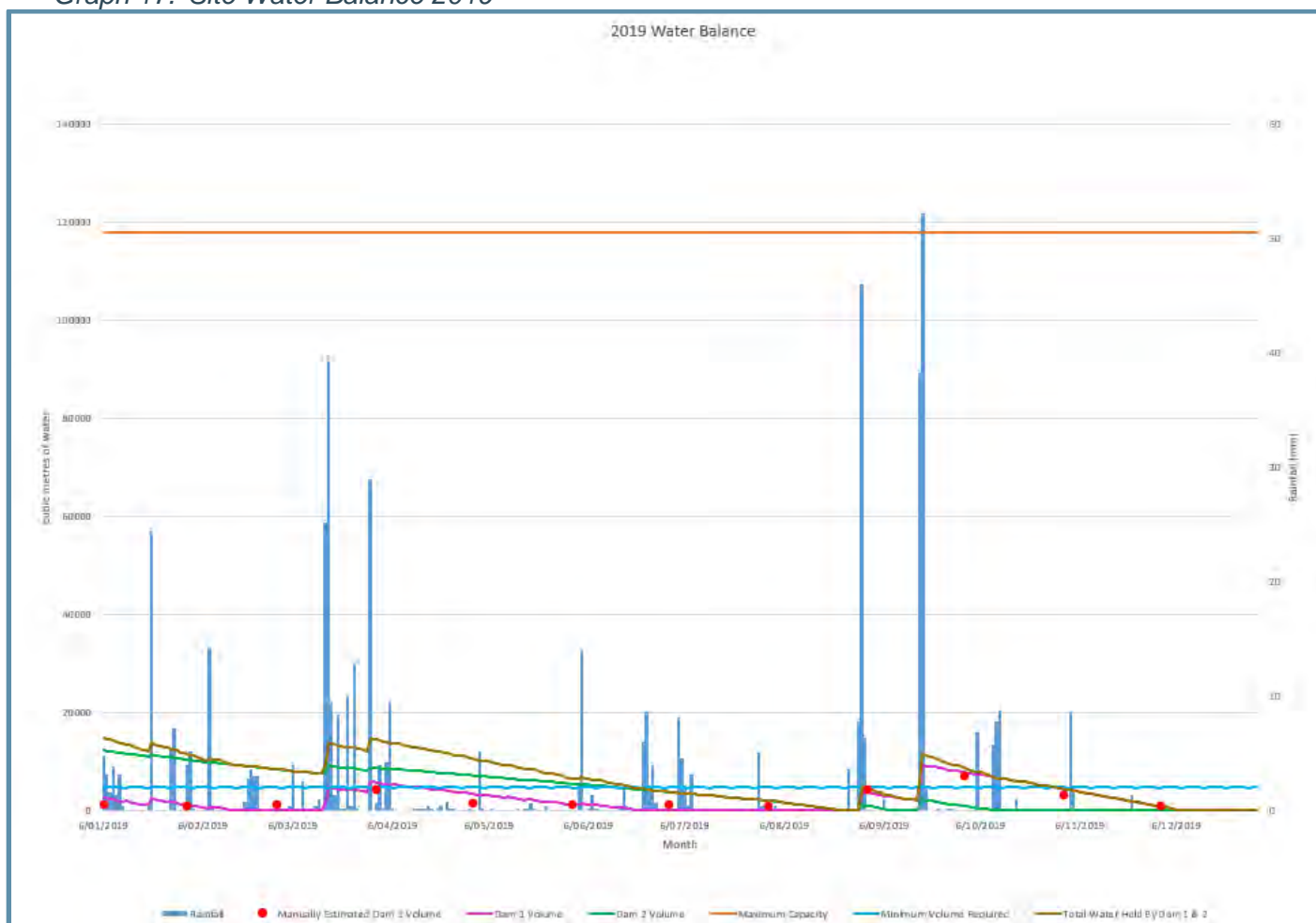
- *includes details of:*
- *sources and security of water supply, including contingency planning;*
- *water use on site;*
- *water management on site, including groundwater inflows to the quarry voids and site discharges; and*
- *audit and reporting procedures, including comparisons of the site water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

5.5.2 Monitoring Results Compliance and Trends

Monitoring of water depths is discussed in Sections 5.3 and 5.4.

The Site Water Balance for 2019 is shown below.

Graph 17. Site Water Balance 2019



5.5.3 Interpretation and Effectiveness of Controls

The water balance has focused on the currently disturbed catchments and Dams 1 and 2. Dams 3 and 4 are not controlled by the operator and usage/pumping rates are unknown. At present they play no part in the site operations and therefore are not included in the water balance. Rainfall from data obtained onsite over 2019 was used to correlate site observations and measured dam water levels.

A level logger was installed in Dam 1 in late September 2017 and data obtained during 2018 has been applied to the model. At the time the logger was installed, the RL of the water in Dam 1 was recorded. Measurements were taken over the area of the dam to determine the depth of water to the base of the silt. The dam was found to be only up to 0.5m deep over the vast majority of its extent with the exception of a deeper void (up to 3m deep) around the pump intake. This data was used to project an approximate contour model of the base of the dam. From the model, the volume of the water within the dam has been estimated at various depths (RLs). These volumes have then been correlated with the monthly average depth recorded by the logger and plotted against the volume of water held predicted by the water balance to assess its reliability. Graph 17 shows that the calculated water held in Dam 1 correlates well with the volumes calculated from the logger data (in red).

No dissipation from the dams has been accounted for in the amended assumptions. The lack of rainfall over the monitoring period has also hampered efforts to understand the infiltration rates of any received rainfall from the logger records.

From the plot of the predicted water balance, based on actual rainfall data, pumping rates and truck tonnages, it can be seen that the plant was likely to run out of water by September 2019 and in December 2019 (total water held in Dam 1 and 2). In dry periods, the plant is run for only a few hours and then the water is left to settle and drain back into the Process Dam. Once this has occurred, the plant is started up again.

5.5.4 Measures Proposed for Improvement

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

- The Site Water Balance will be updated again for the 2019 Annual Review.

5.6 PROCESS WATER DAM

A Surface Water Management Plan including the Process Water Dam was submitted to the DPE and DoPI-W to comply with the current conditions of consent (Mod 2) and was approved in August 2018.

5.6.1 Requirements and Predictions

5.6.1.1 Consent Conditions

The following conditions are from the Mod 2 consent:

38. *The Applicant shall not extract:*

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

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

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

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

5.6.1.2 2015 EA Requirements and Predictions

The Environmental Assessment, September 2015 section 2.2.1 discusses construction of a dam in three stages down to a depth of 178m RL or firm base.

5.6.2 Monitoring Results Compliance and Trends

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

During dry periods, production was cut back. Quarterly water quality results and depth monitoring trends are included in *section 5.3*.

5.6.3 Interpretation and Effectiveness of Controls

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

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

5.6.4 Measures Proposed for Improvement

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

5.7 NOISE AND ROAD NOISE

5.7.1 Requirements and Predictions

The consents specifies the following Noise Impact Criteria:

Condition 47: For typical operations, noise from the premises must not exceed:

- an LAeq, 15 min noise emission criterion of 43 dB(A) (7am to 6pm) Monday to Saturday;
- an LAeq, 15 min noise emission criterion of 40 dB(A) (6am to 7am) Monday to Saturday; and
- an LA1, 1 minute noise emission criterion of 50 dB(A) (6am to 7am) Monday to Saturday.

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

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

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

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

The Noise Management Plan 2016 reflect the same requirements as the consent.

The EPL specifies the following noise related limits:

Table 26. Noise-related Conditions

Condition	Description
L2.1	Noise from the premises must not exceed the sound pressure level expressed as LA10 (15 minute) of 45dB(A), except as expressly provided by this licence
L2.2	Noise from the premises is to be measured or computed at any point within one metre of any residential boundary, or at any point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition L2.1

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

Table 27. Predicted Noise Impacts, 2015 LAeq, 15min (dBA)

Scenario	All Locations
Typical Operations	43

5.7.2 Monitoring Results Compliance and Interpretation

Results of operational and road noise monitoring undertaken in June 2019 are given in *Appendix I*. The report states:

Attended monitoring has identified that operational and road noise emissions generated by the quarry comply with relevant statutory noise limits. Furthermore, project related noise emissions are generally masked by extraneous non-quarry sources.

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

5.7.3 Trends and Effectiveness of Controls

Table 28 shows past and 2019 attended noise monitoring results during quarry operations. Noise measured at the nominated residences during quarry operations in the reporting period were compliant with criteria. All reports are given in *Appendix I*.

Table 28. Operator-Attended Noise Survey Results

Location	LA10	LAeq	LA90	Criteria LAeq	Comment
Attended Monitoring Results - 5 May 2016					
A	51	50	40	43	Compliance achieved, contribution of 39dBA
B	67	62	42	43	Compliance achieved, contribution of 41dBA
C	48	46	40	43	Compliance achieved, quarry inaudible
Attended Monitoring Results – 27 April 2017					
A	52	50	40	43	Compliance achieved, quarry inaudible
B	49	49	37	43	Compliance achieved, quarry inaudible
C	56	53	48	43	Compliance achieved, quarry inaudible
Attended Monitoring Results – 23 May 2018					
A	43	43	38	43	Compliance achieved, quarry contribution 37dBA
B	46	47	38	43	Compliance achieved, quarry contribution 37dBA
C	45	43	35	43	Compliance achieved, quarry inaudible
Attended Monitoring Results – 6 June 2019					
A	47	45	41	43	Compliance achieved, 40dBA
B	46	44	41	43	Compliance achieved, 41dBA
C	47	45	40	43	Compliance achieved, quarry inaudible

Sound Power Levels were not tested on the site plant and equipment this year. Sound Power levels of existing machinery are given in *Table 29*.

Table 29. Sound Power of Equipment

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

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

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

5.7.3.1 Effectiveness of Noise Management Controls

Table 30. Effectiveness of Noise Management Controls

Control	Interpretation	Effective?
Perimeter Bunds	Noise measured at residences complies with requirements and predictions	Yes
Temporary bunds when extracting in close proximity to residences	Temporary bunds are in place around the current extraction area. Noise measured at residences complies with requirements and predictions. Noise measured at residences lower than previous monitoring.	Yes
Training and awareness for employees and truck drivers	Noise measured at residences complies with requirements and predictions. Road noise attributed to the site complies with requirements and predictions.	Yes
Mufflers on excavators	Sound power levels were measured on two excavators; one did not comply, however off-site noise remains inaudible.	Yes
New equipment purchased checked by qualified noise consultant for compliance prior to commissioning	Total fleet sound power levels remain less than modelled	Yes

5.7.4 Measures Proposed for Improvement

As seen from the previous section, the current controls and mitigation measures in place are effective. The PC400 Komatsu excavator was under repair and will be re-tested for sound power compliance once it is back in service.

Any new equipment purchased after the annual noise monitoring event will be tested during the next round.

Should atypical works be undertaken, extraction outside of temporary bunds (surface extraction), or a dozer ripping sandstone during initial topsoil and overburden extraction, a suitably qualified noise consultant will be commissioned to undertake attended noise monitoring during this time.

5.8 FLORA AND FAUNA

5.8.1 Requirements and Predictions

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

Table 31. Flora and Fauna Management Conditions

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

Objectives and targets from the Flora and Fauna Management Plan:

Table 32. Flora and Fauna Management Objectives and Targets

Objective / Target	Compliance Status
To protect known threatened flora species on the site and ensure correct procedures are applied in the event of other threatened flora or fauna species being located on the site.	Known species identified, baseline monitoring undertaken in Jan 2018. Monitoring was undertaken in July 2019.
Inspections of site flora and fauna to show minimal impacts from operations.	Trends over time will be required to determine impacts.
Consider the post extraction land use in the management and maintenance of conserved and rehabilitated vegetation.	Conserved vegetation managed in accordance with Landscape and Rehabilitation Plan

5.8.2 Monitoring Results Compliance and Trends

Monitoring of the remnant vegetation was undertaken in July 2019, in accordance with the Flora and Fauna Management Plan. A full report is supplied in the Biodiversity Report in *Appendix J*.

A program of planting was undertaken in August 2018 with the aim of improving the vegetation buffer on the perimeter of the site. A total of 500 natives sourced from the Nursery adjacent to the quarry were planted along the northern bund wall. An electric fence was erected to protect the new shrubs from animals, and they have been watered daily when rainfall has been absent. The Biodiversity Report indicates that the “success to date appears to be high”.

Weeds have been sprayed approximately once per month using a 10L hand-operated pump sprayer.

There has been no evidence of feral animals on the site.

5.8.3 Interpretation and Effectiveness of Controls

The Annual Biodiversity Monitoring Report produced by South East Environmental recommended that:

- “these weeds [High Threat Weeds listed in Appendix B of the report] are managed before the return to average rainfall conditions so as to maintain control of their growth and spread.”
- regular sweeps for Fireweed throughout the year to minimise the further spread and density of this weed throughout the property.

5.8.4 Measures Proposed for Improvement

A recommended monthly weed control plan was given in Appendix D of the Biodiversity Report which is reproduced below.

Table 33. Recommended Weed Control

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
African Lovegrass	Herbicide	Herbicide	Slashing	Slashing	Slashing				Herbicide	Herbicide	Herbicide	Herbicide
Blackberry	Herbicide	Herbicide	Herbicide						Herbicide	Herbicide	Herbicide	Herbicide
Cobblers Pegs	Hand removal	Hand removal	Hand removal	Hand removal					Herbicide	Herbicide	Herbicide	Hand removal
Cotoneaster									Herbicide*			
Crofton Weed	Slashing	Herbicide	Herbicide	Herbicide	Herbicide				Slashing	Slashing	Slashing	Slashing
Fireweed	Hand removal	Hand removal	Hand removal	Slashing	Slashing	Slashing	Slashing	Slashing	Slashing	Hand removal	Hand removal	Hand removal
Green Cestrum									Herbicide*			
Lantana	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Paspalum	Slashing	Slashing	Slashing	Herbicide	Herbicide	Herbicide			Slashing	Slashing	Slashing	Slashing
Whiskey Grass	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Herbicide	Herbicide	Herbicide	Hand removal

Herbicide – Foliar spray with an appropriate product as per the instructions on the label. Foliar spray should be carried out during active growing season.
 Slashing - Slashing within agricultural land areas only. Slashing is only effective if the targeted species has not yet reached flowering maturity.
 Hand removal – Necessary when targeted species have reached flowering maturity. Entire plant can be removed or flowering heads may be cut. Removed material should be immediately bagged to prevent spread of seed and appropriately disposed of.
 Herbicide* – Treatment via either cut and paint or drill and inject methods.

This table should be considered a guide for appropriate treatment during different months of the year. It does not indicate a specified work schedule.

5.9 REHABILITATION

The revised Landscape and Rehabilitation Management Plan (LRMP) was submitted to the DPE in March 2018 and approved in August 2018.

5.9.1 Requirements and Predictions

Performance indicators and completion criteria are listed in the LRMP. None of these criteria have yet been achieved.

5.9.2 Monitoring Results Compliance and Trends

Table 34. Rehabilitation Status

Mine Area Type	2016 Ha	2017 Ha	2018 Ha	2019	2020 [#]
Exposed and Active	3.9	3.1	3.1	2.7	2.7
Active extraction area	2.5	2.4	2.2	2.1	2.1
Access tracks and haul roads (unsealed)	1.4	0.7	0.9	0.6	0.6
Areas not Actively Creating Dust					
Stripped ahead of mining (accessed < once per month)	0.6	2.4	2.5	2.8	2.8
Water Management	4.0	3.8	4.3	4.3	4.3
Overburden Emplacements / Machinery Storage	1.5	1.8	1.1	1.1	1.1
Land Being Prepared for Rehabilitation	1.9	1.9	1.8	1.8	1.8
Topsoil Stockpiles / Bunds / Land under active Rehabilitation (ie vegetated)	0.7	1.7	2.4	2.5	2.5
Total Active Disturbance	12.6	14.6	15.2	15.2	15.2
Infrastructure area (sealed)	1.5	1.5	2.3	2.3	2.3
Total Mine Footprint	14.1	16.2	17.5	17.1	17.5

* Hectares estimated from Google Earth and Nearmaps

Predicted

Note that these areas have been interpolated from Nearmap and Google Earth air photography using 12D modelling software, and are not an accurate survey. A Statement of Accuracy can be supplied on request. The areas are illustrated on the attached *Figures* from the 2019 ARCR.

5.9.3 Interpretation and Effectiveness of Controls

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

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

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

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

5.9.4 Measures Proposed for Improvement

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

- Monitor and maintain perimeter vegetation.
- Temporarily fence off in-active area to minimise dust generation in unused areas.
- The sum of the Conservation and Rehabilitation Bond will be reviewed following the Independent Audit.

6 Management Targets and Strategies for Future Stages

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

Table 35. Future Targets

Aspect	Target	Criteria
Air Quality	To receive no reasonably preventable complaints from members of the public or statutory authorities regarding air quality emissions from the site, and for monitoring to show that air quality criteria are being met	Air quality criteria outlined in 5.2.1
Water	To ensure there is no reasonably preventable impact on surface water external to the site or regional groundwater	Water quality criteria outlined in sections 5.3, 5.4, and 5.6
Sediment and Erosion	To control erosion on the site to as to reasonable prevent impacts off site	Sediment and erosion criteria are outlined in 5.3
Noise	To receive no reasonably preventable complaints from members of the public or statutory authorities regarding noise or road noise impacts from the site, and for monitoring to show that noise criteria are being met	Noise and road noise criteria are outlined in 5.7.1.
Flora and Fauna	Inspections of site flora and fauna to show minimal impacts from operations. Consider the post extraction land use in the management and maintenance of conserved and rehabilitated vegetation.	Performance and completion criteria are detailed in the FFMP 2016
Rehabilitation	To ensure that temporary and permanent rehabilitation activities are undertaken in accordance with the Rehabilitation Plan	Performance and completion criteria are detailed in the LRMP 2018.

7 Actions to Address Non-Compliances

7.1 2017 INDEPENDENT AUDIT

All Water Management Plans have been submitted and approved. No further actions from the Independent Audit are outstanding. An Independent Audit is due in 2020.

7.2 ACTIONS TO ADDRESS PM10 EXCEEDANCES

As detailed in section 5.2, while there were several exceedances of the Particulate Matter criteria, all were attributable to local and regional bushfires. If the bushfire-affected results are not included, averages are similar to previous years. Exceedances have been reported to both the DPE and EPA and no actions have been requested.

7.3 ACTIONS AND IMPROVEMENTS PLANNED FOR 2020

Table 36. Summary of Proposed Improvements

Aspect	Improvement
Air Quality	A mobile sprinkler is used to water disturbed areas that the water cart has difficulty accessing. Dust will continue to be monitored using high volume air samplers and dust deposition gauges. Relocation of HVAS monitored will be investigated.
Water	Water Management Plans to be implemented and updated to include impact criteria.
Noise	Undertake attended operational and road traffic noise monitoring, including compliance with conditions 47 (a) and (b). Any newly purchased equipment to be tested for Sound Power compliance.
Flora and Fauna	Biodiversity monitoring will be undertaken during the calendar year. Weed control will be undertaken as recommended in section 5.8.4.
Rehabilitation	Monitor and maintain perimeter vegetation. Temporarily fence off in-active area to minimise dust generation in unused areas.
Administrative	An Independent Audit will be commissioned this year.

References

- Holmes Air Sciences. (October 1999). *Air Quality Impact Assessment, Proposed Sand Extraction Operations, Roberts Rd Maroota, NSW.*
- National Environment Protection Council. (February 2016). *National Environment Protection (Ambient Air) Measure.*
- Nexus Environmental Planning Pty Ltd. (May 2015). *Environmental Assessment Section 75W Mod 3.*
- Nexus Environmental Planning Pty Ltd. (November 1999). *Environmental Impact Statement.*
- Nexus Environmental Planning Pty Ltd. (September 2015). *Environmental Assessment Section 75W Mod 2.*
- NSW Department of Planning and Environment. (March 2016). *DA 267-11-99.*
- NSW EPA. (2015). *Environment Protection Licence 6535.*
- Wilkinson Murray Pty Ltd. (June 2015). *Air Quality Impact Assessment.*

Appendix A: Compliance Review

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

DA Conditions

Compliant		Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence			
Non Compliant: High Risk		Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur			
Non Compliant: Medium Risk		Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur □			
Non Compliant: Low Risk		Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur □			
Non Compliant: Administrative		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)			
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document	
Compliance Summary		Number of Conditions Non-compliant			
Non Compliant: High Risk		Nil			
Non Compliant: Medium Risk		Nil			
Non Compliant: Low Risk		One			
Non Compliant: Administrative		One			
General					
Obligation to Prevent and Minimise Harm to the Environment					
1	1	There is an obligation on the Applicant to prevent and minimise harm to the environment throughout the life of the project. This requires that all practicable measures are to be taken to prevent and minimise harm that may result from the construction, operation and, where relevant, the decommissioning of the development.	Compliant		
Adherence to Terms of DA and EIS					
2 (a)	2 (a)	The Applicant shall:(a) carry out the development generally in accordance with the EIS, Modification 1, Modification 3 and Modification 2; and			
2 (b)	2 (b)	(b) comply with the conditions of this consent			Section 1
Compliance					
3	3	The Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of the Conditions of this Consent, within such time as the Secretary agrees. The Secretary may order the Applicant to cease work until non-compliance has been addressed to the Secretary's satisfaction.	Compliant		Appendix L
4	4	The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent.	All contractors and sub-contractors are inducted to site and Induction Checklist completed		Appendix K

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

DA Conditions

Compliant
Non Compliant: High Risk
Non Compliant: Medium Risk
Non Compliant: Low Risk
Non Compliant: Administrative

Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence

Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur

Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur □

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)

Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
5	5	The Applicant shall comply with all relevant conditions prescribed in Part 7 of the Environmental Planning and Assessment Regulation 1994, as required by Section 80A (11) of the Act.	Compliant: buildings unchanged in 2018	Not required
6	6	The Applicant will submit a Conditions Compliance Report to the Secretary prior to the commencement of extraction in areas that are not currently subject to extraction. Subsequent reports will be submitted annually for the first three years of extraction in areas not currently subject to extraction. Further reports shall be submitted as required by the Secretary.	Compliance Report 2018 version F0 submitted 28/03/2019, no outstanding actions, no approval received to date.	Appendix L
6 (a)	6 (a)	To enable ready comparison with the EIS's predictions, diagrams and tables, the Conditions Compliance Reports shall include, but not be limited to, the following matters:(a) a compliance audit of the performance of the project against conditions of Consent and statutory approvals		Section 5
6 (b)	6 (b)	(b) a review of the effectiveness of the environmental management of the development		Section 5
6 (c)	6 (c)	(c) the results of environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;		Section 5
6 (d)	6 (d)	(d) a listing of any variations obtained to approvals applicable to the DA since the last report;	No variations since 2016 CCR	Section 3
6 (e)	6 (e)	(e) a record of all complaints and the actions taken to mitigate all such complaints;	No complaints were received	Appendix E
6 (f)	6 (f)	(f) a report detailing the rehabilitation measures undertaken since the last report; and		5.9
6 (g)	6 (g)	(g) environmental management targets and strategies for stages of the development yet to be completed.		Section 6

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

DA Conditions

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Non Compliant: High Risk
Non Compliant: Medium Risk
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Non Compliant: Administrative

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Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
7	7	The Secretary may, after considering a Conditions Compliance Report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant shall comply with those requirements within such time as the Secretary may direct. Note: The Applicant is obliged to ensure that all statutory requirements, including all relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions and Directions of the Councils and relevant government agencies are met and approvals obtained.	No further action required	1.2
Commencement and Duration				
8 a)	8 a)	No extraction shall commence in areas that are not currently subject to extraction, until the Applicant has: (a) constructed the bund walls at the corner of Roberts Road and Old Northern Road;	The relevant bundwalls have been completed.	Figures
8 b)	8 b)	(b) submitted the Conditions Compliance Report required under Condition 6; and	Compliance Report 2018 version F0 submitted 28/03/2019.	Appendix A, Appendix K
8 c)	8 c)	(c) obtained all licences necessary for the commencement of extraction.	EPA licence current Bore licences current	Section 3
9	9	The duration of extraction under this Consent is until 31 May 2025. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.	Extraction not yet completed	Not required

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
Complaints Procedures				
10 a)	10 a)	Prior to commencement of construction, the Applicant shall: (a) publicise a telephone number on which complaints about the subject development can be registered during the hours of operation in Condition 16; and	Complaints phone number is advertised in the white pages and signage at the front gate.	4.2
10 b)	10 b)	(b) publicise a postal address where written complaints may be lodged. The telephone number and postal address shall be displayed on the property where it can be read from a public road, for the duration of the development.	Address is publicised in White Pages, website and signage at the front gate.	4.2
11	11	The Applicant shall record details of all complaints received and actions taken in response to complaints in an up-to-date log book. The log book shall be made available for inspection upon request by the Secretary, the EPA or the Council; and a summary of complaints received shall be included in the Conditions Compliance Reports under Condition 6.	Complaints log book available on site. No complaints received this report period.	4.2, Appendix E
12 a)	12 a)	The Applicant shall ensure that an initial response to complaints is provided to the complainant within 24 hours of receipt. The Applicant shall then: (a) investigate the concerns raised by the complainant and undertake all reasonable attempts to determine the cause of concern; and	No complaints received.	Not required
12 b)	12 b)	(b) if adverse impacts are identified, undertake all practicable measures to modify the activity which may be causing the impacts.	No complaints received.	Not required

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
13	13	If the Applicant's response does not address the complaint to the satisfaction of the complainant within six weeks, the Applicant shall inform the Secretary and take any action as directed by the Secretary. This may include a requirement to carry out independent investigations of noise and/or dust at the cost of the Applicant, in accordance with Condition 14.	Not applicable as yet	Not required
14 a)	14 a)	If the Secretary is satisfied that an independent investigation is required, the Applicant shall: (a) appoint a qualified independent person or team to plan and implement an investigation to qualify the impact and determine the sources of the impact; and	Not applicable as yet	Not required
14 b)	14 b)	(b) bear the cost of the independent investigation and make available plans, programs and other information necessary for the independent person to form an appreciation of the past, present and future works and their effects on dust and/or noise emissions. This investigation is to be carried out in accordance with a documented Plan. The Plan shall be designed and implemented to measure and/or compute (with appropriate calibration by measurement) the relevant noise and/or dust levels at the complainant's property, that are emitted by the development; and specify a monitoring period and reporting schedule. The independent person or team, the Plan and the timing of its implementation, shall be approved by the Secretary. The independent person or team shall report to the Secretary and the Applicant. Further independent investigations shall cease if the Secretary is satisfied that the relevant levels are not being exceeded and are unlikely to be exceeded in the future.	Not applicable as yet	Not required
Dispute Resolution				
15	15	In the event that the Applicant, Council, the PCA, or a government authority other than the Department, cannot agree on the specification or requirements applicable under this Consent, the matter shall be referred by either party to the Secretary or, if not resolved, to the Minister, whose determination of the disagreement shall be final and binding on the parties.	Not applicable as yet	Not required

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
Hours of Operation				
16	16	<p>Unless prior written approval of the EPA is obtained, the hours of operation are:</p> <ul style="list-style-type: none"> • construction: 7.00am to 6.00pm Monday to Friday • extraction and processing of material: 7.00am to 6.00pm, Monday to Friday and 7.00am to 1.00pm on Saturdays • vehicle loading: 6.00am to 6.00pm, Monday to Friday and 6.00am to 1.00pm on Saturdays. <p>No works shall be undertaken on Sundays or Public Holidays.</p> <p>These restrictions do not apply to routine maintenance work, such as the repair of machinery, provided the work does not result in exceedance of the noise limits in Condition 47.</p>	Hours included in induction	4.1
Depth of Extraction				
17	17	The Applicant shall ensure that extraction does not take place below a level 2 metres above the wet weather high groundwater level of the regional aquifer, as measured and mapped on the site (see Conditions 39(d) and 44).	Extraction has not progressed deeper than 188 in the consented cells.	5.4, Figure Two, Figure Seven
Environmental Management Plan				
18	18	The Applicant shall prepare a Construction Environmental Management Plan (EMP) to the satisfaction of the Secretary prior to commencement of construction. The Construction EMP shall contain appropriate measures which demonstrate how the environmental objectives for the project will be achieved, including objectives stated in this Consent; and contain a monitoring, reporting and response program. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	Construction Environmental Management Plan updated July 2016. Approved 9/12/16	3.1

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
19	19	The Applicant shall prepare an Operational Environmental Management Plan (EMP) in consultation with the relevant authorities and to the satisfaction of the Secretary, prior to the commencement of extraction under this Consent. The EMP shall incorporate and integrate environmental management for the existing extraction areas, as well as the areas approved under this Consent.	Operational Environmental Management Plan was updated as required by Condition 67 (d) and submitted to Secretary in July 2016. Response received October 2016; draft 2 submitted November 2016. Approval received 9/12/16	3.1
20	20	The Operational EMP shall include, but not be limited to: (a) environmental objectives for the site; (b) the Air Quality Management Plan (Condition 29); (c) the Water Management Plan (Condition 42); (d) the Noise Management Plan (Condition 46); (e) the Road Noise Management Plan (Condition 48); (f) the Flora and Fauna Management Plan (Condition 55); and (g) the Rehabilitation Plan (Condition 58).	Operational Environmental Management Plan was updated as required by Condition 67 (d) and submitted to Secretary in July 2016. Response received October 2016; draft 2 submitted November 2016. Approval received 9/12/16	3.1
21	21	The Applicant shall make copies of both EMPs available to Council, EPA and DPI-Water within 14 days of approval by the Secretary. The Applicant shall also make a current copy of the EMPs available for inspection by the public or these agencies, for the duration of the Consent.	2016 OEMP approved 9/12/16, sent to all other agencies on 16/12/16. Available at www.vgt.com.au/hodgsons	3.1
22	22	The Applicant shall, in consultation with the Secretary, the EPA and the DPI-Water, update the Operational EMP from time to time in order to ensure continuing compliance with the Conditions of this Consent and all relevant approvals and licenses. The EMR shall be responsible for determining if any significant changes to the Operational EMP should be referred to the Secretary for approval. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	The OEMP was updated in 2016. Input was sought from DPE, DPI-Water, OEH, EPA, and Council. The second draft approved by the Secretary on 9/12/16.	3.1
23	23	Deleted		

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
24	24	Deleted		
25	25	Deleted		
26	26	Deleted		
Waste				
27	27	The Applicant must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal, or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997. This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence under the Protection of the Environment Operations Act 1997.1	No waste has been received by the premises. Waste is managed on site through the use of bins (removed by contractor) and waste oil is removed from the site as required.	Not required
Air Quality				
Air Quality Criteria				
28	28	The Applicant shall take all practical steps to manage the development so that the ambient air quality goals for total suspended particles (TSP) of 90 µg/m³ (annual average), particulate matter (PM10) of 50 µg/m³ (24 hours average) and 30 µg/m³ (annual average) and the dust deposition goal of 4gm/m2 (annual average) are not exceeded as a result of the development, when measured at any monitoring location specified in the Air Quality Management Plan.	24 hour PM10 exceeded 50 µg/m3 on seven occasions during the reporting period due to off-site influences. The Annual Average for 2019 exceeded 30 µg/m3.	5.2
Air Quality Management				
29	29	The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall:	Air Quality Management Plan was submitted as part of the 2016 OEMP	AQMP
29 a)	29 a)	(a) identify existing and potential sources of dust deposition, TSP and fine particulates (PM10 and PM2.5) and specify appropriate monitoring intervals and locations. The purpose of the monitoring is to evaluate, assess and report on these emissions and the ambient impacts with the objective of understanding the development's contribution to levels of dust deposition, TSP and fine particulates in ambient air around the site;	Section 5.2	5.2
29 (b)	29 (b)	(b) provide a monitoring plan having regard to local meteorology and the relevant Australian Standards, identifying the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements;	AQMP 2016	5.2

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
29 c)	29 c)	(c) provide details of dust suppression measures for all sources of dust from the development, including a planting and watering regime to ensure that no more than 3 hectares of the site are exposed and active at any one time. The use of a polymer in the water to minimise dust impacts shall be investigated as part of this Plan	Section 4 of AQMP. Planting undertaken on northern perimeter. Unused areas of the site are fenced off to prevent dust impacts. Active disturbed area reduced from 3.1 Ha in 2018 to 2.7 Ha in 2019	5.9
29 d)	29 d)	(d) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and	Section 5 of AQMP 2016	5.2
29 e)	29 e)	(e) provide the design of the reactive management system intended to reduce the day-to-day impacts of dust and fine particulates due to the development. The Applicant shall implement the approved management plan as approved from time to time by the Secretary	Section 4 of AQMP 16.	5.2
29	29	The Applicant shall implement the approved management plan as approved from time to time by the Secretary	Plan has been implemented	5.2
30	30	Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises	Plan has been implemented	5.2
31	31	The Applicant shall cease offending work at such times when the operations are resulting in visible dust emissions blowing in a direction so as to cross onto public roads or lands not owned by the Applicant.	Work ceases when visible dust crossing public roads or lands not owned by the applicant.	5.2
32	32	The Applicant shall install, operate and maintain a sprinkler system to adequately water all cleared areas and stockpiles so as to minimise dust emissions to acceptable levels.	Mobile sprinkler installed over stockpiles and used over disturbed areas if/when visible dust is generated.	5.2
33	33	The Applicant shall ensure that all vehicular movements on unsealed areas are restricted to specific routes and that all vehicles within the subject site keep to a speed limit of 30 km/h.	Speed limit on site is 20km/hr. Truck drivers also informed in induction	Appendix K, 5.2
34	34	The Applicant shall ensure that trucks are covered when entering and leaving the premises carrying loads of potentially dust generating material.	Trucks are covered when entering and leaving premises	Appendix K, 5.2
Air Quality Monitoring				

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
35	35	All monitoring equipment is to be installed and operational prior to commencement of construction.	Dust and HVAS monitoring equipment is installed and operating	5.2
36 (a)	36 (a)	Operation of dust deposition gauges and monitoring must be carried out in accordance with; (a) Australian Standard 3580.10. 01 (1991) Particulates – Deposited Matter – Gravimetric Method. Approved method AM-19 referred to in Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, December 1999.	Most updated AS for monitoring Particulates = AS3580.10.1 2016. Scope of Accreditation of laboratory proves testing to this standard	5.2
36 (b)	36 (b)	(b) Australian Standard 2724.3 (1984) Particulate Matter – Determination of Total Suspended Particulates (TSP) - High Volume Sampler Gravimetric Method. Approved method AM 15 referred to in Approved Methods for the sampling and Analysis of Air Pollutants in New South Wales, December 1999.	Most updated AS for monitoring TSP = AS3580.9.3 2015. NATA accredited method based on this standard	5.2
36 (c)	36 (c)	(c) Australian Standard 3580.9.6 (1990) for Suspended Particulate Matter – PM10 High Volume Sampler with Size Selective Inlet-Gravimetric Method. Approved method AM-18 referred to in Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales, December 1999.	Most updated AS for monitoring PM10 = AS3580.9.6 2015. NATA accredited method based on this standard	5.2
37	37	A meteorological station measuring wind speed and direction must be installed and operated by the Applicant at a site determined in consultation with the EPA.	Approval obtained from NSW EPA for location of weather station and air monitoring locations	AQMP
Soil and Water				
Limits on Extraction				
38(a)	38(a)	The Applicant shall not extract: (a) below a depth of 182 m AHD in the footprint of the Process Water Dam, if not already extracted as at the date of Modification 2; and	Survey of Process Water Dam shows max depth at 186m AHD	Figure 2
38(b)	38(b)	(b) below a depth of 186.1 m AHD in all other areas of the site; unless in accordance with Condition 17, and following written notification to the Secretary and DPI-Water.	Recent surveys show the site to be compliant	Figure 2
Groundwater Study and Remediation Works				

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Non Compliant: Administrative				
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
39(a)	39(a)	Within six weeks of the date of approval of Modification 2, the Applicant shall commission a comprehensive groundwater study of the site. This study must: (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary and DPI-Water;	Peter Dundon engaged 30/3/16, approved by DPI-W 10/5/16, approved by DPE 5/4/16.	5.4
39(b)	39(b)	(b) consult with DPI-Water		GW Study
39(c)	39(c)	(c) examine all existing records of groundwater levels at the site;		GW Study
39(d)	39(d)	(d) develop an interim contour map of the wet weather high groundwater level of the regional aquifer, based on all available records (see also Condition 44); and	Data loggers installed in all bores and surface dams. GW Study approved Aug 2018	GW Study
39(e)	39(e)	(e) provide advice and recommendations on the Groundwater Monitoring Program as set out in Condition 43.	Groundwater Monitoring Program approved Aug 2018	GW Study, Monitoring Program
40	40	Unless otherwise agreed by the Secretary, the Applicant shall submit a report of the study to the Secretary and DPI-Water within six months of commissioning the study. The report must be accompanied by a Groundwater Management Improvement Program, based on the study's findings and recommendations which includes a program of proposed timeframes for implementation. Should the Applicant propose not to implement any of the report's recommendations, it must provide detailed justification to this effect. The Groundwater Management Improvement Program must be prepared and implemented to the satisfaction of the Secretary. Progress against the Program shall be reported through Annual Reviews and considered as part of the Independent Environmental Audit.	Comments on Groundwater Study, Water Management Plan and Groundwater Monitoring Program approved Aug 2018	GW Study
41	41	Within six months of the submission of the Groundwater Study and accompanying documents (see Conditions 39 and 40), the Applicant must infill any area of the site identified as being below the wet weather high groundwater level to at least that level as mapped (see Condition 39(d)). Within six months of any update of the groundwater level contour map, the Applicant must infill any area of the site identified as being below the wet weather high groundwater level to at least that level as mapped (see Condition 44).	No areas below the groundwater level yet identified.	Not required
Water Management Plan				

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
42	42	The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with DPI-Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval by 31 December 2016. The plan must be updated on an annual basis in consultation with DPI-Water for three years from the date of approval of Modification 2 and thereafter as agreed with by the Secretary.	Water Management Plan approved Aug 2018	5.3, 5.4, 5.5, 5.6
42(a)	42(a)	In addition to the standard requirements for management plans (see Condition 65), this plan must include a: (a) Site Water Balance that: • includes details of: o sources and security of water supply, including contingency planning; o water use on site; o water management on site, including groundwater inflows to the quarry voids and site discharges; and o audit and reporting procedures, including comparisons of the site water balance each calendar year; and o describes the measures that would be implemented to minimise clean water use on site and maximise recycling opportunities;	Water Management Plan approved Aug 2018	5.5
42(b)	42(b)	(b) Surface Water Management Plan, that includes: • a detailed description of the surface water management system on site, including the: o clean water diversion systems; o erosion and sediment controls; o effluent irrigation system; o water transfers from the extraction areas; o water storages; and o discharge points;	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• design objectives and performance criteria for proposed: o erosion and sediment control structures; o water storages, including quarry voids; o site discharges; and o control of water pollution from rehabilitated areas of the site;	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• performance criteria, including trigger levels for investigating any potentially adverse impacts for surface water quality;	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• a program to monitor: o the effectiveness of the water management system; o site discharge water quality; and o surface water level and quality in the Process Water Dam, including the quantification of rainfall inflow, groundwater inflow and evaporation;	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project;	Water Management Plan approved Aug 2018	WMP

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
42(b)	42(b)	• long term water quality management objectives and the measures to achieve these objectives;	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• a plan that ensures surface stormwater runoff from the disturbed areas is directed to the sedimentation dam(s);	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• a plan that ensures tailgate drainage does not discharge into or onto any adjoining public or Crown road, any other persons land, any Crown land, any river, creek or watercourse, any groundwater aquifer, any native vegetation as described under the Native Vegetation Conservation Act 1997 and any wetlands of environmental significance;	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• a detailed description of design and construction criteria for the Process Water Dam based on a feasibility study of: o capacity to construct multiple cells within the overall dam footprint (ie a two stage or three stage dam); o whether the dam floor and walls are able to be effectively lined with compacted clay (especially for multiple cells); o whether effective hydraulic separation can be achieved between such cells;	Process Dam construction no longer required	5.6
42(b)	42(b)	• a strategy for the decommissioning of water management structures, including storage, sedimentation and leachate dams once extraction is complete; and	Water Management Plan approved Aug 2018	WMP
42(b)	42(b)	• audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of surface water monitoring results;	Water Management Plan approved Aug 2018	WMP, 5.3, 5.4
42(c)	42(c)	Groundwater Management Plan that takes into account the Web-based Reporting Guideline (DPE 2015) and Groundwater Monitoring and Modelling Plans – Information for Prospective Mining and Petroleum Exploration Activities (DPI 2014), and includes: • detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land, that could be affected by the project;	Water Management Plan approved Aug 2018	GW Management Plan
42(c)	42(c)	• a program to undertake surveyed probe testing of all extracted areas where clay fines have been deposited to: o accurately determine the depth of extraction and depth of clay fines; o identify any ongoing intersection or other interaction between clay fines and the regional groundwater aquifer; o identify any geotechnical characteristics of the emplaced clay fines which may pose risks to workplace safety or implementation of the process water dam design or the final landform; and o identify measures which can be successfully used in rehabilitating these areas;	Process Dam investigation undertaken in Sept 2017. Water Management Plan approved Aug 2018	GW Management Plan

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

DA Conditions

Compliant
Non Compliant: High Risk
Non Compliant: Medium Risk
Non Compliant: Low Risk
Non Compliant: Administrative

Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence

Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur

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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)

Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
42(c)	42(c)	• a program to monitor potential groundwater quality impacts to the regional aquifer from receiving off-site runoff water in the Process Water Dam;	Water Management Plan approved Aug 2018, monitoring program undertaken since Jan 2018	GW Management Plan
42(c)	42(c)	• groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, in accordance with the NSW Aquifer Interference Policy;	Water Management Plan approved Aug 2018, monitoring program undertaken since Jan 2018	GW Management Plan
42(c)	42(c)	• a program to monitor: o the impacts of the project on: - groundwater inflows to water storages; - any groundwater bores on privately-owned land that could be affected by the project; and o seepage from water storages or backfilled voids on site;	Water Management Plan approved Aug 2018, monitoring program undertaken since Jan 2018	GW Management Plan
42(c)	42(c)	• a plan to respond to any exceedances of the groundwater assessment criteria;	Water Management Plan approved Aug 2018	GW Management Plan
42(c)	42(c)	• emergency contingency plans for implementation in the event that the groundwater is encountered during excavation; and	Water Management Plan approved Aug 2018	GW Management Plan
42(c)	42(c)	• audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of groundwater monitoring results, The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	Water Management Plan approved Aug 2018	GW Management Plan
Groundwater Monitoring				
43	43	The Applicant shall prepare a Groundwater Monitoring Program for the development to the satisfaction of the Secretary. This program must:	GW Monitoring Program approved Aug 2018	GW Monitoring Program
43(a)	43(a)	(a) be prepared in consultation with DPI-Water and be submitted to the Secretary for approval within four months of the date of approval of Modification 2;	First submitted 23rd August 2016. Approved Aug 2018	5.4
43(b)	43(b)	(b) include proposed construction of a network of at least five active monitoring bores around the south-eastern, southern, western and north-western boundaries of the extraction area (but outside of the overall extraction footprint) in proximity to extraction Phases 1 to 6 as identified in Modification 2, to collect continuous groundwater level monitoring data from the regional aquifer;	Groundwater level monitored continuously at 9 locations	5.4, Figure 3
43(c)	43(c)	(c) include proposed construction to deepen (or replace) PT84MW1 in order that a bore in that general location monitors the regional aquifer; and	MW7	Figure 3

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Non Compliant: Medium Risk		Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur □		
Non Compliant: Low Risk		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)		
Non Compliant: Administrative				
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
43(d)	43(d)	(d) include proposed construction of active monitoring bores within the largest components of at least the two forthcoming extraction Phases (on a rolling basis), each to collect at least 2 years of continuous baseline groundwater monitoring data prior to extraction commencing with that Phase.	MW9, MW13, MW12	Figure 3
44	44	The results of the Groundwater Monitoring Program shall be reported the Department and DPI-Water, using contour plans depicting the surface topography, updated contour maps of the wet weather high groundwater level of the regional aquifer and proposed depth of extraction for each extraction Phase. Reporting is to occur on a six monthly basis for the duration of extractive operations, and throughout rehabilitation of the site, unless otherwise agreed with the Secretary. The Applicant shall implement the Groundwater Monitoring Program as approved from time to time by the Secretary.	GW Monitoring Program approved Aug 2018.	5.4
Process Water Dam Design and Construction				
45	45	The Applicant must ensure that the Process Water Dam is designed and constructed in a manner that satisfies the design and construction criteria for the Process Water Dam as developed under the Surface Water Management Plan (see condition 42(b) above).	Process Dam construction no longer required	5.6
Noise				
Noise Management Plan				
46	46	The Applicant shall prepare a Noise Management Plan as part of the EMP	A Noise Management Plan has been prepared as part of the OEMP and updated in 2016.	NMP
46 (a)	46 (a)	The Noise Management Plan shall: (a) identify existing and potential noise sources and their relative contribution to noise impacts from the development;	Approved 9/12/16	NMP
46 (b)	46 (b)	(b) specify appropriate intervals for noise monitoring to evaluate, assess and report noise emission levels due to construction and normal operations of the development under prevailing weather conditions;	Approved 9/12/16	NMP
46 (c)	46 (c)	(c) outline the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements, the design of any noise modelling or other studies, including the means for determining the noise levels emitted by the development;	NMP 2016 approved 9/12/16	NMP

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Non Compliant: Low Risk		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)		
Non Compliant: Administrative				
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
46 (d)	46 (d)	(d) specify measures to be taken to document any higher level of impacts or patterns of temperature inversions, and detail actions to quantify and ameliorate enhanced impacts if they occur;	Approved 9/12/16	NMP
46 (e)	46 (e)	(e) provide details of noise amelioration measures, including measures to be used to reduce the impact of intermittent, low frequency and tonal noise (including truck reversing alarms) and reactive management responses for particular noise sources; and	Approved 9/12/16	NMP
46 (f)	46 (f)	(f) contingency measures to be implemented should noise complaints be received.	Approved 9/12/16	NMP
46 (g)	46 (g)	(g) provision for the notification of adjoining property owners of the commencement and duration of works adjoining the boundary;	Approved 9/12/16	NMP
46 (h)	46 (h)	(h) construction of temporary noise shielding to residences affected by short-term noise impacts, including the bund recommended under Modification 2, and include an assessment of the effectiveness of this measure in reducing noise levels; and	Noise monitoring undertaken June 2019 shows compliance with required noise criteria.	5.7
46(i)	46(i)	(i) include a noise reduction strategy for typical operations to ensure the noise levels from these operations do not exceed the noise criteria specified in Condition 47. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	Noise monitoring undertaken June 2019 shows compliance with required noise criteria.	NMP
47	47	For typical operations, noise from the premises must not exceed: • an LAeq,15 min noise emission criterion of 43 dB(A) (7am to 6pm) Monday to Saturday; • an LAeq,15 min noise emission criterion of 40 dB(A) (6am to 7am) Monday to Saturday; and • an LA1,1 minute noise emission criterion of 50 dB(A) (6am to 7am) Monday to Saturday.Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy (as may be updated or replaced from time-to-time). However, these criteria do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement."	Noise monitoring undertaken June 2019 shows compliance with required noise criteria.	5.7, Appendix I
47(a)	47(a)	The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dB(A) when measured at 7 metres.	The excavator that exceeded the sound power level last report period was not in use during the current report period.	5.7, Appendix I

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
47(b)	47(b)	47(b)The on-site generator is to be fitted with an acoustic enclosure to ensure that noise levels less than 44dB(A) at 30m are achieved.	Noise monitoring undertaken June 2019 shows compliance with required noise criteria.	5.7, Appendix I
47(c)	47(c)	A noise compliance investigation is to undertaken within one month of the installation of the equipment to demonstrate compliance with the noise level limits stated in Conditions 47(a) and 47(b). The results of the compliance investigation are to be provided for the approval of the Secretary within 14 days of the completion of the investigations.	Noise report supplied to DPE 5/6/2018	5.7
47(d)	47(d)	The Applicant must ensure works associated with atypical operations, as described in Modification 2, only occur: (a) for a maximum of 24 days in a year, and only between 8 am to 5 pm on those days, Monday to Saturday; (b) after an investigation of options for avoiding multiple atypical operations at any one time so as to limit noise levels at affected receptors, and the outcomes of this investigation are detailed in the Noise Management Plan; and (c) at least 24 hours after notifying potentially affected receptors, with such notification to include information on the duration and extent of works, the likely noise to be experienced, and a contact telephone number.	No atypical works this report period	Not required
Traffic and Transport				
Road Noise Management Plan				
48	48	The Applicant shall ensure that traffic noise from the development does not exceed (L Aeq(1 hr)) 55 dB(A) between 7 am and 10 pm and 50 dB(A) between 10 pm and 7 am at any affected residence under adverse weather conditions. Where ambient Leq levels already exceed these criteria, the Applicant shall ensure that traffic noise from the development does not result in an increase of more than 2 dB(A). Note: Adverse weather conditions means in the presence of winds up to 3 metres per second and/or temperature inversions of up to 4 degrees Centigrade per 100 metres.	Noise monitoring undertaken June 2019 shows compliance with required noise criteria.	5.7, Appendix I
49	49	The Applicant shall prepare a Road Noise Management Plan as part of the EMP. The Plan shall document measures to be taken to meet the criteria, including a monitoring, reporting and response program; and methods for educating drivers in the reduction of road noise impacts. The Applicant shall implement the approved management plan as approved from time to time by the Secretary.	Road Noise Management Plan has been prepared and approved in 2016.	NMP

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
50	50	The Applicant shall ensure that truck movements associated with the development do not exceed 100 movements per day (50 laden truck movements) or 20 (10 laden truck movements) movements per hour, during construction or operation.	Weighbridge is not capable of logging movements per hour. Maximum laden trucks per day was 24 on Friday 16th November, which equates to an average of 2.0 per hour. Each truck takes 6-8 minutes to load, therefore no more than 10 per hour is possible.	4.1
51	51	The Applicant shall pay to Council a contribution under Section 94A of the Act at the rate of \$0.65 per tonne of all extracted/ processed material transported from the subject site. The following conditions apply to the payment of this contribution: (A) The contribution will be calculated and paid monthly from the date of this Consent; (b) The contribution will be indexed and adjusted annually as from the date of Consent, in accordance with the Consumer Price Index. This adjustment will be applicable to each financial year for the duration of this Consent and shall take effect from and including July each year, commencing 1 July 2000; (c) On or before the fourteenth day of each month for the duration of the Consent, the Applicant shall deliver to Council weighbridge records showing the true quantities of extracted/processed material transported from the property during the immediately preceding month and the Council will then, as soon as it can conveniently do so, issue an invoice to the Applicant, to be paid within fourteen days; (d) The Council has the right to inspect and have the original records relating to any extraction/processing material, including numbers and types of laden trucks, trailers and load quantities transported from the property audited, at any time when Council makes a written request to do so; (e) The Council will pay all the said contribution payments into a specially identified account for payment towards the rehabilitation, restoration, repair and/or maintenance of Old Northern and Wisemans Ferry Roads within the Baulkham Hills Shire boundary.	Records indicate Section 94 contributions are paid.	
Flora and Fauna				
52		Deleted		

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
53	53	The Applicant shall not clear the strip of remnant vegetation along the southern fence line (Old Northern Road) and the vegetation to the north of the site entrance (Roberts Road) containing Blue Mountains Mahogany (<i>Eucalyptus notabilis</i>). This area shall be fenced off to prevent vehicles entering the area.	The areas have been maintained. The vegetation to the north of the site entrance is fenced off using electric fence and there is evidence that the access road is rehabilitating	5.8
54	54	In construction of the bund walls at the corner of Roberts Road and Old Northern Road, the Applicant shall minimise disturbance to existing native vegetation.	Bundwalls have been constructed with minimal disturbance.	5.9
Flora and Fauna Management Plan				
55	55	The Applicant shall prepare a Flora and Fauna Management Plan as part of the EMP. The Plan shall be prepared in consultation with National Parks and Wildlife Service and Council, and shall:	Flora and Fauna Management Plan has been prepared and updated in 2016. OEH (NPWS) was consulted but declined to make comments. Council comments have been included in report. Report approved 9/12/16	FFMP
55 a)	55 a)	(a) describe the characteristics and location of species, populations and communities that the proposal may impact upon;	Flora and Fauna Management Plan has been prepared and updated in 2016. Report approved 9/12/16	FFMP
55 b)	55 b)	(b) consider the feasibility and practicality of salvaging trees removed for the development for relocation to conserved or rehabilitated areas, for the purposes of reconstructing habitat for ground fauna	Flora and Fauna Management Plan has been prepared and updated in 2016. Report approved 9/12/16	FFMP

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
55 c)	55 c)	(c) contain a program for the active management and maintenance of all conserved and rehabilitated vegetation (as detailed in the EIS and required under this Consent) including consideration of: <ul style="list-style-type: none"> • post-extraction land use objectives for the site;• utilisation of local endemic species or species naturally occurring in the Maroota area; • planting around the conservation area to further buffer this area and enhance its long term viability as a bushland ecosystem; • connection of existing areas and future areas of revegetation to form a network of wildlife corridors throughout site and to adjoining lands to facilitate species recruitment through natural immigration; • provision of rocks of varying sizes to provide refuge and basking sites for herpetofauna; • fencing of revegetated areas to prohibit grazing by stock; and • provision of artificial nest boxes for a range of arboreal fauna. 	Flora and Fauna Management Plan has been prepared and updated in 2016. Report approved 9/12/16	FFMP
55 d)	55 d)	(d) mitigation measures to be implemented should operations compromise the significant flora and fauna communities identified in the EIS;	Flora and Fauna Management Plan has been prepared and updated in 2016. Report approved 9/12/16	FFMP
55 e)	55 e)	(e) an ongoing monitoring program of the existing and proposed revegetated areas to assess their floristical structure and diversity, resilience and robustness to disturbance, and fauna species diversity. The information obtained from the monitoring shall be used to guide future revegetation and management efforts; and	Flora and Fauna Management Plan has been prepared and updated in 2016. Report approved 9/12/16	FFMP
55 f)	55 f)	(f) include detailed performance and completion criteria for evaluating the performance of the flora and fauna management measures and rehabilitation of the site, including triggers for any necessary remedial action.	Flora and Fauna Management Plan has been prepared and updated in 2016. Report approved 9/12/16	FFMP

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
56	56	<p>The Applicant shall maintain the revegetated areas for the duration of the Consent. Maintenance may include:</p> <ul style="list-style-type: none"> • replanting failed or unsatisfactory areas • repairing erosion problems • fire management – fire suppression or fire encouragement • pest and weed control • control of feral animal populations • maintain and repair fencing • fertiliser application • watering plants in drier areas, especially in the establishment phase • application of lime or gypsum to control pH and improve soil structure. 	Monitoring of the remnant vegetation was undertaken in July 2019	5.8 and 5.9
Heritage				
57	57	If, during the development, the Applicant becomes aware of any heritage or archaeological material, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, the Heritage Office, and the Local Aboriginal Land Councils. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work.	No heritage or archaeological sites have been located	Not required
Landscape and Rehabilitation				
Rehabilitation Objectives				
58	58	The Applicant shall rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must comply with the objectives in Table 1:	Rehabilitation Plan approved August 2018	5.9
Table 1	Table 1	<p>Site (as a whole)</p> <ul style="list-style-type: none"> • Safe, stable and non-polluting • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land 	Rehabilitation Plan approved August 2018	5.9
Table 1	Table 1	<p>Surface Infrastructure</p> <ul style="list-style-type: none"> • Decommissioned and removed, unless the Secretary agrees otherwise 	Rehabilitation Plan approved August 2018	5.9
Table 1	Table 1	<p>Quarry Benches</p> <ul style="list-style-type: none"> • Landscaped and vegetated using native tree and understorey species 	Rehabilitation Plan approved August 2018	5.9
Table 1	Table 1	<p>Quarry Pit Floor</p> <ul style="list-style-type: none"> • Landscaped and revegetated using improved pasture species, native trees and understorey species 	Rehabilitation Plan approved August 2018	5.9

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
Table 1	Table 1	Final Void <ul style="list-style-type: none"> Minimise the height and slope of batters Minimise the drainage catchment 	Rehabilitation Plan approved August 2018	5.9
Table 1	Table 1	Community <ul style="list-style-type: none"> Ensure public safety Minimise the adverse socio-economic effects of quarry closure 	Rehabilitation Plan approved August 2018	5.9
Progressive Rehabilitation				
59	59	The Applicant shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation. Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.	Dust monitoring indicates compliance with required levels. High readings during the reporting period were caused by bushfire smoke.	5.9
Landscape and Rehabilitation Management Plan				
60(a)	60(a)	The Applicant shall prepare a Landscape and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be submitted to the Secretary for approval by 30 June 2017, unless otherwise agreed by the Secretary;	Rehabilitation Plan approved August 2018	5.9
60(b)	60(b)	(b) provide details of the conceptual final landform and associated land uses for the site;	Rehabilitation Plan approved August 2018	LRMP
60(c)	60(c)	(c) describe the short, medium and long-term measures that would be implemented to ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;	Rehabilitation Plan approved August 2018	LRMP

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
60(d)	60(d)	(d) include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following the 3 years covered by the initial approval of the plan) including the procedures to be implemented for: <ul style="list-style-type: none"> • maximising the salvage of environmental resources within the approved disturbance area for beneficial reuse; • protecting vegetation and fauna habitat outside the approved disturbance area on-site; • minimising the impacts on native fauna; • landscaping the site to minimise visual and lighting impacts; • reviewing improved pasture species and application rates; • controlling weeds and feral pests; • controlling erosion; • controlling access; and • bushfire management; 	Rehabilitation Plan approved August 2018	LRMP
60(e)	60(e)	(e) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;	Rehabilitation Plan approved August 2018	5.8 and 5.9
60(f)	60(f)	(f) include a mass balance calculation to ensure that appropriate volumes of material are available to implement the final landform as described in this plan;	Rehabilitation Plan approved August 2018	LRMP
60(g)	60(g)	(g) provide for the construction and maintenance of the process water dam in accordance with the approved design and construction criteria (see Condition 42(b));	Rehabilitation Plan approved August 2018	LRMP
60(h)	60(h)	(h) identify the potential risks to the successful rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks; and	Rehabilitation Plan approved August 2018	LRMP
60(i)	60(i)	(i) include details of who would be responsible for monitoring, reviewing, and implementing the plan. The Applicant shall implement the management plan as approved from time to time by the Secretary	Rehabilitation Plan approved August 2018	LRMP
61	61	By 31 December 2017, the Applicant shall lodge a Conservation and Rehabilitation Bond with the Department to ensure that the management of biodiversity and the rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the Flora and Fauna Management Plan and Landscape and Rehabilitation Plan. The sum of the bond shall be determined by:	Rehabilitation Plan containing calculation approved Aug 2018. DPE yet to inform operator how bond to be paid.	Not required

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DA Conditions

Compliant		Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence		
Non Compliant: High Risk		Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur		
Non Compliant: Medium Risk		Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur □		
Non Compliant: Low Risk		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)		
Non Compliant: Administrative				
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
61(a)	61(a)	(a) calculating the cost of rehabilitating the site taking into account the likely surface disturbance over the following 3 years of quarrying operations; and	Rehabilitation Plan containing calculation approved Aug 2018. DPE yet to inform operator how bond to be paid.	Not required
61(b)	61(b)	(b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary. Note: If the rehabilitation of the site is completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the rehabilitation of the site is not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.	The NSW Department of Primary Industries, Division of Resources and Energy Rehabilitation Cost Estimate Tool was used by VGT to calculate the expected costs.	Not required
62	62	Within 3 months of each Independent Environmental Audit (see Condition 70), the Applicant shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the:	Next audit following the requirements for the bond will be 2020.	Not required
62(a)	62(a)	(a) effects of inflation;	Next audit following the requirements for the bond will be 2020.	Not required
62(b)	62(b)	(b) likely cost of rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and	Next audit following the requirements for the bond will be 2020.	Not required
62(c)	62(c)	(c) performance of the implementation of the rehabilitation of the site to date.	Next audit following the requirements for the bond will be 2020.	Not required
Environmental Management				
Environmental Management Strategy				
63	63	The Applicant shall prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: (a) be submitted to the Secretary for approval by 30 June 2016;	Revised Strategy submitted 25/11/2016, approved 9/12/16	EMS
63 (b)	63 (b)	(b) provide the strategic framework for environmental management of the development;	Revised Strategy submitted 25/11/2016, approved 9/12/16	EMS

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

DA Conditions

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Non Compliant: Administrative		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)		
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
63 (c)	63 (c)	(c) identify the statutory approvals that apply to the development;	Revised Strategy submitted 25/11/2016, approved 9/12/16	EMS
63 (d)	63 (d)	(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Revised Strategy submitted 25/11/2016, approved 9/12/16	EMS
63 (e)	63 (e)	(e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; • respond to emergencies; and 	Revised Strategy submitted 25/11/2016, approved 9/12/16	EMS
63 (f)	63 (f)	(f) include: <ul style="list-style-type: none"> • copies of any strategies, plans and programs approved under the conditions of this consent; and • a clear plan depicting all the monitoring required to be carried out in relation to the development. 	Revised Strategy submitted 25/11/2016, approved 9/12/16	EMS
Adaptive Management				
64	64	The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this Consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this Consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity: <ul style="list-style-type: none"> (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary. 	Exceedances of PM10 24 hour and Annual criteria were caused by bushfire smoke during extreme conditions. Investigation revealed no actions required.	5.2

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Non Compliant: Low Risk		Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur □		
Non Compliant: Administrative		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)		
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
Management Plan Requirements				
65 (a)	65 (a)	The Applicant shall ensure that the management plans required under this Consent are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data;	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (b)	65 (b)	(b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (c)	65 (c)	(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (d)	65 (d)	(d) a program to monitor and report on the: • impacts and environmental performance of the development; • effectiveness of any management measures (see c above);	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (e)	65 (e)	(e) a contingency plan to manage any unpredicted impacts and their consequences;	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (f)	65 (f)	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (g)	65 (g)	(g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and	Revised plans submitted 25/11/16, approved 6/12/16	EMP
65 (h)	65 (h)	(h) a protocol for periodic review of the plan.	Revised plans submitted 25/11/16, approved 6/12/16	EMP
Annual Review				
66	66	By the end of March each year (or as otherwise agreed by the Secretary), the Applicant shall review the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary. This review must:	Previous report 2018, current report period 1/1/19 to 31/12/19.	Submitted March 2020
66 (a)	66 (a)	(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;		Section 4

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

DA Conditions

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Non Compliant: Administrative	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)

Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
66 (b)	66 (b)	(b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the: <ul style="list-style-type: none"> • relevant statutory requirements, limits or performance measures/criteria; • monitoring results of previous years; and • relevant predictions in the EIS, Modification 1 and Modification 2; 		Section 5
66 (c)	66 (c)	(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;		Section 1, 5 and Appendix A
66 (d)	66 (d)	(d) identify any trends in the monitoring data over the life of the development;		Section 5
66 (e)	66 (e)	(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and		Section 5
66 (f)	66 (f)	(f) describe what measures will be implemented over the next year to improve the environmental performance of the development.		Section 5, 6, and 7
Revision of Strategies, Plans and Programs				
67	67	<p>Within 3 months of the submission of:</p> <p>(a) an annual review under Condition 66 above;</p> <p>(b) an incident report under Condition 68 below;</p> <p>(c) an audit report under Condition 70 below; or</p> <p>(d) any modification to the conditions of this Consent (unless the conditions require otherwise), the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this Consent to the satisfaction of the Secretary.</p> <p>Where this review leads to revisions in any such document, then within 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval.</p> <p>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</p>		Due 3 months from approval of this report
Reporting				
Incident Reporting				
68	68	The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	PM10 exceedances were reported to the EPA and DPIE during the reporting period. No actions were or further reports were requested.	5.2

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Non Compliant: Administrative		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)		
Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
Regular Reporting				
69	69	The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this Consent.	www.vgt.com.au/hodgsons	4.2
Independent Environmental Audit				
70	70	Every 3 years from the date of this consent and at the completion of works under this consent, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:	Independent Environmental Audit was conducted in 2017 by Newport Technical Services.	Section 7
70 (a)	70 (a)	(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.	Newport Technical Services approved 13/3/17.	IEA
70 (b)	70 (b)	(b) include consultation with the relevant agencies;		IEA
70 (c)	70 (c)	(c) assess the environmental performance of the development and assess whether it is complying with the requirements in this Consent and any relevant EPL (including any assessment, plan or program required under these approvals);		IEA
70 (d)	70 (d)	(d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and		IEA
70 (e)	70 (e)	(e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.		IEA
71	71	Within 6 weeks of the completion of this audit, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.		IEA

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Mod 2 Condition Compliance at 31/12/2018	Mod 2 Condition Compliance at 31/12/2019	Condition Text	Details of compliance status	Where addressed in Annual Review or other document
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Access to Information

72	72	<p>By 30 June 2016 the Applicant shall:</p> <p>(a) make copies of the following publicly available on its website:</p> <ul style="list-style-type: none"> • the documents identified in Condition 2(a) above; • current statutory approvals for the development; • approved strategies, plans and programs required under the conditions of this Consent; • a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this Consent, or any approved plans and programs; • a complaints register, which is to be updated monthly; • the annual reviews of the development (for the last 5 years, if applicable); • any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit; • any other matter required by the Secretary; and <p>(b) keep this information up-to-date, to the satisfaction of the Secretary.</p>	<p>Approved documents available at www.vgt.com.au/hodgsons. Updated monthly</p>	
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Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

EPL Licence no. 6535

Compliant

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Non Compliant: Administrative 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)

Condition	Condition Text	Details of compliance status
Compliance Summary		
Number of Conditions Non-compliant		
Non Compliant: High Risk	Nil	
Non Compliant: Medium Risk	Nil	
Non Compliant: Low Risk	Nil	
Non Compliant: Administrative	Nil	
Administrative Conditions		
A1.1	Crushing Grinding or Separating not to exceed 100000-500000T processed p/a. Extractive Activities no to exceed 100000-500000T extracted, processed or stored.	Crushing grinding or separating does not exceed this limit.
A2.1	Licence applies to the following premises: HB Maroota Pty Ltd, Cnr Roberts & Old Northern Roads, Maroota, NSW 2756, Lot 1 DP 228308, Lot 2 DP 228308, Lot 2 DP 313327	Compliant
A3.1	Licence applies to all other activities carried on at the premises, including agricultural produce industries and aircraft (helicopter) facilities	Compliant
A4.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	Compliant
Discharges to Air and Water and Applications to Land		
P1.1	The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area (no table included)	N/A

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Condition	Condition Text	Details of compliance status
Limit Conditions		
L1.1	(Pollution of Water) Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997	No waters have been polluted
L2.1	Noise from the premises must not exceed the sound pressure level expressed as LA10 (15 minute) of 45 dB(A), except as expressly provided by this licence	Noise monitoring undertaken June 2019 indicates compliance
L2.2	Noise from the premises is to be measured or computed at any point within one metre of any residential boundary, or at any point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition L2.1	Noise monitoring undertaken June 2019 indicates compliance
Operating Conditions		
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Compliant
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Compliant
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Dust monitoring results illustrate compliance
O3.2	All loaded trucks entering or leaving the premises must have their loads covered.	Trucks are covered when entering and leaving premises
O4.1	The licensee must prevent any tracking of mud on to public roads by vehicles leaving the premises.	Haul road is sealed from road to weighbridge. Water used to clean off road area as required.
Monitoring and Recording Conditions		
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Noise monitoring undertaken June 2019 has been recorded and retained.
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Noise monitoring undertaken June 2019 has been recorded and retained.

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Condition	Condition Text	Details of compliance status
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	"Samples" not required by this licence. Date, time, location and technician undertaking noise monitoring has been included in the noise monitoring report.
M2.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	No complaints have been made. Log book is maintained on site and reported on website
M2.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Complaints register
M2.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Complaints Register
M2.4	The record must be produced to any authorised officer of the EPA who asks to see them.	No complaints have been made. Log book is maintained on site and reported on website
M3.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Complaints phone number is advertised in the white pages and signage at the front gate.
M3.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Complaints phone number is advertised in the white pages, website and signage at the front gate.
M3.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence	N/A

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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Non Compliant: Administrative	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)

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

Monitoring Bore Licences

Compliant

Non Compliant: High Risk Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence

Non Compliant: Medium Risk Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur

Non Compliant: Low Risk Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur

Non Compliant: Administrative 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)

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

Monitoring Bore Licences

Compliant

Non Compliant: High Risk Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence

Non Compliant: Medium Risk Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur

Non Compliant: Low Risk Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur

Non Compliant: Administrative 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)

Bore Name	Licence Number	Date Commenced	Valid to	Purpose	Cond #	Condition Text	Details of compliance status
					1	The licence shall lapse if the work is not commenced and completed within three years of the date of the issue of the licence	Latest works commenced December 2016
					2	The licensee shall within two months of completion or after the issue of the licence if the work is existing, furnish to NSW Office of Water:-	Mar-17
					a	Details of the work set out in the attached for "A" (must be completed by the driller)	Forms received from driller and sent NOW March 2017
					b	A plan accurately showing the location of the work, in relation to portion and property boundaries	Sent to NOW March 2017
					c	A one litre sample for all licences other than those for stock, domestic, test bores and farming purposes	Test bore, therefore not required
					d	Details of any water analysis and/or pumping tests	N/A
					3	The licensee shall allow NSW Office of Water or any person authorised by it, full and free access to the works, either during or after construction, for the purpose of carrying out inspection or test of the works and its fittings and shall carry out any work or alterations deemed necessary by the department for the protection and proper maintenance of the works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.	Access available
					4	If during the construction of the work, saline or polluted water is encountered above the producing aquifer, such water shall be sealed off.	Not encountered
					5a	The licensee shall notify NSW Office of Water if a flowing supply of water is obtained. The bore shall then be lined with casing and cemented and a suitable closing gear shall be attached to the borehead as specified by NSW Office of Water	Not flowing
					5b	If a flowing supply of water is obtained from the work, the licensee shall only distribute water from the bore head by a system of pipe lines and shall not distribute it in drains, natural or artificial channels or depressions.	Not flowing
					6	If a work is abandoned at any time the licensee shall notify NSW Office of Water that the work has been abandoned and seal the aquifer.	In use

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

Monitoring Bore Licences

Compliant

Non Compliant: High Risk Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence

Non Compliant: Medium Risk Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur

Non Compliant: Low Risk Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur

Non Compliant: Administrative 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)

Bore Name	Licence Number	Date Commenced	Valid to	Purpose	Cond #	Condition Text	Details of compliance status
					7	The licensee shall not allow any tailwater / drainage to discharge into or onto:- any adjoining property; any other persons land; any Crown land; any river, creek or watercourse; any native vegetation as described under the Native Vegetation Conservation Act; any Wetlands of environmental significance	Compliant
					8	Works used for the purpose of conveying, distributing or storing water taken by means of the licensed work shall not be constructed or installed so as to obstruct the reasonable passage of flood waters flowing into or from a river.	No conveying, distributing or storing water applicable
					9	If the bore authorised by this license is lined with steel or plastic casing the inside diameter of that casing shall not exceed 2200mm	Casing 65mm plastic
					10	Water shall not be pumped from the bore authorised by this license for any purpose other than groundwater investigation	Compliant
					11	Subject to condition (12) the licensee shall within two months of the date of completion of the bore authorised by the license: Backfill it with clay or cement to groundlevel, after withdrawing any casing (lining) or render it ineffective by any other means acceptable to the department	See condition 12
					12	Condition (11) shall have no force or effect if: at the relevant time there is with NSW Office of Water an application in respect of which the Department has not made a decision to convert the groundwater investigation bore into a production bore; or the licensee has completed the bore for the purpose of measuring water levels or water quality by the addition of casing with a diameter not exceeding 220mm.	Test bore, casing 65mm

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Non Compliant: Administrative	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)

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

Number	Text	Compliance Status
Compliance Summary	Number of Conditions Non-compliant	
Non Compliant: High Risk	Nil	
Non Compliant: Medium Risk	Nil	
Non Compliant: Low Risk	Nil	
Non Compliant: Administrative	Nil	
Information		
Source	Maroota Tertiary Sands Groundwater Source	
Tenure Type	Continuing	
Share	45.00 ML	Take for 2018 = 13ML
Take of water		
	From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then: A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river. B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website. C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.	Not located within 40m of a river
MW092900001		
MW060400001	Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.	
MW060500001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.	
	The total volume of water taken under this access licence in any water year must not exceed a volume equal to: A. the sum of water in the account from the available water determination for the current year, plus B. the net amount of water assigned to or from the account under a water allocation assignment, plus C. any water recredited by the Minister to the account.	
MW060300001		
Monitoring and recording		
MW233800001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Non Compliant: Administrative	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)

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

Number	Text	Compliance Status
MW233600001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	
MW233700001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	
MW060600001	The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.	
MW233900001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Non Compliant: Administrative	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)

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

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Non Compliant: Administrative	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)

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

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Non Compliant: Administrative	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)

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
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Number	Text	Compliance Status
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MW233700001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	
MW060600001	The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.	
MW233900001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.	

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

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

Hodgsons Roberts Rd Sand Quarry Condition Compliance Summary January 2019 to December 2019

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

Compliant	
Non Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non Compliant: Medium Risk	Non-compliance with: • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Non Compliant: Administrative	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)

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

Appendix B

Consolidated Development Consent Conditions

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

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

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

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

Andrew Refshauge MP
Minister for Urban Affairs and Planning

Sydney 2000 File No. S98/00772

SCHEDULE 1

Application made by: Dr L. S. Martin ('the Applicant').

To: The Minister for Urban Affairs and Planning ('the Minister').

In respect of: Lots 1 and 2 DP 228308, Lot 2 DP 312327, Roberts Road, Maroota, in the Baulkham Hills Local Government Area.

For the following: Extraction and on-site processing of sand, clay and pebble; construction of a bund wall.

Development Application: DA No. 267-11-99 lodged with the Department of Urban Affairs and Planning on 22 November 1999, accompanied by a Environmental Impact Statement prepared by Nexus Environmental Planning Pty Ltd. and dated November 1999.

Determination: 1) To ascertain the date upon which the consent becomes effective, refer to Section 83 of the Act.
 2) To ascertain the date upon which the consent is liable to lapse, refer to Section 95 of the Act.
 3) Section 97 of the Act confers on an applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of notice.

This instrument includes changes made by DA 267-11-99 Mod 1 in 29 November 2000 (marked red).

This instrument includes changes made by DA 267-11-99 Mod 3 in 18 August 2015 (marked blue).

This instrument includes changes made by DA 267-11-99 Mod 2 in 18 March 2016 (marked green).

Schedule 2**Conditions of Development Consent****DEFINITIONS**

The Act	<i>Environmental Planning and Assessment Act 1979</i> , as amended
Approval from EPA	means approved in writing by the EPA or as specified as a condition of a licence
BCA	Building Code of Australia
Conditions of this consent	The conditions set out in this Schedule
Construction	Construction of the bund wall
Council	The Hills Shire Council
DA	Development Application
DCP 500	Baulkham Hills Shire Council Development Control Plan No. 500 – Extractive Industry
Department	Department of Planning and Environment
DPI-Water	Department of Primary Industries - Water
EIS	Development application DA 267-11-99 and supporting documentation including the Environmental Impact Statement prepared by Nexus Environmental Planning Pty Ltd, dated November 1999, including the attached landscaping plan; the fax from Holmes Air Sciences dated 21 December 1999; the letter from Nexus Environmental Planning Pty Ltd dated 21 December 1999 and attachments; the letter from Woodward-Clyde dated 21 December 1999; the letter from Woodward-Clyde dated 16 December 1999; the letter from Dick Benbow and Associates Pty Ltd dated 5 January 2000 and attachments; the letter from Dick Benbow and Associates Pty Ltd dated 27 January 2000; and the two faxes from Dick Benbow and Associates Pty Ltd dated 17 February 2000 and attachments, except as modified by the report of Dick Benbow and Associates (Report No 10065 Issue 1) dated 26 June 2000
EMP	Environmental Management Plan
EPA	Environment Protection Authority
GTA	General Term of Approval
L _{A10} (15 minute)	is the sound pressure level that is exceeded for 10% of the time when measured over a 15 minute period
m AHD	metres Australian Height Datum
Modification 1	Modification application 07-00M1 to DA 267-11-99 and supporting SEE titled Amendment to Method of Extraction and Related Acoustic Bund Wall, dated 17 July 2000 and prepared by Nexus Environmental Planning Pty Ltd
Modification 2	Modification application DA 267-11-99 Mod 2 and supporting documentation titled: <i>Environmental Assessment Section 75W Modification (2): DA 267-11-99, Hodgson Quarries and Plant Pty Ltd: Roberts Road: Maroota</i> (Volumes 1 and 2), dated 23 September 2015 and prepared by Nexus Environmental Planning Pty Ltd; Response to Submissions <i>75W Modification (2): DA 267-11-99, Hodgson Quarries and Plant Pty Ltd: Roberts Road: Maroota</i> , dated 3 December 2015 and prepared by Nexus Environmental Planning Pty Ltd; and email correspondence from Nexus Environmental Planning Pty Ltd to the Department, dated 12 February 2016, 16 February 2016 and 24 February
Modification 3	Modification application DA 267-11-99 Mod 3 and supporting documentation titled <i>Environmental Assessment Section 75W Modification (3): DA 267-11-99, Hodgson Quarry Products Pty Ltd: Roberts Road: Maroota</i> , dated 17 May 2015 and prepared by Nexus Environmental

NPWS	Planning Pty Ltd
PCA	National Parks and Wildlife Service
Process Water Dam	Principal Certifying Authority
Secretary	The process water dam located in the north-eastern corner of the site
Subject Site	Secretary of the Department, or nominee
	Lots 1 and 2 DP 228308, Lot 2 DP 312327, Roberts Road, Maroota, in the Baulkham Hills Local Government Area
Wet weather high groundwater level	The rolling average of all recorded groundwater level measurements at any monitoring location on the site, as first recorded following any rainfall event of at least 50 mm over any 24-hour period, and as contour mapped using this data

INTEGRATED DEVELOPMENT

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

GENERAL

Obligation to Prevent and Minimise Harm to the Environment

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

Adherence to Terms of DA and EIS

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

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

Compliance

3. The Applicant shall comply with all reasonable requirements of the [Secretary](#) in respect of the implementation of the Conditions of this Consent, within such time as the [Secretary](#) agrees. The [Secretary](#) may order the Applicant to cease work until non-compliance has been addressed to the [Secretary's](#) satisfaction.
4. The Applicant shall ensure that all contractors and sub-contractors are aware of, and comply with, the Conditions of this Consent.
5. The Applicant shall comply with all relevant conditions prescribed in Part 7 of the *Environmental Planning and Assessment Regulation 1994*, as required by Section 80A (11) of the Act.
6. The Applicant will submit a Conditions Compliance Report to the [Secretary](#) prior to the commencement of extraction in areas that are not currently subject to extraction. Subsequent reports will be submitted annually for the first three years of extraction in areas not currently subject to extraction. Further reports shall be submitted as required by the [Secretary](#).

To enable ready comparison with the EIS's predictions, diagrams and tables, the Conditions Compliance Reports shall include, but not be limited to, the following matters:

- (a) a compliance audit of the performance of the project against conditions of Consent and statutory approvals;
- (b) a review of the effectiveness of the environmental management of the development;
- (c) the results of environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;
- (d) a listing of any variations obtained to approvals applicable to the DA since the last report;

- (e) a record of all complaints and the actions taken to mitigate all such complaints;
 - (f) a report detailing the rehabilitation measures undertaken since the last report; and
 - (g) environmental management targets and strategies for stages of the development yet to be completed.
7. The **Secretary** may, after considering a Conditions Compliance Report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant shall comply with those requirements within such time as the **Secretary** may direct.

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

Commencement and duration

8. No extraction shall commence in areas that are not currently subject to extraction, until the Applicant has:
- (a) **constructed the bund walls at the corner of Roberts Road and Old Northern Road;**
 - (b) submitted the Conditions Compliance Report required under Condition 6; and
 - (c) obtained all licences necessary for the commencement of extraction.
9. The duration of extraction under this Consent is **until 31 May 2025**. The Applicant shall ensure that rehabilitation of all disturbed areas is completed within six months of completion of extraction.

Complaints Procedures

10. Prior to commencement of construction, the Applicant shall:
- (a) publicise a telephone number on which complaints about the subject development can be registered during the hours of operation in Condition 16; and
 - (b) publicise a postal address where written complaints may be lodged.
- The telephone number and postal address shall be displayed on the property where it can be read from a public road, for the duration of the development.
11. The Applicant shall record details of all complaints received and actions taken in response to complaints in an up-to-date log book. The log book shall be made available for inspection upon request by the **Secretary**, the EPA or the Council; and a summary of complaints received shall be included in the Conditions Compliance Reports under Condition 6.
12. The Applicant shall ensure that an initial response to complaints is provided to the complainant within 24 hours of receipt. The Applicant shall then:
- (a) investigate the concerns raised by the complainant and undertake all reasonable attempts to determine the cause of concern; and
 - (b) if adverse impacts are identified, undertake all practicable measures to modify the activity which may be causing the impacts.
13. If the Applicant's response does not address the complaint to the satisfaction of the complainant within six weeks, the Applicant shall inform the **Secretary** and take any action as directed by the **Secretary**. This may include a requirement to carry out independent investigations of noise and/or dust at the cost of the Applicant, in accordance with Condition 14.
14. If the **Secretary** is satisfied that an independent investigation is required, the Applicant shall:
- (a) appoint a qualified independent person or team to plan and implement an investigation to qualify the impact and determine the sources of the impact; and

- (b) bear the cost of the independent investigation and make available plans, programs and other information necessary for the independent person to form an appreciation of the past, present and future works and their effects on dust and/or noise emissions.

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

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

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

Dispute Resolution

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

HOURS OF OPERATION

16. Unless prior written approval of the EPA is obtained, the hours of operation are:
- construction: 7.00am to 6.00pm Monday to Friday
 - extraction and processing of material: 7.00am to 6.00pm, Monday to Friday and 7.00am to 1.00pm on Saturdays
 - vehicle loading: 6.00am to 6.00pm, Monday to Friday and 6.00am to 1.00pm on Saturdays.
- No works shall be undertaken on Sundays or Public Holidays.

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

DEPTH OF EXTRACTION

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

ENVIRONMENTAL MANAGEMENT PLAN

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

The Applicant shall implement the approved management plan as approved from time to time by the [Secretary](#).

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

20. The Operational EMP shall include, but not be limited to:
- (a) environmental objectives for the site;
 - (b) the Air Quality Management Plan (Condition 29);
 - (c) the **Water Management Plan (Condition 42)**;
 - (d) the Noise Management Plan (Condition 46);
 - (e) the Road Noise Management Plan (Condition 48);
 - (f) the Flora and Fauna Management Plan (Condition 55); and
 - (g) the Rehabilitation Plan (Condition 58).
21. The Applicant shall make copies of both EMPs available to Council, EPA and **DPI-Water** within 14 days of approval by the **Secretary**. The Applicant shall also make a current copy of the EMPs available for inspection by the public or these agencies, for the duration of the Consent.
22. The Applicant shall, in consultation with the **Secretary**, the EPA and the **DPI-Water**, update the Operational EMP from time to time in order to ensure continuing compliance with the Conditions of this Consent and all relevant approvals and licenses. The EMR shall be responsible for determining if any significant changes to the Operational EMP should be referred to the **Secretary** for approval.

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

23. *Deleted.*
24. *Deleted.*
25. *Deleted.*
26. *Deleted.*

WASTE

27. The Applicant must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal, or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*. This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence under the *Protection of the Environment Operations Act 1997*.¹

AIR QUALITY

Air Quality Criteria

28. The Applicant shall take all practical steps to manage the development so that the ambient air quality goals for total suspended particles (TSP) of **90 µg/m³ (annual average)**, **particulate matter (PM10) of 50 µg/m³ (24 hours average)** and **30 µg/m³ (annual average)** and the dust deposition goal of 4gm/m² (annual average) are not exceeded as a result of the development, when measured at any monitoring location specified in the Air Quality Management Plan.

Air Quality Management

29. The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall:

¹ Environment Protection Authority General Term of Approval
New South Wales

- (a) identify existing and potential sources of dust deposition, TSP and fine particulates (PM10 and PM2.5) and specify appropriate monitoring intervals and locations. The purpose of the monitoring is to evaluate, assess and report on these emissions and the ambient impacts with the objective of understanding the development's contribution to levels of dust deposition, TSP and fine particulates in ambient air around the site;
- (b) provide a monitoring plan having regard to local meteorology and the relevant Australian Standards, identifying the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements;
- (c) provide details of dust suppression measures for all sources of dust from the development, including a planting and watering regime to ensure that no more than 3 hectares of the site are exposed and active at any one time. The use of a polymer in the water to minimise dust impacts shall be investigated as part of this Plan;
- (d) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and
- (e) provide the design of the reactive management system intended to reduce the day-to-day impacts of dust and fine particulates due to the development.

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

- 30. Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.²
- 31. The Applicant shall cease offending work at such times when the operations are resulting in visible dust emissions blowing in a direction so as to cross onto public roads or lands not owned by the Applicant.
- 32. The Applicant shall install, operate and maintain a sprinkler system to adequately water all cleared areas and stockpiles so as to minimise dust emissions to acceptable levels.
- 33. The Applicant shall ensure that all vehicular movements on unsealed areas are restricted to specific routes and that all vehicles within the subject site keep to a speed limit of 30 km/h.
- 34. The Applicant shall ensure that trucks are covered when entering and leaving the premises carrying loads of potentially dust generating material.

Air Quality Monitoring

- 35. All monitoring equipment is to be installed and operational prior to commencement of construction.
- 36. Operation of dust deposition gauges and monitoring must be carried out in accordance with;
 - (a) Australian Standard 3580.10. 01 (1991) Particulates – Deposited Matter – Gravimetric Method. Approved method AM-19 referred to in *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*, December 1999.
 - (b) Australian Standard 2724.3 (1984) Particulate Matter – Determination of Total Suspended Particulates (TSP) - High Volume Sampler Gravimetric Method. Approved method AM 15 referred to in *Approved Methods for the sampling and Analysis of Air Pollutants in New South Wales*, December 1999.
 - (c) Australian Standard 3580.9.6 (1990) for Suspended Particulate Matter – PM10 High Volume Sampler with Size Selective Inlet-Gravimetric Method. Approved method AM-18 referred to in *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*, December 1999.³

² Environment Protection Authority General Term of Approval

³ Environment Protection Authority General Term of Approval

37. A meteorological station measuring wind speed and direction must be installed and operated by the Applicant at a site determined in consultation with the EPA.⁴

SOIL AND WATER

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

Limits on Extraction

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

Groundwater Study and Remediation Works

39. Within six weeks of the date of approval of Modification 2, the Applicant shall commission a comprehensive groundwater study of the site. This study must:
- (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary and DPI-Water;
 - (b) consult with DPI-Water;
 - (c) examine all existing records of groundwater levels at the site;
 - (d) develop an interim contour map of the wet weather high groundwater level of the regional aquifer, based on all available records (see also Condition 44); and
 - (e) provide advice and recommendations on the Groundwater Monitoring Program as set out in Condition 43.
40. Unless otherwise agreed by the Secretary, the Applicant shall submit a report of the study to the Secretary and DPI-Water within six months of commissioning the study. The report must be accompanied by a Groundwater Management Improvement Program, based on the study's findings and recommendations which includes a program of proposed timeframes for implementation. Should the Applicant propose not to implement any of the report's recommendations, it must provide detailed justification to this effect.

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

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

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

Water Management Plan

42. The Applicant shall prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with DPI-Water by suitably qualified and

⁴ Environment Protection Authority General Term of Approval

experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval by 31 December 2016. The plan must be updated on an annual basis in consultation with DPI-Water for three years from the date of approval of Modification 2 and thereafter as agreed with by the Secretary.

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

- (a) Site Water Balance that:
- includes details of:
 - sources and security of water supply, including contingency planning;
 - water use on site;
 - water management on site, including groundwater inflows to the quarry voids and site discharges; and
 - audit and reporting procedures, including comparisons of the site water balance each calendar year; and
 - describes the measures that would be implemented to minimise clean water use on site and maximise recycling opportunities;
- (b) Surface Water Management Plan, that includes:
- a detailed description of the surface water management system on site, including the:
 - clean water diversion systems;
 - erosion and sediment controls;
 - effluent irrigation system;
 - water transfers from the extraction areas;
 - water storages; and
 - discharge points;
 - design objectives and performance criteria for proposed:
 - erosion and sediment control structures;
 - water storages, including quarry voids;
 - site discharges; and
 - control of water pollution from rehabilitated areas of the site;
 - performance criteria, including trigger levels for investigating any potentially adverse impacts for surface water quality;
 - a program to monitor:
 - the effectiveness of the water management system;
 - site discharge water quality; and
 - surface water level and quality in the Process Water Dam, including the quantification of rainfall inflow, groundwater inflow and evaporation;
 - a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project;
 - long term water quality management objectives and the measures to achieve these objectives;
 - a plan that ensures surface stormwater runoff from the disturbed areas is directed to the sedimentation dam(s);
 - a plan that ensures tailgate drainage does not discharge into or onto any adjoining public or Crown road, any other persons land, any Crown land, any river, creek or watercourse, any groundwater aquifer, any native vegetation as described under the *Native Vegetation Conservation Act 1997* and any wetlands of environmental significance;
 - a detailed description of design and construction criteria for the Process Water Dam based on a feasibility study of:
 - capacity to construct multiple cells within the overall dam footprint (ie a two stage or three stage dam);
 - whether the dam floor and walls are able to be effectively lined with compacted clay (especially for multiple cells);
 - whether effective hydraulic separation can be achieved between such cells;

- rehabilitating such cells to create a single dam within the final landform; and
 - the appropriateness of diverting runoff received from off-site around the dam;
 - a strategy for the decommissioning of water management structures, including storage, sedimentation and leachate dams once extraction is complete; and
 - audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of surface water monitoring results;
- (c) Groundwater Management Plan that takes into account the *Web-based Reporting Guideline* (DPE 2015) and *Groundwater Monitoring and Modelling Plans – Information for Prospective Mining and Petroleum Exploration Activities* (DPI 2014), and includes:
- detailed baseline data on groundwater yield and quality in groundwater bores on privately-owned land, that could be affected by the project;
 - a program to undertake surveyed probe testing of all extracted areas where clay fines have been deposited to:
 - accurately determine the depth of extraction and depth of clay fines;
 - identify any ongoing intersection or other interaction between clay fines and the regional groundwater aquifer;
 - identify any geotechnical characteristics of the emplaced clay fines which may pose risks to workplace safety or implementation of the process water dam design or the final landform; and
 - identify measures which can be successfully used in rehabilitating these areas;
 - a program to monitor potential groundwater quality impacts to the regional aquifer from receiving off-site runoff water in the Process Water Dam;
 - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts, in accordance with the *NSW Aquifer Interference Policy*;
 - a program to monitor:
 - the impacts of the project on:
 - groundwater inflows to water storages;
 - any groundwater bores on privately-owned land that could be affected by the project; and
 - seepage from water storages or backfilled voids on site;
 - a plan to respond to any exceedances of the groundwater assessment criteria;
 - emergency contingency plans for implementation in the event that the groundwater is encountered during excavation; and
 - audit and reporting procedures, including comparisons of the monitoring results each calendar year and quarterly reporting of groundwater monitoring results,

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

Groundwater Monitoring

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

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

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

Process Water Dam Design and Construction

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

NOISE

Noise Management Plan

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

The Noise Management Plan shall:

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

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

47. For typical operations, noise from the premises must not exceed:
- an $L_{Aeq,15 \text{ min}}$ noise emission criterion of 43 dB(A) (7am to 6pm) Monday to Saturday;
 - an $L_{Aeq,15 \text{ min}}$ noise emission criterion of 40 dB(A) (6am to 7am) Monday to Saturday; and
 - an $L_{A,1 \text{ minute}}$ noise emission criterion of 50 dB(A) (6am to 7am) Monday to Saturday.

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

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

- 47(a) The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dB(A) when measured at 7 metres.
- 47(b) The on-site generator is to be fitted with an acoustic enclosure to ensure that noise levels less than 44dB(A) at 30m are achieved.
- 47(c) A noise compliance investigation is to undertaken within one month of the installation of the equipment to demonstrate compliance with the noise level limits stated in Conditions 47(a) and 47(b). The results of the compliance investigation are to be provided for the approval of the Secretary within 14 days of the completion of the investigations.
- 47(d) The Applicant must ensure works associated with atypical operations, as described in Modification 2, only occur:
 - (a) for a maximum of 24 days in a year, and only between 8 am to 5 pm on those days, Monday to Saturday;
 - (b) after an investigation of options for avoiding multiple atypical operations at any one time so as to limit noise levels at affected receptors, and the outcomes of this investigation are detailed in the Noise Management Plan; and
 - (c) at least 24 hours after notifying potentially affected receptors, with such notification to include information on the duration and extent of works, the likely noise to be experienced, and a contact telephone number.

TRAFFIC AND TRANSPORT

Road Noise Management Plan

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

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

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

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

Truck movements

50. The Applicant shall ensure that truck movements associated with the development do not exceed 100 movements per day (50 laden truck movements) or 20 (10 laden truck movements) movements per hour, during construction or operation.

Section 94A Contributions

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

The following conditions apply to the payment of this contribution:

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

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

FLORA AND FAUNA

52. *Deleted.*

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

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

Flora and Fauna Management Plan

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

- utilisation of local endemic species or species naturally occurring in the Maroota area;
 - planting around the conservation area to further buffer this area and enhance its long term viability as a bushland ecosystem;
 - connection of existing areas and future areas of revegetation to form a network of wildlife corridors throughout site and to adjoining lands to facilitate species recruitment through natural immigration;
 - provision of rocks of varying sizes to provide refuge and basking sites for herpetofauna;
 - fencing of revegetated areas to prohibit grazing by stock; and
 - provision of artificial nest boxes for a range of arboreal fauna.
- (d) mitigation measures to be implemented should operations compromise the significant flora and fauna communities identified in the EIS;
- (e) an ongoing monitoring program of the existing and proposed revegetated areas to assess their floristical structure and diversity, resilience and robustness to disturbance, and fauna species diversity. The information obtained from the monitoring shall be used to guide future revegetation and management efforts; and
- (f) include detailed performance and completion criteria for evaluating the performance of the flora and fauna management measures and rehabilitation of the site, including triggers for any necessary remedial action.
56. The Applicant shall maintain the revegetated areas for the duration of the Consent. Maintenance may include:
- replanting failed or unsatisfactory areas
 - repairing erosion problems
 - fire management – fire suppression or fire encouragement
 - pest and weed control
 - control of feral animal populations
 - maintain and repair fencing
 - fertiliser application
 - watering plants in drier areas, especially in the establishment phase
 - application of lime or gypsum to control pH and improve soil structure.

HERITAGE

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

LANDSCAPE AND REHABILITATION

Rehabilitation Objectives

58. The Applicant shall rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must comply with the objectives in Table 1:

Table 1: Rehabilitation Objectives

<i>Feature</i>	<i>Objective</i>
Site (as a whole)	<ul style="list-style-type: none"> • Safe, stable and non-polluting • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land
Surface Infrastructure	<ul style="list-style-type: none"> • Decommissioned and removed, unless the Secretary agrees otherwise

Quarry Benches	<ul style="list-style-type: none"> Landscaped and vegetated using native tree and understorey species
Quarry Pit Floor	<ul style="list-style-type: none"> Landscaped and revegetated using improved pasture species, native trees and understorey species
Final Void	<ul style="list-style-type: none"> Minimise the height and slope of batters Minimise the drainage catchment
Community	<ul style="list-style-type: none"> Ensure public safety Minimise the adverse socio-economic effects of quarry closure

Progressive Rehabilitation

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

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

Landscape and Rehabilitation Management Plan

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

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

Conservation and Rehabilitation Bond

61. By 31 December 2017, the Applicant shall lodge a Conservation and Rehabilitation Bond with the Department to ensure that the management of biodiversity and the rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the Flora and Fauna Management Plan and Landscape and Rehabilitation Plan. The sum of the bond shall be determined by:
- (a) calculating the cost of rehabilitating the site taking into account the likely surface disturbance over the following 3 years of quarrying operations; and
 - (b) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary.
- Note: If the rehabilitation of the site is completed to the satisfaction of the Secretary, then the Secretary will release the bond. If the rehabilitation of the site is not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.*
62. Within 3 months of each Independent Environmental Audit (see Condition 70), the Applicant shall review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the:
- (a) effects of inflation;
 - (b) likely cost of rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and
 - (c) performance of the implementation of the rehabilitation of the site to date.

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

63. The Applicant shall prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
- (a) be submitted to the Secretary for approval by 30 June 2016;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out in relation to the development.

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

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

Adaptive Management

64. The Applicant shall assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this Consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this Consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

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

Management Plan Requirements

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

- (a) detailed baseline data;
- (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria;
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
- (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
- (d) a program to monitor and report on the:
 - impacts and environmental performance of the development;
 - effectiveness of any management measures (see c above);
- (e) a contingency plan to manage any unpredicted impacts and their consequences;
- (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
- (h) a protocol for periodic review of the plan.

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

Annual Review

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

- (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;
- (b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:

- relevant statutory requirements, limits or performance measures/criteria;
 - monitoring results of previous years; and
 - relevant predictions in the EIS, Modification 1 and Modification 2;
- (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
- (d) identify any trends in the monitoring data over the life of the development;
- (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- (f) describe what measures will be implemented over the next year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

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

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

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

REPORTING

Incident Reporting

68. The Applicant shall immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

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

INDEPENDENT ENVIRONMENTAL AUDIT

70. Every 3 years from the date of this consent and at the completion of works under this consent, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this Consent and any relevant EPL (including any assessment, plan or program required under these approvals);

- (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
- (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.

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

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

ACCESS TO INFORMATION

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

Appendix C

Environmental Protection Licence 6535

Environment Protection Licence



Licence - 6535

Licence Details

Number:	6535
Anniversary Date:	12-March

Licensee

HB MAROOKA PTY LTD

PO BOX 1778

GOSFORD NSW 2250

Premises

HB MAROOKA PTY LTD

CNR ROBERTS & OLD NORTHERN ROADS

MAROOKA NSW 2756

Scheduled Activity

Crushing, Grinding or Separating

Extractive Activities

Fee Based Activity

Scale

Crushing, grinding or separating	> 100000-500000 T processed
Land-based extractive activity	> 100000-500000 T extracted, processed or stored

Region

Metropolitan - Sydney Industry

Level 13, 10 Valentine Ave

PARRAMATTA NSW 2150

Phone: (02) 9995 5000

Fax: (02) 9995 6900

PO Box 668 PARRAMATTA

NSW 2124

Environment Protection Licence

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Information about this licence

Dictionary

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

Responsibilities of licensee

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

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

Variation of licence conditions

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

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

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

Duration of licence

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

Licence review

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

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

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

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

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

Transfer of licence

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

Public register and access to monitoring data

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

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

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

This licence is issued to:

HB MAROOTA PTY LTD
PO BOX 1778
GOSFORD NSW 2250

subject to the conditions which follow.

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1 Administrative Conditions

A1 What the licence authorises and regulates

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

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

Scheduled Activity	Fee Based Activity	Scale
Crushing, Grinding or Separating	Crushing, grinding or separating	> 100000 - 500000 T processed
Extractive Activities	Land-based extractive activity	> 100000 - 500000 T extracted, processed or stored

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

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

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

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A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Agricultural Produce Industries
Aircraft (helicopter) facilities

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

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

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

2 Discharges to Air and Water and Applications to Land

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P1 Location of monitoring/discharge points and areas

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

3 Limit Conditions

L1 Pollution of waters

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

L2 Noise limits

L2.1 Noise from the premises must not exceed the sound pressure level expressed as LA10 (15 minute) of 45 dB(A), except as expressly provided by this licence.

L2.2 Noise from the premises is to be measured or computed at any point within one metre of any residential boundary, or at any point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition L2.1.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

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

This includes:

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

O2 Maintenance of plant and equipment

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

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

O3 Dust

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

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

O4 Other operating conditions

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

5 Monitoring and Recording Conditions

M1 Monitoring records

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

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

M2 Recording of pollution complaints

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

M2.2 The record must include details of the following:

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

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

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

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M3 Telephone complaints line

- M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M3.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
 - a) a Statement of Compliance; and
 - b) a Monitoring and Complaints Summary.At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.
- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.
- R1.3 Where this licence is transferred from the licensee to a new licensee:
 - a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
 - b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.
- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
 - a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
 - b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.
- R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').
- R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.
- R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
 - a) the licence holder; or
 - b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

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

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

R2 Notification of environmental harm

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

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

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

R3 Written report

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

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

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

R3.3 The request may require a report which includes any or all of the following information:

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

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

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7 General Conditions

G1 Copy of licence kept at the premises or plant

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

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

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

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Dictionary

General Dictionary

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

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

Environment Protection Licence



Licence - 6535

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

Mr Nigel Sargent

Environment Protection Authority

(By Delegation)

Date of this edition: 14-June-2000

Environment Protection Licence

Licence - 6535



End Notes

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

Appendix D

Water Licence

Conditions

Monitoring Bore Licences

NSW Office of Water

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

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

10BL158808



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

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

ABN 47661556763 GST NIL

LOCATION OF WORKS		
Portion(s) or Lot/Section/DP	PARISH	COUNTY
1//228308	Maroota	Cumberland
PT84MW1 & PT84MW5		

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

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

COPY

NSW Office of Water

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

- (1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.
- (2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENCE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-
- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).
- (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.
- (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.
- (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.
- (3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.
- (4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-
- (A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.
- (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.
- ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.
- (5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.
- (B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.
- (6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-
- (A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR
- (B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

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

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

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

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

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

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

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

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

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR

(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

Information about a water licence or approval

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

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

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

Search for information about either a:

- [Water access licence \(WAL\) issued under the *Water Management Act 2000*](#)
- [Approval issued under the *Water Management Act 2000*](#)

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

Water licence conversion status

Water Licence Number

10 ▼

BL ▼

158808

Notes:

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

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

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

« Previous Search

Print Export

Search Results

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

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

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

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

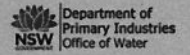
More information: Should you require further information or technical assistance, please submit your request to water.enquiries@dpi.nsw.gov.au or contact 1800 353 104.

NSW Office of Water

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

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

10BL605696



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

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

ABN 47661556763 GST NIL

LOCATION OF WORKS

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

<u>TYPE OF WORKS</u>	<u>PURPOSE(S) FOR WHICH WATER MAY BE USED</u>
Bore	Monitoring Bore

PT84MW6

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

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

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

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

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

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End Of Conditions

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

Water licence conversion status

Water Licence Number

10 ▼

BL ▼

605696

Notes:

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« Previous Search

Print Export

Search Results

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

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

NSW Office of Water

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

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

10BL605795



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

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

ABN 72189919072 GST NIL

LOCATION OF WORKS

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

MW 8, 9, 13

<u>TYPE OF WORKS</u>	<u>PURPOSE(S) FOR WHICH WATER MAY BE USED</u>
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

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

- (1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.
- (2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-
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- (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.
- (3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.
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- ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.
- (5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.
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- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

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

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End Of Conditions

NSW Office of Water

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

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

10BL605797



Hitchcock, Noelene Joyce
100 Old Telegraph Road
Maroota NSW 2756

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

ABN 72189919072 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP
B//356946

PARISH
Maroota

COUNTY
Cumberland

MW11

TYPE OF WORKS
Bore

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

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

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

- (1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.
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- (B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.
- ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.
- (5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.
- (B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.
- (6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-
- (A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR
- (B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

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

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

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

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

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

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

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-

(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

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

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR

(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

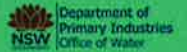
End Of Conditions

NSW Office of Water

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

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

10BL605798



Martin, Glin
16 Bay Rd
Arcadia NSW 2159

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

ABN 72189919072 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP
2//312327

PARISH
Maroota

COUNTY
Cumberland

MW10

TYPE OF WORKS

Bore

PURPOSE(S) FOR WHICH WATER MAY BE USED

Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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End Of Conditions

NSW Office of Water

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

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

10BL605799



Martin, Leonard Stanley
16 Bay St
Arcadia NSW 2159

LICENSE NUMBER
10BL605799
DATE LICENSE VALID FROM
29-Aug-2016
DATE LICENSE VALID TO
PERPETUITY
FEE
\$0.00

ABN 72189919072 GST NIL

Portion(s) or Lot/Section/DP	LOCATION OF WORKS	
	PARISH	COUNTY
2//228308	Maroota	Cumberland
MW7, 12		

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

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water**CONDITIONS STATEMENT REFERRED TO ON
10BL605799
ISSUED UNDER PART V OF THE WATER ACT, 1912
ON 29-Aug-2016**

- (1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.
- (2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-
- (A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).
- (B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.
- (C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.
- (D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.
- (3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.
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- ANY CROWN LAND;
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(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

Pumping Bore Licence

BOX 1W
(A1845103)

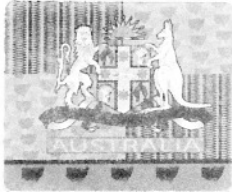
COPY



NEW SOUTH WALES

CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000



WAL TITLE REFERENCE WAL24163	
EDITION 1	DATE OF ISSUE 1/9/2014
CERTIFICATE AUTHENTICATION CODE MP27-QV-7HVH	



This certificate is issued under s87B of the Water Management Act, 2000.

WARNING NOTE: INFORMATION ON THIS REGISTER IS NOT GUARANTEED

TENURE TYPE: CONTINUING

PT84PB1

HOLDER(S)

LEONARD STANLEY MARTIN

(DW AG357440)

ENCUMBRANCES

1. TERM TRANSFER: NIL

ACCESS LICENCE DETAILS

CATEGORY: AQUIFER

SHARE COMPONENT:

SHARE - 45 UNITS

WATER SOURCE - MAROOTA TERTIARY SANDS GROUNDWATER SOURCE

WATER SHARING PLAN - GREATER METROPOLITAN REGION GROUNDWATER SOURCES

EXTRACTION COMPONENT:

TIMES/RATES/CIRCUMSTANCES - SUBJECT TO THE CONDITIONS OF THE WATER

ACCESS LICENCE

EXTRACTION FROM - AQUIFER

EXTRACTION ZONE - WHOLE WATER SOURCE

NOMINATED WORKS:

WORK APPROVAL NUMBER(S) - 10WA114817

INTERSTATE TAGGING ZONE - NIL

CONDITIONS

LICENCE CONDITIONS FORM A PART OF THIS LICENCE AND AFFECT THE SHARE AND EXTRACTION COMPONENTS. CONDITION STATEMENTS ARE AVAILABLE FROM THE NSW OFFICE OF WATER (NOW).

NOTES

A WATER LICENCE INFORMATION SHEET IS AVAILABLE FROM THE NSW OFFICE OF WATER (NOW) AND SHOULD BE REFERRED TO IN INTERPRETING THIS LICENCE. NOW WEBSITE WWW.WATER.NSW.GOV.AU, PHONE 1800 353 104, EMAIL INFORMATION@WATER.NSW.GOV.AU
NOW REFERENCE NUMBER: 10AL114816
PREVIOUS WATER ACT LICENCE NUMBER(S): 10PT901430, 10BL159748.

**** END OF CERTIFICATE ****

ANY ATTEMPT TO ALTER THIS CERTIFICATE COULD RESULT IN HEAVY FINES OR IMPRISONMENT (S.141 REAL PROPERTY ACT).

Information about a water licence or approval

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

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

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

Search for information about either a:

- [Water access licence \(WAL\) issued under the *Water Management Act 2000*](#)
- [Approval issued under the *Water Management Act 2000*](#)

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

Water licence conversion status

Water Licence Number

10 ▼

BL ▼

159748

Notes:

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

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

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

« Previous Search

Print Export

Search Results

Access licenses created for '10BL159748'

WAL No.	Water Source	Status			
24163	Maroota Tertiary Sands Groundwater Source	Current			
Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)
Aquifer	Current	Maroota Tertiary Sands Groundwater Source	Continuing		45.00

Extraction Times or Rates

Subject to conditions water may be taken at any time or rate

Nominated Work Approval(s)

10WA114817

- Conditions

Plan Conditions

Water sharing plan

Greater Metropolitan Region Groundwater Sources

Take of water

- MW0929-00001 From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then:
A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river.
B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website.
C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.
- MW0604-00001 Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.
- MW0605-00001 Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.
- MW0603-00001 The total volume of water taken under this access licence in any water year must not exceed a volume equal to:
A. the sum of water in the account from the available water determination for the current year, plus
B. the net amount of water assigned to or from the account under a water allocation assignment, plus
C. any water re-credited by the Minister to the account.
- ##### Monitoring and recording
- MW2338-00001 The completed logbook must be retained for five (5) years from the last date recorded in the logbook.
- MW2336-00001 The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.

- MW2337-00001 The following information must be recorded in the logbook for each period of time that water is taken:
 A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and
 B. the access licence number under which the water is taken, and
 C. the approval number under which the water is taken, and
 D. the volume of water taken for domestic consumption and/or stock watering.
- MW0606-00001 The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.
- MW2339-00001 A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.
- Reporting**
- MW0051-00002 Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by:
 A. email: water.enquiries@dpi.nsw.gov.au,
 or
 B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

Approvals created for '10BL159748'

Approval No.	Water Source	Status
10WA114817	Maroota Tertiary Sands Groundwater Source	Current

Kind of Approval	Issue Date	Expiry Date	Approval Number	Status	Water Source
Water Supply Works	01-JUL-2011	14-JUN-2025	10WA114817	Current	Maroota Tertiary Sands Groundwater Source

Work Type	Description	No of Works	Location (Lot/DP)
Extraction Works Gw	Bore	1	Lot 1, DP 228308

Water Access Licences nominating these works

Reference Number	WAL Number
10AL114816	24163

- Conditions**Plan Conditions**

Water sharing plan	Greater Metropolitan Region Groundwater Sources
--------------------	-------------------------------------------------

Take of water

MW0655-00001 Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.

Water management works

MW0097-00001 If contaminated water is found above the production aquifer during the construction of the water supply work authorised by this approval, the licensed driller must:

- A. notify DPI Water in writing within 48 hours of becoming aware of the contaminated water, and
- B. adhere to the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time.

MW0487-00001 The water supply work authorised by this approval must be constructed within three (3) years from the date this approval is granted.

MW0044-00001 When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.

The work is to be decommissioned, unless the approval holder receives notice from the Minister not to do so.

When decommissioning the work the approval holder must:

- A. comply with the minimum requirements for decommissioning bores prescribed in the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time, and
- B. notify DPI Water in writing within sixty (60) days of decommissioning that the work has been decommissioned.

Monitoring and recording

MW0481-00001 A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.

MW0482-00001 Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.

Reporting

MW0051-00001 Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by:

- A. email: water.enquiries@dpi.nsw.gov.au,
- or
- B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

MK0485-00001 Within sixty (60) days of completing construction of the water supply work authorised by this approval, the approval holder must provide a completed Form A for that work to DPI Water.

Other Conditions**Take of water**

DK0316-00128 The approval holder must not take water from the approved work at a rate that exceeds 3.0 L/second.

Water management works

DK1363-00001	The approval holder must not construct or install works used for the purpose of conveying, distributing or storing water from the works authorised by this approval, that obstruct the reasonable passage of floodwaters flowing in, to, or from a river or lake.
DK1202-00001	The approval holder must allow DPI Water or any person authorised by it, full and free access to the approved works, either during or after construction, for the purpose of carrying out inspection or test of the approved works and its fittings and must carry out any work or alterations deemed necessary by the department for the protection or proper maintenance of the approved works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.

Land to which the converted entitlement previously related.

Lot/DP	Description
Lot 1, DP 228308	Work Location
Lot 1, DP 228308	Land Benefited
Lot 2, DP 228308	Land Benefited
Lot 2, DP 312327	Land Benefited

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

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

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

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

Dam Licences

Information about a water licence or approval

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

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

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

Search for information about either a:

Water access licence (WAL) issued under the Water Management Act 2000

Water Access Licence (WAL) Number

WAL

26163

A WAL number starts with the letters 'WAL' followed by several numbers

Can't find your WAL number? Do you have a reference number? A reference number starts with a two digit number, followed by 'AL' and then several numbers. Use the following tool to find your WAL by entering your reference number. [Enter the reference number to find the WAL number.](#)

Notes:

The search results will list the conditions imposed on the water access licence. Any approved water supply work/s nominated on the water access licence are identified by the approval number/s for the work/s.

The information about a water access licence provided in the search results is a summary and may not always be up to date. If you require full and up to date details about a particular water access licence (including current holders, share and extraction component details, encumbrances and notations) you should search the [Water Access Licence Register](#) administered by Land and Property Information.

Water Act 1912 Licences and Authorities

Approval issued under the Water Management Act 2000

Find out if a Water Act 1912 licence has been converted

Water licence conversion status

« Previous Search

Print Export

Search Results

Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)
---------------------------	--------	--------------	----------------	-----------------	--------------------------------------

Unregulated River	Current	Hawkesbury And Lower Nepean Rivers Water Source	Continuing	Lower Hawkesbury River Management Zone	264.00
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Extraction Times or Rates

Subject to conditions water may be taken at any time or rate

Nominated Work Approval(s)

10CA104888

- Conditions

Plan Conditions

Water sharing plan
Greater Metropolitan Region Unregulated River Water Sources

Take of water

- MW0112-00001 The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is:
A. a volume equal to 100 % of the share component of the licence, or
B. 1 ML/unit share of the share component of the licence.
- MW0036-00002 The volume of water taken in any three (3) consecutive water years from 1 July 2012 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.
- MW0605-00001 Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.
- MW0670-00001 Water must only be taken if there is visible flow in the water source at the location where water is to be taken.

This restriction does not apply if water is to be taken:
A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or
B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.
- MW0013-00002 A. Water must not be taken from the Lower Hawkesbury River Management Zone of Hawkesbury and Lower Nepean Rivers Water Source when flows are in the Very Low Flow Class.
B. This restriction will only apply when the system that confirms when water can be taken is available on the relevant licensor website.
C. the relevant licensor will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.

This restriction does not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.
- MW0004-00002 From 1 July 2012, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either:
A. the sum of:
i. water in the account from the available water determinations in those 3 consecutive water years, plus
ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus
iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus
iv. any water re-credited by the Minister to the account in those 3 consecutive water years,

or

- B. the sum of:
- i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus
 - ii. the share component of this licence at the beginning of the second year in those 3 consecutive water years, plus
 - iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus
 - iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus
 - v. any water re-credited by the Minister to the account in those 3 consecutive water years.

Monitoring and recording

MW2338-00001

The completed logbook must be retained for five (5) years from the last date recorded in the logbook.

MW2337-00001

The following information must be recorded in the logbook for each period of time that water is taken:

- A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and
- B. the access licence number under which the water is taken, and
- C. the approval number under which the water is taken, and
- D. the volume of water taken for domestic consumption and/or stock watering.

MW2339-00001

A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.

Reporting

MW0051-00002

Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by:

- A. email: water.enquiries@dpi.nsw.gov.au,
- or
- B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

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

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

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

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



Approval details

Approval number	10CA104888
Status	CURRENT*
Approval kind	Water Supply Works Water Use
Water sharing plan	GREATER METROPOLITAN REGION UNREGULATED RIVER WATER SOURCES
Date of effect	01/Jul/2011
Expiry date	16/Feb/2026
Approval holder(s)	Schedule 1
Water supply works	Schedule 2
Water use	Schedule 3
Conditions	Schedule 4

Contact for service of documents

Name	Martin, Leonard Stanley
Address	16 Bay Rd ARCADIA NSW 2159

* **Note:** An approval has effect for such period as is specified in the approval, or if the period is extended under section 105, that extended period. If an application for extension of an approval is lodged before the approval expires, the term of the expiring approval is extended until either the date of the final decision on the application, or a date fixed by the Minister for the approval, whichever is the later date. An approval which has expired can be the subject of an application to extend it but it needs to be accompanied by a statutory declaration of the reasons for the delay in making the application. If the Minister accepts these reasons the term of the approval is taken to have been extended, and the application may be dealt with, as if the application had been made before the approval expired.

It is an offence under the Water Management Act 2000 to breach a term or condition of the approval or to construct and use works to which the approval does not relate. It is also an offence to use works the subject of an approval if the approval has expired, been surrendered or cancelled.

Schedule 1 - Approval holders

The holders of this approval are:

Approval holder(s)	ACN (if applicable)
--------------------	---------------------

Leonard Stanley Martin

Maroota Super Fund Pty Ltd

Important notice - change of landholder or contact

Please advise the Office in the event of any of the following, as soon as practicable:

- If there is a change in the ownership or occupation of the land benefited by this approval (see Schedule 2). Under the Water Management Act 2000, an approval is typically held by the owner or lawful occupier of the benefited land. Consequently, a change in occupation may cause a change in your legal obligations as an approval holder.*
- If there is a change to the contact person. You will be required to lodge a written statement signed by all the holders.*
- If there is a change to the mailing address for the nominated contact person. This should be done by the contact person in writing.

** An updated Statement of Approval will be issued free of charge*

Schedule 2 - Water supply works

Part A: Authorised water supply works

Subject to the conditions of this approval, in relation to each numbered work in the table, the holders of this approval are authorised to construct and use a water supply work of the type shown at the location specified:

Work 1

Specified work	BYWASH DAM x 2	
Specified location	2//228308	Whole Lot
Management zone (if applicable)	LOWER HAWKESBURY RIVER MANAGEMENT ZONE	
Water source	HAWKESBURY AND LOWER NEPEAN RIVERS WATER SOURCE	
Water sharing plan	GREATER METROPOLITAN REGION UNREGULATED RIVER WATER SOURCES	

Work 2

Specified work	65MM CENTRIFUGAL PUMP x 2	
Specified location	2//228308	Whole Lot
Management zone (if applicable)	LOWER HAWKESBURY RIVER MANAGEMENT ZONE	
Water source	HAWKESBURY AND LOWER NEPEAN RIVERS WATER SOURCE	
Water sharing plan	GREATER METROPOLITAN REGION UNREGULATED RIVER WATER SOURCES	

Schedule 3 - Water Use

Subject to the conditions of this approval, the holder(s) of this approval is authorised to use water for the following purpose(s) and location(s):

Purpose 1

Specified purpose

IRRIGATION

Specified location

1//228308
2//228308

Schedule 4 - Conditions

The approval is subject to the following conditions:

Plan conditions

Water sharing plan

Greater Metropolitan Region Unregulated River Water Sources

Take of water

MW0655-00001

Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.

Water management works

MW0491-00001

When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.

The work is to be decommissioned, unless the approval holder receives notice from the Minister not to do so.

Within sixty (60) days of decommissioning, the approval holder must notify DPI Water in writing that the work has been decommissioned.

Monitoring and recording

MW0481-00001

A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.

MW2338-00001

The completed logbook must be retained for five (5) years from the last date recorded in the logbook.

MW0482-00001

Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.

Reporting

MW0051-00001

Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by:

A. email: water.enquiries@dpi.nsw.gov.au,

or

B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other conditions**Water management works**

- DS2349-00001** The approval holder must make all reasonable efforts not to allow any used water to discharge, by any means including surface or subsurface drains or pipes, into or onto:
- any adjoining public or crown road;
 - any other person's land;
 - any Crown land;
 - any river, creek or watercourse or aquifer.
- DK0888-00001** Any water supply work authorised by this approval used for the purpose of conveying, diverting or storing water must be constructed or installed to allow free passage of floodwaters flowing into or from a river or lake.
- DK0871-00001** The water supply work authorised by this approval must be constructed and maintained in a way that will:
- A. ensure the work's safe construction and operation, and
 - B. prevent the possibility of damage being caused by the work, or resulting from the work, to any public or private interest.
- DK0878-00001** A. The construction, installation or use of the water supply work authorised by this approval must not cause or increase erosion to the channel or bank of the watercourse.
B. If erosion is observed, the area must be stabilised with grass cover, stone pitching or any other material that will prevent any further occurrence of erosion.
- DK1217-00001** The location of the dam(s) as shown on a plan retained in the office of DPI Water shall not be altered.
- DK0261-00571** When a flow is entering the storage of the dam, the pipe must be operated so as to maintain a flow in the watercourse downstream of the said dam equivalent to the flow entering the storage of the dam for the time being or the capacity of the said pipe, whichever is the lesser.
- DK0243-00224** When a flow is entering the storage of the dam the pipe shall be so operated as to maintain a flow in the watercourse downstream of the said dam equivalent to the flow entering the storage of the dam for the time being or the capacity of the said pipe, which ever is the lesser.

Additional conditions

- NS17761** The level of the crest of the bywash of the upstream dam on the Unnamed Watercourse shall be fixed at not higher than 6.90 m above the level of a bench mark established on a concrete weir below the upstream dam of the watercourse near the work and particulars of which are retained in the office of DPI Water.

NS17762

A pipe with a diameter of not less than 50 mm, fitted with a stop valve or other control device, shall be constructed through the dam to the satisfaction of DPI Water. The level of the invert of the said pipe shall be fixed at not higher than 0.05 m above the level of the established benchmark or, alternatively the licensee shall provide a 50 mm diameter pipe siphon or other approved device, for passing flows through the storage of the dam.

NS17763

The level of the crest of the bywash of the downstream dam on the unnamed watercourse shall be fixed at not higher than 0.88 m below the level of a bench mark established on the bank of the watercourse near the work and particulars of which are retained in the office of DPI Water.

NS17764

(a) a concrete rock weir shall be constructed on the unnamed watercourse upstream of the dam to the satisfaction of DPI Water. The level of the crest of the said weir shall be fixed at no lower than the level of the established benchmark.

(b) the holder of the license shall install a bypass channel or pipeline with a diameter of not less than 150 mm to the satisfaction of DPI Water in respect of location, type and construction, so as to pass flows from the weir above into the unnamed watercourse downstream from the dam.

(c) the holder of the license shall install through the weir two 150 mm diameter pipes to the satisfaction of DPI Water. One of the said pipes shall discharge into the diversion channel or pipeline and the other shall discharge into the course of the unnamed watercourse upstream of the dam.

Glossary

cease to take - Cease to take conditions means any condition on this approval, or on the access licence under which water is proposed to be taken, that prohibits the taking of water in a particular circumstance.

logbook - A logbook is a document, electronic or hard copy, that records specific required information.

metered water supply work - A metered water supply work is a water supply work fitted with a data logger and a water meter that complies with Australian Standard AS 4747: Meters for non-urban water supply.

water meter - A water meter is a device that measures the volume of water that is extracted over a known period of time. Examples of a water meter may include a mechanical meter, electromagnetic meter, channel meter with mobile phone, or an authorised meter equivalent.

General Notes

All conditions on an approval require compliance. An appeal to the Land and Environment Court against a decision to impose certain conditions on an approval can be made within 28 days after the date the decision is made. Conditions identified with the first letter "D" are those that can be appealed during the appeal period.

The words in this approval have the same meaning as in the *Water Management Act 2000*



Note: The words in this approval have the same meaning as in the WMA

END OF STATEMENT

Nursery Bore Licence

BOX 1W
(A1845103)

NEW SOUTH WALES

CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000



WAL TITLE REFERENCE WAL24157	
EDITION 1	DATE OF ISSUE 1/9/2014
CERTIFICATE AUTHENTICATION CODE 24DC-MV-FR4X	



This certificate is issued under s87B of the Water Management Act, 2000.

WARNING NOTE: INFORMATION ON THIS REGISTER IS NOT GUARANTEED

TENURE TYPE: CONTINUING

HOLDER(S)

LEONARD STANLEY MARTIN

(DW AG357440)

ENCUMBRANCES

1. TERM TRANSFER: NIL

ACCESS LICENCE DETAILS

CATEGORY: AQUIFER

SHARE COMPONENT:

SHARE - 6 UNITS

WATER SOURCE - MAROOTA TERTIARY SANDS GROUNDWATER SOURCE

WATER SHARING PLAN - GREATER METROPOLITAN REGION GROUNDWATER SOURCES

EXTRACTION COMPONENT:

TIMES/RATES/CIRCUMSTANCES - SUBJECT TO THE CONDITIONS OF THE WATER

ACCESS LICENCE

EXTRACTION FROM - AQUIFER

EXTRACTION ZONE - WHOLE WATER SOURCE

NOMINATED WORKS:

WORK APPROVAL NUMBER(S) - 10CA114819

INTERSTATE TAGGING ZONE - NIL

CONDITIONS

LICENCE CONDITIONS FORM A PART OF THIS LICENCE AND AFFECT THE SHARE AND EXTRACTION COMPONENTS. CONDITION STATEMENTS ARE AVAILABLE FROM THE NSW OFFICE OF WATER (NOW).

NOTES

A WATER LICENCE INFORMATION SHEET IS AVAILABLE FROM THE NSW OFFICE OF WATER (NOW) AND SHOULD BE REFERRED TO IN INTERPRETING THIS LICENCE. NOW WEBSITE WWW.WATER.NSW.GOV.AU, PHONE 1800 353 104, EMAIL INFORMATION@WATER.NSW.GOV.AU NOW REFERENCE NUMBER: 10AL114818 PREVIOUS WATER ACT LICENCE NUMBER(S): 10PT901431, 10BL157595.

**** END OF CERTIFICATE ****

ANY ATTEMPT TO ALTER THIS CERTIFICATE COULD RESULT IN HEAVY FINES OR IMPRISONMENT (S.141 REAL PROPERTY ACT).

WARNING: BEFORE DEALING WITH THIS LICENCE, SEARCH THE CURRENT FOLIO OF THE REGISTER

392126

Information about a water licence or approval

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

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

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

Search for information about either a:

- [Water access licence \(WAL\) issued under the Water Management Act 2000](#)
- [Approval issued under the Water Management Act 2000](#)

Find out if a Water Act 1912 licence has been converted

[Water licence conversion status](#)

Water Licence Number

Notes:

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

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

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

[« Previous](#) [Search](#)

[Print](#) [Export](#)

Search Results

Access licenses created for '10BL157595'

WAL No.	Water Source	Status			
24157	Maroota Tertiary Sands Groundwater Source	Current			
Category [Subcategory]	Status	Water Source	Tenure Type	Management Zone	Share Components (units or ML)
Aquifer	Current	Maroota Tertiary Sands Groundwater Source	Continuing		6.00

Extraction Times or Rates

Subject to conditions water may be taken at any time or rate

Nominated Work Approval(s)

10CA114819

- Conditions

Plan Conditions

Water sharing plan
Greater Metropolitan Region Groundwater Sources

Take of water

MW0929-00001 From 1 July 2018, if the water supply work nominated on this access licence is located at or less than 40 m from the top of the high bank of a river then:

- A. water must not be taken in this groundwater source when flows are in the Very Low Flow Class for an unregulated river access licence in that river.
- B. This restriction will only apply when the system that confirms when water can be taken is available on DPI Water website.
- C. DPI Water will inform the licence holder in writing of the applicable restrictions and how to access the information on its website when this system becomes operative.

MW0604-00001 Water allocations remaining in the account for this access licence must not be carried over from one water year to the next water year.

MW0605-00001 Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken.

MW0603-00001 The total volume of water taken under this access licence in any water year must not exceed a volume equal to:

- A. the sum of water in the account from the available water determination for the current year, plus
- B. the net amount of water assigned to or from the account under a water allocation assignment, plus
- C. any water re-credited by the Minister to the account.

Monitoring and recording

MW2338-00001 The completed logbook must be retained for five (5) years from the last date recorded in the logbook.

MW2336-00001 The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.

- MW0606-00001 The volume of water taken in the water year must be recorded in the logbook at the end of each water year. The maximum volume of water permitted to be taken in that water year must also be recorded in the logbook.
- MW2337-00001 The following information must be recorded in the logbook for each period of time that water is taken:
 A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and
 B. the access licence number under which the water is taken, and
 C. the approval number under which the water is taken, and
 D. the volume of water taken for domestic consumption and/or stock watering.
- MW2339-00001 A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by DPI Water.
- Reporting
- MW0051-00002 Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by:
 A. email: water.enquiries@dpi.nsw.gov.au,
 or
 B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

Other Conditions

NIL

Approvals created for '10BL157595'

Approval No.	Water Source	Status
10CA114819	Maroota Tertiary Sands Groundwater Source	Current

Kind of Approval	Issue Date	Expiry Date	Approval Number	Status	Water Source
Water Supply Works And Water Use	01-JUL-2011	14-JUN-2025	10CA114819	Current	Maroota Tertiary Sands Groundwater Source

Work Type	Description	No of Works	Location (Lot/ DP)
Extraction Works Gw	Bore	1	Lot 2, DP 228308

Use Purpose(s)	Location(s)
Industrial	Lot 2, DP 228308
Irrigation	Lot 2, DP 228308

Water Access Licences nominating these works

Reference Number	WAL Number
10AL114818	24157

- Conditions

Plan Conditions

Water sharing plan

Greater Metropolitan Region Groundwater Sources

Take of water

MW0655-00001 Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.

Water management works

MW0097-00001 If contaminated water is found above the production aquifer during the construction of the water supply work authorised by this approval, the licensed driller must:

- A. notify DPI Water in writing within 48 hours of becoming aware of the contaminated water, and
- B. adhere to the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time.

MW0487-00001 The water supply work authorised by this approval must be constructed within three (3) years from the date this approval is granted.

MW0044-00001 When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact DPI Water in writing to verify whether the work must be decommissioned.

The work is to be decommissioned, unless the approval holder receives notice from the Minister not to do so.

When decommissioning the work the approval holder must:

- A. comply with the minimum requirements for decommissioning bores prescribed in the Minimum Construction Requirements for Water Bores in Australia (2012), as amended or replaced from time to time, and
- B. notify DPI Water in writing within sixty (60) days of decommissioning that the work has been decommissioned.

Monitoring and recording

MW0481-00001 A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger.

MW0482-00001 Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.

Reporting

MW0051-00001 Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the Minister as soon as practicable. The Minister must be notified by:

A. email: water.enquiries@dpi.nsw.gov.au,
or

B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.

MK0485-00001 Within sixty (60) days of completing construction of the water supply work authorised by this approval, the approval holder must provide a completed Form A for that work to DPI Water.

Other Conditions

Water management works

DK1363-00001	The approval holder must not construct or install works used for the purpose of conveying, distributing or storing water from the works authorised by this approval, that obstruct the reasonable passage of floodwaters flowing in, to, or from a river or lake.
DK1202-00001	The approval holder must allow DPI Water or any person authorised by it, full and free access to the approved works, either during or after construction, for the purpose of carrying out inspection or test of the approved works and its fittings and must carry out any work or alterations deemed necessary by the department for the protection or proper maintenance of the approved works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.

Land to which the converted entitlement previously related.

Lot/ DP	Description
Lot 2, DP 228308	Work Location
Lot 2, DP 228308	Land Benefited

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

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

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

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

Appendix E

Complaints Register

Hodgsons Quarries Complaints Register

Date published:

21/02/2020

Date Received	Site Complaint Regarding	Pollution Complaint Category					
		Air	Water	Noise	Waste	Traffic	Other
Jan-11	Nil received						
Feb-11	Nil received						
Mar-11	Nil received						
Apr-11	Nil received						
May-11	Nil received						
Jun-11	Nil received						
Jul-11	Nil received						
Aug-11	Nil received						
Sep-11	Nil received						
Oct-11	Nil received						
Nov-11	Nil received						
Dec-11	Nil received						
Jan-12	Nil received						
Feb-12	Nil received						
Mar-12	Nil received						
Apr-12	Nil received						
May-12	Nil received						
Jun-12	Nil received						
Jul-12	Nil received						
Aug-12	Nil received						
Sep-12	Nil received						
Oct-12	Nil received						
Nov-12	Nil received						
Dec-12	Nil received						
Jan-13	Nil received						
Feb-13	Nil received						
Mar-13	Nil received						
Apr-13	Nil received						
May-13	Nil received						
Jun-13	Nil received						
Jul-13	Nil received						
Aug-13	Nil received						
Sep-13	Nil received						
Oct-13	Nil received						
Nov-13	Nil received						
Dec-13	Nil received						
Jan-14	Nil received						
Feb-14	Nil received						
Mar-14	Nil received						
Apr-14	Nil received						
May-14	Nil received						
Jun-14	Nil received						
Jul-14	Nil received						
Aug-14	Nil received						
Sep-14	Nil received						
Oct-14	Nil received						
Nov-14	Nil received						
Dec-14	Nil received						

Hodgsons Quarries Complaints Register

Date published:

21/02/2020

Date Received	Site Complaint Regarding	Pollution Complaint Category					
		Air	Water	Noise	Waste	Traffic	Other
Jan-15	Nil received						
Feb-15	Nil received						
Mar-15	Nil received						
Apr-15	Nil received						
May-15	Nil received						
Jun-15	Nil received						
Jul-15	Nil received						
Aug-15	Nil received						
Sep-15	Nil received						
Oct-15	Nil received						
Nov-15	Nil received						
Dec-15	Nil received						
Jan-16	Nil received						
Feb-16	Nil received						
Mar-16	Nil received						
Apr-16	Nil received						
May-16	Nil received						
Jun-16	Nil received						
Jul-16	Nil received						
Aug-16	Nil received						
Sep-16	Nil received						
Oct-16	Nil received						
Nov-16	Nil received						
Dec-16	Nil received						
Jan-17	Nil received						
Feb-17	Nil received						
Mar-17	Nil received						
Apr-17	Nil received						
May-17	Nil received						
Jun-17	Nil received						
Jul-17	Nil received						
Aug-17	Nil received						
Sep-17	Nil received						
Oct-17	Nil received						
Nov-17	Nil received						
Dec-17	Nil received						
Jan-18	Nil received						
Feb-18	Nil received						
Mar-18	Nil received						
Apr-18	Nil received						
May-18	Nil received						
Jun-18	Nil received						
Jul-18	Nil received						
Aug-18	Nil received						
Sep-18	Nil received						
Oct-18	Nil received						
Nov-18	Nil received						
Dec-18	Nil received						

Hodgsons Quarries Complaints Register

Date published:

21/02/2020

Date Received	Site Complaint Regarding	Pollution Complaint Category					
		Air	Water	Noise	Waste	Traffic	Other
Jan-19	Nil received						
Feb-19	Nil received						
Mar-19	Nil received						
Apr-19	Nil received						
May-19	Nil received						
Jun-19	Nil received						
Jul-19	Nil received						
Aug-19	Nil received						
Sep-19	Nil received						
Oct-19	Nil received						
Nov-19	Nil received						
Dec-19	Nil received						
Jan-20	Nil received						

Appendix F Weather Data Summaries

NAME: Hodgson Maroota CITY: STATE:
 ELEV: 666 ft LAT: 33° 30' 00" S LONG: 151° 00' 00" E

TEMPERATURE (°C), HEAT BASE 18.3, COOL BASE 18.3

YR	MO	MEAN			DEP.	HEAT	COOL	HI	DATE	LOW	DATE	MAX >=32	MAX <=0	MIN <=0	MIN <=-18
		MAX	MIN	MEAN	FROM NORM	DEG DAYS	DEG DAYS								
19	1	-43.2	-63.5	-55.0	0.0	2093	0	-35.1	22	-67.8	3	0	29	29	29
19	2	-52.4	-64.7	-60.3	0.0	1946	0	-31.1	4	-67.8	1	0	27	27	27
19	3	-49.7	-66.9	-61.1	0.0	2463	0	-32.6	24	-67.8	1	0	31	31	31
19	4	-51.3	-67.3	-62.1	0.0	2414	0	-30.2	7	-67.8	1	0	30	30	30
19	5	-65.2	-67.8	-67.4	0.0	2570	0	-54.5	1	-67.8	1	0	31	31	31
19	6	-61.7	-67.8	-66.0	0.0	2416	0	-42.2	8	-67.8	1	0	30	30	30
19	7	-60.0	-67.6	-66.0	0.0	2424	0	-38.2	8	-67.8	1	0	29	29	29
19	8	-55.5	-67.8	-65.1	0.0	1161	0	-43.8	28	-67.8	1	0	14	14	14
19	9	-51.0	-67.0	-61.0	0.0	1965	0	-32.8	21	-67.8	1	0	29	29	29
19	10	-52.9	-65.1	-60.9	0.0	1592	0	-36.7	15	-67.8	1	0	23	23	23
19	11	-58.3	-67.8	-65.4	0.0	1180	0	-41.5	2	-67.8	1	0	16	16	16
19	12	-67.8	-67.8	-67.8	0.0	1216	0	-67.8	1	-67.8	1	0	17	17	17

		-55.3	-66.7	-62.9	0.0	23441	0	-30.2	APR	-67.8	JAN	0	306	306	306

PRECIPITATION (mm)

YR	MO	TOTAL	DEP.	MAX	DATE	DAYS OF RAIN		
			FROM NORM	OBS. DAY		OVER	.2	2
19	1	76.0	0.0	24.2	21	13	7	2
19	2	37.2	0.0	14.4	8	10	7	0
19	3	146.2	0.0	39.8	17	20	9	3
19	4	22.2	0.0	9.6	5	18	3	0
19	5	7.4	0.0	5.2	3	9	1	0
19	6	42.2	0.0	14.0	4	16	6	0
19	7	24.6	0.0	9.4	4	9	5	0
19	8	64.8	0.0	39.8	30	8	4	1
19	9	94.6	0.0	51.4	18	10	2	2
19	10	30.6	0.0	9.0	12	6	4	0
19	11	13.0	0.0	9.4	3	7	1	0
19	12	0.4	0.0	0.2	10	2	0	0

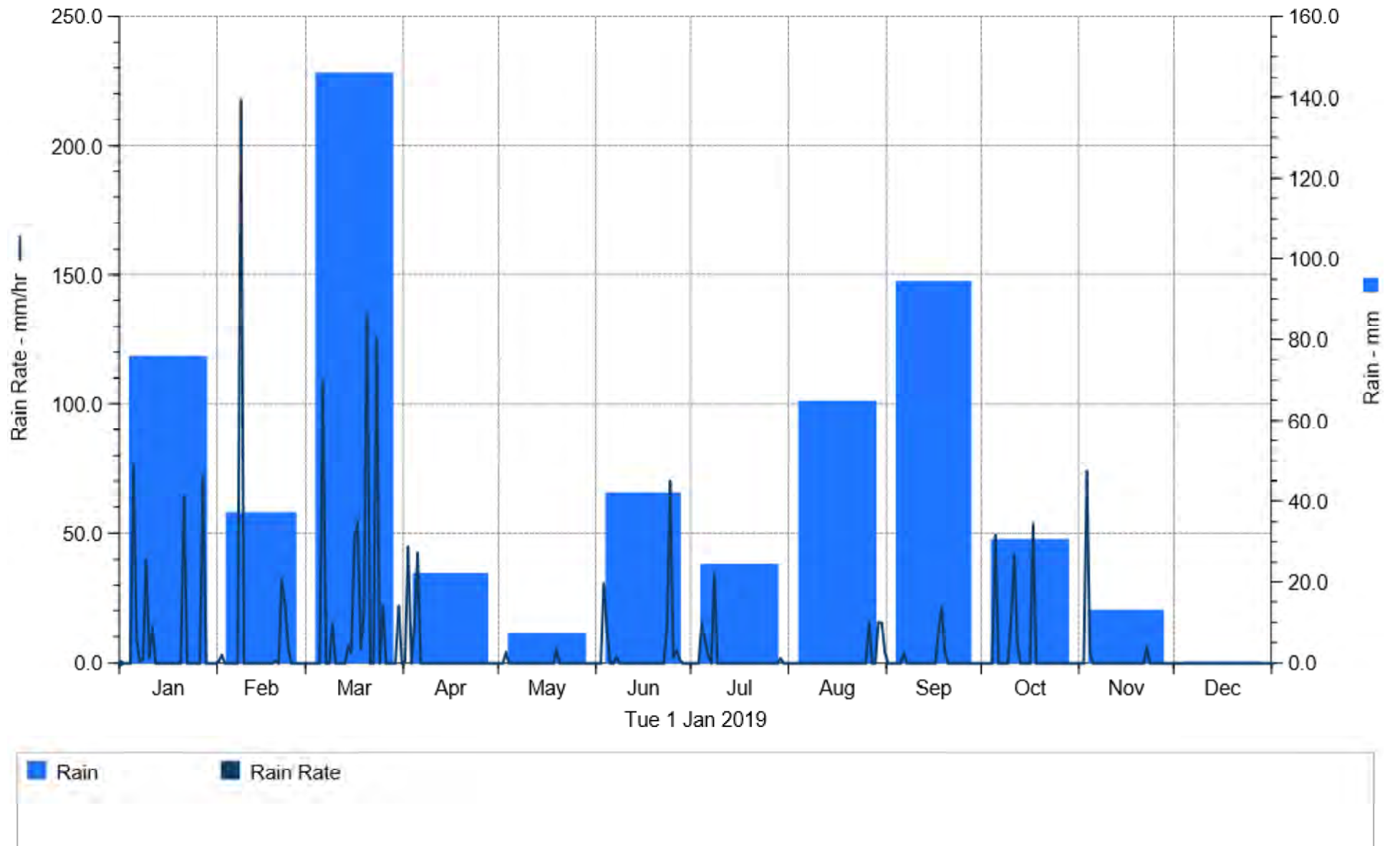
		559.4	0.0	51.4	SEP	128	49	8

WIND SPEED (km/hr)

YR	MO	AVG.	HI	DATE	DOM
					DIR
19	1	2.8	43.5	31	SE
19	2	3.6	57.9	12	SE
19	3	3.0	56.3	30	SE
19	4	1.6	46.7	26	SE
19	5	3.3	74.0	27	N
19	6	2.1	54.7	4	WSW
19	7	3.8	56.3	13	NNW
19	8	5.0	74.0	9	NNW
19	9	4.5	75.6	6	NNW
19	10	3.7	62.8	26	SE
19	11	5.1	66.0	26	SE
19	12	4.7	56.3	2	SE

		3.6	75.6	SEP	SE

Hodgson Maroota



Appendix G

Air Monitoring Results

Monitoring undertaken in accordance with Development Application number 267-11-99					Monitoring Frequency required by DA: Insoluble Solids: every 30 days ± 2 days. Particulates: Every 6 days								
Table of Recent Results					Insoluble Solids	Ash	Combustible Matter	Calculated Rain	TSP / PM 10 / PM 2.5	Particulates (µg/m3) / Insoluble Matter (g/m2/month)	Comments	Date Issued	Date Published
Reference	Description	Site Description	Sample Date	Number of Days	g/m2/month			mm in gauge					
6996/1	Hodgson Maroota Dusts	D2 North East Corner	7/02/2019	28	2.1	1.6	0.5	62	Insoluble Matter	2.1	Vegetation	15/02/2019	19/02/2019
6996/2	Hodgson Maroota Dusts	D3A Bundwall	7/02/2019	28	4.1	2.6	1.5	57	Insoluble Matter	4.1	Insects, algae	15/02/2019	19/02/2019
6996/3	Hodgson Maroota Dusts	D1 Gate	7/02/2019	28	0.8	0.8	<0.1	67	Insoluble Matter	0.8		15/02/2019	19/02/2019
7044/1	Maroota HVAS	TSP	14/01/2019						TSP	25		12/02/2019	19/02/2019
7044/2	Maroota HVAS	PM 10	14/01/2019						PM 10	15		12/02/2019	19/02/2019
7044/3	Maroota HVAS	PM 2.5	14/01/2019						PM 2.5	8		12/02/2019	19/02/2019
7044/4	Maroota HVAS	TSP	18/01/2019						TSP	64		12/02/2019	19/02/2019
7044/5	Maroota HVAS	PM 10	18/01/2019						PM 10	32		12/02/2019	19/02/2019
7044/6	Maroota HVAS	PM 2.5	18/01/2019						PM 2.5	19		12/02/2019	19/02/2019
7044/7	Maroota HVAS	TSP	24/01/2019						TSP	55		12/02/2019	19/02/2019
7044/8	Maroota HVAS	PM 10	24/01/2019						PM 10	31		12/02/2019	19/02/2019
7044/9	Maroota HVAS	PM 2.5	24/01/2019						PM 2.5	16		12/02/2019	19/02/2019
7044/10	Maroota HVAS	TSP	30/01/2019						TSP	37		12/02/2019	19/02/2019
7044/11	Maroota HVAS	PM 10	30/01/2019						PM 10	25		12/02/2019	19/02/2019
7044/12	Maroota HVAS	PM 2.5	30/01/2019						PM 2.5	11		12/02/2019	19/02/2019
7044/13	Maroota HVAS	TSP	7/02/2019						TSP	39		12/02/2019	19/02/2019
7044/14	Maroota HVAS	PM 10	7/02/2019						PM 10	22		12/02/2019	19/02/2019
7044/15	Maroota HVAS	PM 2.5	7/02/2019						PM 2.5	12		12/02/2019	19/02/2019
7105/1	Hodgson Maroota Dusts	D2 North East Corner	7/03/2019	28	2.5	2.3	0.2	44	Insoluble Matter	2.5	Minor vegetation,	11/03/2019	13/03/2019
7105/2	Hodgson Maroota Dusts	D3A Bundwall	7/03/2019	28	4.2	3.3	0.9	41	Insoluble Matter	4.2	Bird droppings, al	11/03/2019	13/03/2019
7105/3	Hodgson Maroota Dusts	D1 Gate	7/03/2019	28	1.3	1.3	<0.1	43	Insoluble Matter	1.3		11/03/2019	13/03/2019
7157/1	Maroota HVAS	TSP	10/02/2019						TSP	39		19/03/2019	19/03/2019
7157/2	Maroota HVAS	PM 10	10/02/2019						PM 10	10		19/03/2019	19/03/2019
7157/3	Maroota HVAS	PM 2.5	10/02/2019						PM 2.5	4		19/03/2019	19/03/2019
7157/4	Maroota HVAS	TSP	16/02/2019						TSP	45		19/03/2019	19/03/2019
7157/5	Maroota HVAS	PM 10	16/02/2019						PM 10	20		19/03/2019	19/03/2019
7157/6	Maroota HVAS	PM 2.5	16/02/2019						PM 2.5	13		19/03/2019	19/03/2019
7157/7	Maroota HVAS	TSP	22/02/2019						TSP	20		19/03/2019	19/03/2019
7157/8	Maroota HVAS	PM 10	22/02/2019						PM 10	10		19/03/2019	19/03/2019
7157/9	Maroota HVAS	PM 2.5	22/02/2019						PM 2.5	4		19/03/2019	19/03/2019
7157/10	Maroota HVAS	TSP	28/02/2019						TSP	32		19/03/2019	19/03/2019
7157/11	Maroota HVAS	PM 10	28/02/2019						PM 10	19		19/03/2019	19/03/2019
7157/12	Maroota HVAS	PM 2.5	28/02/2019						PM 2.5	11		19/03/2019	19/03/2019
7157/13	Maroota HVAS	TSP	6/03/2019						TSP	116		19/03/2019	19/03/2019
7157/14	Maroota HVAS	PM 10	6/03/2019						PM 10	69		19/03/2019	19/03/2019
7157/15	Maroota HVAS	PM 2.5	6/03/2019						PM 2.5	70		19/03/2019	19/03/2019
7208/1	Hodgson Maroota Dusts	D2 North East Corner	4/04/2019	28	2.2	1.4	0.8	116	Insoluble Matter	2.2	Mature trees above on residential side	17/04/2019	17/04/2019
7208/2	Hodgson Maroota Dusts	D3A Bundwall	4/04/2019	28	1.9	1.6	0.3	115	Insoluble Matter	1.9		17/04/2019	17/04/2019
7208/3	Hodgson Maroota Dusts	D1 Gate	4/04/2019	28	1.8	1.8	<0.1	115	Insoluble Matter	1.8		17/04/2019	17/04/2019
7313/1	Maroota HVAS	TSP	12/03/2019						TSP	85		11/04/2019	17/04/2019
7313/2	Maroota HVAS	PM 10	12/03/2019						PM 10	43		11/04/2019	17/04/2019
7313/3	Maroota HVAS	PM 2.5	12/03/2019						PM 2.5	41		11/04/2019	17/04/2019
7313/4	Maroota HVAS	TSP	18/03/2019						TSP	18		11/04/2019	17/04/2019
7313/5	Maroota HVAS	PM 10	18/03/2019						PM 10	14		11/04/2019	17/04/2019
7313/6	Maroota HVAS	PM 2.5	18/03/2019						PM 2.5	12		11/04/2019	17/04/2019
7313/7	Maroota HVAS	TSP	24/03/2019						TSP	50		11/04/2019	17/04/2019
7313/8	Maroota HVAS	PM 10	24/03/2019						PM 10	33		11/04/2019	17/04/2019
7313/9	Maroota HVAS	PM 2.5	24/03/2019						PM 2.5	25		11/04/2019	17/04/2019
7313/10	Maroota HVAS	TSP	30/03/2019						TSP	31		11/04/2019	17/04/2019
7313/11	Maroota HVAS	PM 10	30/03/2019						PM 10	22		11/04/2019	17/04/2019

Monitoring undertaken in accordance with Development Application number 267-11-99					Monitoring Frequency required by DA: Insoluble Solids: every 30 days ± 2 days. Particulates: Every 6 days								
Table of Recent Results					Insoluble Solids	Ash	Combustible Matter	Calculated Rain	TSP / PM 10 / PM 2.5	Particulates (µg/m3) / Insoluble Matter (g/m2/month)	Comments	Date Issued	Date Published
Reference	Description	Site Description	Sample Date	Number of Days	g/m2/month			mm in gauge					
7313/12	Maroota HVAS	PM 2.5	30/03/2019						PM 2.5	21		11/04/2019	17/04/2019
7393/1	Hodgson Maroota Dusts	D2 North East Corner	2/05/2019	28	1.9	1.6	0.3	16	Insoluble Matter	1.9		15/05/2019	15/05/2019
7393/2	Hodgson Maroota Dusts	D3A Bundwall	2/05/2019	28	1.2	0.9	0.3	20	Insoluble Matter	1.2	Minor insects	15/05/2019	15/05/2019
7393/3	Hodgson Maroota Dusts	D1 Gate	2/05/2019	28	0.8	0.7	0.1	23	Insoluble Matter	0.8	Minor algae or sand	15/05/2019	15/05/2019
7477/1	Maroota HVAS	TSP	5/04/2019						TSP	88		14/05/2019	14/05/2019
7477/2	Maroota HVAS	PM 10	5/04/2019						PM 10	78		14/05/2019	14/05/2019
7477/3	Maroota HVAS	PM 2.5	5/04/2019						PM 2.5	12		14/05/2019	14/05/2019
7477/4	Maroota HVAS	TSP	11/04/2019						TSP	15		14/05/2019	14/05/2019
7477/5	Maroota HVAS	PM 10	11/04/2019						PM 10	10		14/05/2019	14/05/2019
7477/6	Maroota HVAS	PM 2.5	11/04/2019						PM 2.5	4		14/05/2019	14/05/2019
7477/7	Maroota HVAS	TSP	17/04/2019						TSP	12		14/05/2019	14/05/2019
7477/8	Maroota HVAS	PM 10	17/04/2019						PM 10	4		14/05/2019	14/05/2019
7477/9	Maroota HVAS	PM 2.5	17/04/2019						PM 2.5	<2		14/05/2019	14/05/2019
7477/10	Maroota HVAS	TSP	23/04/2019						TSP	17		14/05/2019	14/05/2019
7477/11	Maroota HVAS	PM 10	23/04/2019						PM 10	7		14/05/2019	14/05/2019
7477/12	Maroota HVAS	PM 2.5	23/04/2019						PM 2.5	3		14/05/2019	14/05/2019
7477/13	Maroota HVAS	TSP	29/04/2019						TSP	73	Very Smokey with back burning while HVAS running	14/05/2019	14/05/2019
7477/14	Maroota HVAS	PM 10	29/04/2019						PM 10	53	Very Smokey with back burning while HVAS running	14/05/2019	14/05/2019
7477/15	Maroota HVAS	PM 2.5	29/04/2019						PM 2.5	43	Very Smokey with back burning while HVAS running	14/05/2019	14/05/2019
7589/1	Maroota HVAS	TSP	5/05/2019						TSP	10		5/06/2019	7/06/2019
7589/2	Maroota HVAS	PM 10	5/05/2019						PM 10	9		5/06/2019	7/06/2019
7589/3	Maroota HVAS	PM 2.5	5/05/2019						PM 2.5	4		5/06/2019	7/06/2019
7589/4	Maroota HVAS	TSP	11/05/2019						TSP	28		5/06/2019	7/06/2019
7589/5	Maroota HVAS	PM 10	11/05/2019						PM 10	16		5/06/2019	7/06/2019
7589/6	Maroota HVAS	PM 2.5	11/05/2019						PM 2.5	17		5/06/2019	7/06/2019
7589/7	Maroota HVAS	TSP	17/05/2019						TSP	31		5/06/2019	7/06/2019
7589/8	Maroota HVAS	PM 10	17/05/2019						PM 10	17		5/06/2019	7/06/2019
7589/9	Maroota HVAS	PM 2.5	17/05/2019						PM 2.5	11		5/06/2019	7/06/2019
7589/10	Maroota HVAS	TSP	23/05/2019						TSP	52	Extremely smokey from back burning.	5/06/2019	7/06/2019
7589/11	Maroota HVAS	PM 10	23/05/2019						PM 10	37	Extremely smokey from back burning.	5/06/2019	7/06/2019
7589/12	Maroota HVAS	PM 2.5	23/05/2019						PM 2.5	25	Extremely smokey from back burning.	5/06/2019	7/06/2019
7589/13	Maroota HVAS	TSP	29/05/2019						TSP	36		5/06/2019	7/06/2019
7589/14	Maroota HVAS	PM 10	29/05/2019						PM 10	20		5/06/2019	7/06/2019
7589/15	Maroota HVAS	PM 2.5	29/05/2019						PM 2.5	21		5/06/2019	7/06/2019
7542/1	Hodgson Maroota Dusts	D2 North East Corner	30/05/2019	28	2.4	1.8	0.6	7	Insoluble Matter	2.4		11/06/2019	11/06/2019
7542/2	Hodgson Maroota Dusts	D3A Bundwall	30/05/2019	28	1.5	1	0.5	8	Insoluble Matter	1.5	Minor vegetation and algae	11/06/2019	11/06/2019
7542/3	Hodgson Maroota Dusts	D1 Gate	30/05/2019	28	1	0.9	0.1	10	Insoluble Matter	1	Minor sand	11/06/2019	11/06/2019

Monitoring undertaken in accordance with Development Application number 267-11-99					Monitoring Frequency required by DA: Insoluble Solids: every 30 days ± 2 days. Particulates: Every 6 days								
Table of Recent Results					Insoluble Solids	Ash	Combustible Matter	Calculated Rain	TSP / PM 10 / PM 2.5	Particulates (µg/m3) / Insoluble Matter (g/m2/month)	Comments	Date Issued	Date Published
Reference	Description	Site Description	Sample Date	Number of Days	g/m2/month			mm in gauge					
7722/1	Hodgson Maroota HVAS	TSP	4/06/2019						TSP	15		4/07/2019	4/07/2019
7722/2	Hodgson Maroota HVAS	PM 10	4/06/2019						PM 10	10		4/07/2019	4/07/2019
7722/3	Hodgson Maroota HVAS	PM 2.5	4/06/2019						PM 2.5	10		4/07/2019	4/07/2019
7722/4	Hodgson Maroota HVAS	TSP	10/06/2019						TSP	17		4/07/2019	4/07/2019
7722/5	Hodgson Maroota HVAS	PM 10	10/06/2019						PM 10	13		4/07/2019	4/07/2019
7722/6	Hodgson Maroota HVAS	PM 2.5	10/06/2019						PM 2.5	13		4/07/2019	4/07/2019
7722/7	Hodgson Maroota HVAS	TSP	16/06/2019						TSP	18		4/07/2019	4/07/2019
7722/8	Hodgson Maroota HVAS	PM 10	16/06/2019						PM 10	13		4/07/2019	4/07/2019
7722/9	Hodgson Maroota HVAS	PM 2.5	16/06/2019						PM 2.5	13		4/07/2019	4/07/2019
7722/10	Hodgson Maroota HVAS	TSP	22/06/2019						TSP	16		4/07/2019	4/07/2019
7722/11	Hodgson Maroota HVAS	PM 10	22/06/2019						PM 10	10		4/07/2019	4/07/2019
7722/12	Hodgson Maroota HVAS	PM 2.5	22/06/2019						PM 2.5	8		4/07/2019	4/07/2019
7649/1	Hodgson Maroota Dusts	D2 North East Corner	27/06/2019	28	1.2	1.2	<0.1	48	Insoluble Matter	1.2	Minor vegetation	11/07/2019	11/07/2019
7649/2	Hodgson Maroota Dusts	D3A Bundwall	27/06/2019	28	0.7	0.6	0.1	51	Insoluble Matter	0.7	Minor vegetation and algae	11/07/2019	11/07/2019
7649/3	Hodgson Maroota Dusts	D1 Gate	27/06/2019	28	0.5	0.4	0.1	52	Insoluble Matter	0.5	Minor insects	11/07/2019	11/07/2019
7819/1	Hodgson Maroota HVAS	TSP	28/06/2019						TSP	14		31/07/2019	1/08/2019
7819/2	Hodgson Maroota HVAS	PM 10	28/06/2019						PM 10	9		31/07/2019	1/08/2019
7819/3	Hodgson Maroota HVAS	PM 2.5	28/06/2019						PM 2.5	5	Has been raining. Roads wet.	31/07/2019	1/08/2019
7819/4	Hodgson Maroota HVAS	TSP	4/07/2019						TSP	12	Has been raining. All roads wet.	31/07/2019	1/08/2019
7819/5	Hodgson Maroota HVAS	PM 10	4/07/2019						PM 10	7		31/07/2019	1/08/2019
7819/6	Hodgson Maroota HVAS	PM 2.5	4/07/2019						PM 2.5	5		31/07/2019	1/08/2019
7819/7	Hodgson Maroota HVAS	TSP	10/07/2019						TSP	11	Roads v. wet- recent rain. Lost power- short time	31/07/2019	1/08/2019
7819/8	Hodgson Maroota HVAS	PM 10	10/07/2019						PM 10	6		31/07/2019	1/08/2019
7819/9	Hodgson Maroota HVAS	PM 2.5	10/07/2019						PM 2.5	5		31/07/2019	1/08/2019
7819/10	Hodgson Maroota HVAS	TSP	16/07/2019						TSP	13		31/07/2019	1/08/2019
7819/11	Hodgson Maroota HVAS	PM 10	16/07/2019						PM 10	7	Lost power for a short time.	31/07/2019	1/08/2019
7819/12	Hodgson Maroota HVAS	PM 2.5	16/07/2019						PM 2.5	6		31/07/2019	1/08/2019
7819/13	Hodgson Maroota HVAS	TSP	22/07/2019						TSP	32		31/07/2019	1/08/2019
7819/14	Hodgson Maroota HVAS	PM 10	22/07/2019						PM 10	19		31/07/2019	1/08/2019
7819/15	Hodgson Maroota HVAS	PM 2.5	22/07/2019						PM 2.5	19		31/07/2019	1/08/2019
7777/1	Hodgson Maroota Dusts	D2 North East Corner	25/07/2019	28	0.2	0.2	<0.1	24	Insoluble Matter	0.2	Minor vegetation, algae	6/08/2019	6/08/2019
7777/2	Hodgson Maroota Dusts	D3A Bundwall	25/07/2019	28	0.4	0.3	0.1	24	Insoluble Matter	0.4		6/08/2019	6/08/2019
7777/3	Hodgson Maroota Dusts	D1 Gate	25/07/2019	28	0.2	0.2	<0.1	27	Insoluble Matter	0.2		6/08/2019	6/08/2019
7898/1	Hodgson Maroota - Dusts	D2 North East Corner	22/08/2019	28	0.8	0.6	0.2	7	Insoluble Matter	0.8	Insects, vegetation	3/09/2019	4/09/2019
7898/2	Hodgson Maroota - Dusts	D3A Bundwall	22/08/2019	28	0.7	0.6	0.1	9	Insoluble Matter	0.7	Minor insects, bird droppings	3/09/2019	4/09/2019
7898/3	Hodgson Maroota - Dusts	D1 Gate	22/08/2019	28	1.3	1.2	0.1	9	Insoluble Matter	1.3	Minor sand	3/09/2019	4/09/2019
7947/1	Hodgson Maroota HVAS	TSP	28/07/2019						TSP	13		29/08/2019	29/08/2019
7947/2	Hodgson Maroota HVAS	PM 10	28/07/2019						PM 10	7		29/08/2019	29/08/2019
7947/3	Hodgson Maroota HVAS	PM 2.5	28/07/2019						PM 2.5	5		29/08/2019	29/08/2019
7947/4	Hodgson Maroota HVAS	TSP	3/08/2019						TSP	20		29/08/2019	29/08/2019
7947/5	Hodgson Maroota HVAS	PM 10	3/08/2019						PM 10	13		29/08/2019	29/08/2019
7947/6	Hodgson Maroota HVAS	PM 2.5	3/08/2019						PM 2.5	9		29/08/2019	29/08/2019

Monitoring undertaken in accordance with Development Application number 267-11-99					Monitoring Frequency required by DA: Insoluble Solids: every 30 days ± 2 days. Particulates: Every 6 days								
Table of Recent Results					Insoluble Solids	Ash	Combustible Matter	Calculated Rain	TSP / PM 10 / PM 2.5	Particulates (µg/m3) / Insoluble Matter (g/m2/month)	Comments	Date Issued	Date Published
Reference	Description	Site Description	Sample Date	Number of Days	g/m2/month			mm in gauge					
7947/7	Hodgson Maroota HVAS	TSP	9/08/2019						TSP	73	Very windy - extreme.	29/08/2019	29/08/2019
7947/8	Hodgson Maroota HVAS	PM 10	9/08/2019						PM 10	42		29/08/2019	29/08/2019
7947/9	Hodgson Maroota HVAS	PM 2.5	9/08/2019						PM 2.5	58		29/08/2019	29/08/2019
7947/10	Hodgson Maroota HVAS	TSP	15/08/2019						TSP	82	very smokey from back burning. Lost power for short time.	29/08/2019	29/08/2019
7947/11	Hodgson Maroota HVAS	PM 10	15/08/2019						PM 10	40		29/08/2019	29/08/2019
7947/12	Hodgson Maroota HVAS	PM 2.5	15/08/2019						PM 2.5	33		29/08/2019	29/08/2019
7947/13	Hodgson Maroota HVAS	TSP	21/08/2019						TSP	28	Windy.	29/08/2019	29/08/2019
7947/14	Hodgson Maroota HVAS	PM 10	21/08/2019						PM 10	8		29/08/2019	29/08/2019
7947/15	Hodgson Maroota HVAS	PM 2.5	21/08/2019						PM 2.5	15		29/08/2019	29/08/2019
8094/1	Hodgson Maroota HVAS	TSP	27/08/2019						TSP	19		26/09/2019	26/09/2019
8094/2	Hodgson Maroota HVAS	PM 10	27/08/2019						PM 10	7	Lost power for a short time. Little bit of rain - wet roads	26/09/2019	26/09/2019
8094/3	Hodgson Maroota HVAS	PM 2.5	27/08/2019						PM 2.5	5		26/09/2019	26/09/2019
8094/4	Hodgson Maroota HVAS	TSP	2/09/2019						TSP	21	Roads wet from previous rain	26/09/2019	26/09/2019
8094/5	Hodgson Maroota HVAS	PM 10	2/09/2019						PM 10	9		26/09/2019	26/09/2019
8094/6	Hodgson Maroota HVAS	PM 2.5	2/09/2019						PM 2.5	6		26/09/2019	26/09/2019
8094/7	Hodgson Maroota HVAS	TSP	8/09/2019						TSP	13		26/09/2019	26/09/2019
8094/8	Hodgson Maroota HVAS	PM 10	8/09/2019						PM 10	3		26/09/2019	26/09/2019
8094/9	Hodgson Maroota HVAS	PM 2.5	8/09/2019						PM 2.5	4		26/09/2019	26/09/2019
8094/10	Hodgson Maroota HVAS	TSP	14/09/2019						TSP	22		26/09/2019	26/09/2019
8094/11	Hodgson Maroota HVAS	PM 10	14/09/2019						PM 10	3	Rip in paper	26/09/2019	26/09/2019
8094/12	Hodgson Maroota HVAS	PM 2.5	14/09/2019						PM 2.5	<2		26/09/2019	26/09/2019
8017/1	Hodgson Maroota - Dusts	D2 North East Corner	19/09/2019	28	1.9	1.5	0.4	116	Insoluble Matter	1.9	Full, minor vegetation, insects	1/10/2019	2/10/2019
8017/2	Hodgson Maroota - Dusts	D3A Bundwall	19/09/2019	28	3	1.8	1.2	114	Insoluble Matter	3	Full, vegetation, insects, sand	1/10/2019	2/10/2019
8017/3	Hodgson Maroota - Dusts	D1 Gate	19/09/2019	28	1.6	1.3	0.3	115	Insoluble Matter	1.6	Full, minor sand	1/10/2019	2/10/2019
8256/1	Hodgson Maroota HVAS	TSP	20/09/2019						TSP	23	Roads very wet from previous heavy rain.	24/10/2019	24/10/2019
8256/2	Hodgson Maroota HVAS	PM 10	20/09/2019						PM 10	17		24/10/2019	24/10/2019
8256/3	Hodgson Maroota HVAS	PM 2.5	20/09/2019						PM 2.5	8		24/10/2019	24/10/2019
8256/4	Hodgson Maroota HVAS	TSP	26/09/2019						TSP	21		24/10/2019	24/10/2019
8256/5	Hodgson Maroota HVAS	PM 10	26/09/2019						PM 10	14	Very clear, still day.	24/10/2019	24/10/2019
8256/6	Hodgson Maroota HVAS	PM 2.5	26/09/2019						PM 2.5	7		24/10/2019	24/10/2019
8256/7	Hodgson Maroota HVAS	TSP	2/10/2019						TSP	31		24/10/2019	24/10/2019
8256/8	Hodgson Maroota HVAS	PM 10	2/10/2019						PM 10	17		24/10/2019	24/10/2019
8256/9	Hodgson Maroota HVAS	PM 2.5	2/10/2019						PM 2.5	11		24/10/2019	24/10/2019
8256/10	Hodgson Maroota HVAS	TSP	8/10/2019						TSP	39		24/10/2019	24/10/2019
8256/11	Hodgson Maroota HVAS	PM 10	8/10/2019						PM 10	19		24/10/2019	24/10/2019
8256/12	Hodgson Maroota HVAS	PM 2.5	8/10/2019						PM 2.5	17		24/10/2019	24/10/2019

Monitoring undertaken in accordance with Development Application number 267-11-99					Monitoring Frequency required by DA: Insoluble Solids: every 30 days ± 2 days. Particulates: Every 6 days								
Table of Recent Results					Insoluble Solids	Ash	Combustible Matter	Calculated Rain	TSP / PM 10 / PM 2.5	Particulates (µg/m3) / Insoluble Matter (g/m2/month)	Comments	Date Issued	Date Published
Reference	Description	Site Description	Sample Date	Number of Days	g/m2/month			mm in gauge					
8256/13	Hodgson Maroota HVAS	TSP	14/10/2019						TSP	22		24/10/2019	24/10/2019
8256/14	Hodgson Maroota HVAS	PM 10	14/10/2019						PM 10	12		24/10/2019	24/10/2019
8256/15	Hodgson Maroota HVAS	PM 2.5	14/10/2019						PM 2.5	7		24/10/2019	24/10/2019
8152/1	Hodgson Maroota - Dusts	D2 North East Corner	18/10/2019	29	3.5	2.7	0.8	35	Insoluble Matter	3.5	Insects	28/10/2019	28/10/2019
8152/2	Hodgson Maroota - Dusts	D3A Bundwall	18/10/2019	29	3.1	2.5	0.6	36	Insoluble Matter	3.1	Algae, insects, minor sand	28/10/2019	28/10/2019
8152/3	Hodgson Maroota - Dusts	D1 Gate	18/10/2019	29	1.6	1.5	0.1	38	Insoluble Matter	1.6	Minor insects	28/10/2019	28/10/2019
8348/1	Hodgson Maroota HVAS	TSP	20/10/2019						TSP	18		22/11/2019	22/11/2019
8348/2	Hodgson Maroota HVAS	PM 10	20/10/2019						PM 10	9		22/11/2019	22/11/2019
8348/3	Hodgson Maroota HVAS	PM 2.5	20/10/2019						PM 2.5	6		22/11/2019	22/11/2019
8348/4	Hodgson Maroota HVAS	TSP	26/10/2019						TSP	15		22/11/2019	22/11/2019
8348/5	Hodgson Maroota HVAS	PM 10	26/10/2019						PM 10	7	Extremely windy	22/11/2019	22/11/2019
8348/6	Hodgson Maroota HVAS	PM 2.5	26/10/2019						PM 2.5	5		22/11/2019	22/11/2019
8348/7	Hodgson Maroota HVAS	TSP	1/11/2019						TSP	64		22/11/2019	22/11/2019
8348/8	Hodgson Maroota HVAS	PM 10	1/11/2019						PM 10	44	Very smokey from bush fire smoke.	22/11/2019	22/11/2019
8348/9	Hodgson Maroota HVAS	PM 2.5	1/11/2019						PM 2.5	36		22/11/2019	22/11/2019
8348/10	Hodgson Maroota HVAS	TSP	7/11/2019						TSP	69		22/11/2019	22/11/2019
8348/11	Hodgson Maroota HVAS	PM 10	7/11/2019						PM 10	32	Smokey, very windy.	22/11/2019	22/11/2019
8348/12	Hodgson Maroota HVAS	PM 2.5	7/11/2019						PM 2.5	19		22/11/2019	22/11/2019
8348/13	Hodgson Maroota HVAS	TSP	13/11/2019						TSP	57		22/11/2019	22/11/2019
8348/14	Hodgson Maroota HVAS	PM 10	13/11/2019						PM 10	21	Some smoke from bush fires.	22/11/2019	22/11/2019
8348/15	Hodgson Maroota HVAS	PM 2.5	13/11/2019						PM 2.5	18		22/11/2019	22/11/2019
8286/1	Hodgson Maroota - Dusts	D2 North East Corner	15/11/2019	28	7.2	3.5	3.7	12	Insoluble Matter	7.2	Mature trees in capture zone, Insects, vegetation, algae	22/11/2019	25/11/2019
8286/2	Hodgson Maroota - Dusts	D3A Bundwall	15/11/2019	28	2.4	2.1	0.3	8	Insoluble Matter	2.4	Minor vegetation, algae, sand	22/11/2019	25/11/2019
8286/3	Hodgson Maroota - Dusts	D1 Gate	15/11/2019	28	2.5	2.2	0.3	15	Insoluble Matter	2.5	Sand	22/11/2019	25/11/2019
8464/1	Hodgson Maroota HVAS	TSP	19/11/2019						TSP	380	Ran midnight to mid-morning. Shut down-filter papers blocked-local bushfire.Default run time used.	18/12/2019	18/12/2019
8464/2	Hodgson Maroota HVAS	PM 10	19/11/2019						PM 10	362	Ran midnight to mid-morning. Shut down-filter papers blocked-local bushfire.Default run time used.	18/12/2019	18/12/2019

Monitoring undertaken in accordance with Development Application number 267-11-99					Monitoring Frequency required by DA: Insoluble Solids: every 30 days ± 2 days. Particulates: Every 6 days								
Table of Recent Results					Insoluble Solids	Ash	Combustible Matter	Calculated Rain	TSP / PM 10 / PM 2.5	Particulates (µg/m3) / Insoluble Matter (g/m2/month)	Comments	Date Issued	Date Published
Reference	Description	Site Description	Sample Date	Number of Days	g/m2/month			mm in gauge					
8464/3	Hodgson Maroota HVAS	PM 2.5	19/11/2019						PM 2.5	333	Ran midnight to mid-morning. Shut down-filter papers blocked-local bushfire.Default run time used.	18/12/2019	18/12/2019
8464/4	Hodgson Maroota HVAS	TSP	25/11/2019						TSP	65	Still smokey from local bush fires	18/12/2019	18/12/2019
8464/5	Hodgson Maroota HVAS	PM 10	25/11/2019						PM 10	45	Still smokey from local bush fires	18/12/2019	18/12/2019
8464/6	Hodgson Maroota HVAS	PM 2.5	25/11/2019						PM 2.5	41	Still smokey from local bush fires	18/12/2019	18/12/2019
8464/7	Hodgson Maroota HVAS	TSP	1/12/2019						TSP	13	Very smokey from bush fires	18/12/2019	18/12/2019
8464/8	Hodgson Maroota HVAS	PM 10	1/12/2019						PM 10	<2	Very smokey from bush fires	18/12/2019	18/12/2019
8464/9	Hodgson Maroota HVAS	PM 2.5	1/12/2019						PM 2.5	<2	Very smokey from bush fires	18/12/2019	18/12/2019
8464/10	Hodgson Maroota HVAS	TSP	7/12/2019						TSP	188	Very smokey from bush fires	18/12/2019	18/12/2019
8464/11	Hodgson Maroota HVAS	PM 10	7/12/2019						PM 10	147	Very smokey from bush fires	18/12/2019	18/12/2019
8464/12	Hodgson Maroota HVAS	PM 2.5	7/12/2019						PM 2.5	132	Very smokey from bush fires	18/12/2019	18/12/2019
8487/1	Hodgson Maroota - Dusts	D2 North East Corner	10/01/2020	28	4.2	3.2	1	11	Insoluble Matter	4.2	Mature trees above on residential side	17/01/2020	21/01/2020
8487/2	Hodgson Maroota - Dusts	D3A Bundwall	10/01/2020	28	3.2	2.8	0.4	6	Insoluble Matter	3.2	Minor vegetation, ash	17/01/2020	21/01/2020
8487/3	Hodgson Maroota - Dusts	D1 Gate	10/01/2020	28	3.2	2.5	0.7	12	Insoluble Matter	3.2	Insects, ash	17/01/2020	21/01/2020
8500/1	Hodgson Maroota HVAS	TSP	13/12/2019						TSP	39	Very smokey	17/01/2020	21/01/2020
8500/2	Hodgson Maroota HVAS	PM 10	13/12/2019						PM 10	19	Very smokey	17/01/2020	21/01/2020
8500/3	Hodgson Maroota HVAS	PM 2.5	13/12/2019						PM 2.5	15	Very smokey	17/01/2020	21/01/2020
8500/4	Hodgson Maroota HVAS	TSP	19/12/2019						TSP	201	Very smokey from bushfires	17/01/2020	21/01/2020
8500/5	Hodgson Maroota HVAS	PM 10	19/12/2019						PM 10	154	Very smokey from bushfires	17/01/2020	21/01/2020
8500/6	Hodgson Maroota HVAS	PM 2.5	19/12/2019						PM 2.5	141	Very smokey from bushfires	17/01/2020	21/01/2020
8500/7	Hodgson Maroota HVAS	TSP	25/12/2019						TSP	30		17/01/2020	21/01/2020
8500/8	Hodgson Maroota HVAS	PM 10	25/12/2019						PM 10	18		17/01/2020	21/01/2020
8500/9	Hodgson Maroota HVAS	PM 2.5	25/12/2019						PM 2.5	10		17/01/2020	21/01/2020
8500/10	Hodgson Maroota HVAS	TSP	31/12/2019						TSP	151	Smoke affected	17/01/2020	21/01/2020
8500/11	Hodgson Maroota HVAS	PM 10	31/12/2019						PM 10	110	Smoke affected	17/01/2020	21/01/2020
8500/12	Hodgson Maroota HVAS	PM 2.5	31/12/2019						PM 2.5	110	Smoke affected	17/01/2020	21/01/2020

Appendix H

Pumping Records

Hodgson Quarries and Plant Pty Ltd

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Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
PMH	Tuesday	15/1/19	800	430	8½	61200	PMH
PMH	Wednesday	16/1/19	830	400	7½	54000	PMH
PMH	Thursday	17/1/19	830	400	7½	54000	PMH
PMH	Friday	18/1/19	800	400	8	57600	PMH
PMH	Saturday	19/1/19	700	1200	5	36000	PMH
PMH	Monday	21/1/19	1100	500	6	43200	PMH
PMH	Tuesday	22/1/19	730	400	8½	61200	PMH
PMH	Wednesday	23/1/19	800	430	8½	61200	PMH
PMH	Thursday	24/1/19	830	430	8½	61200	PMH
PMH	Friday	25/1/19	730	400	8½	61200	PMH
PMH	Saturday	26/1/19	700	1200	5	36000	PMH
PMH	Wednesday	30/1/19	730	430	9	64800	PMH
PMH	Friday	31/1/19	800	400	8	57600	PMH
PMH	Friday	1/2/19	830	430	8	57600	PMH
PMH	Saturday	2/2/19	800	430	8½	61200	PMH
PMH	Monday	4/2/19	730	400	8½	61200	PMH
PMH	Tuesday	5/2/19	1200	500	5	36000	PMH
PMH	Thursday	7/2/19	900	400	5	36000	PMH
PMH	Friday	8/2/19	800	430	8½	61200	PMH
PMH	Saturday	9/2/19	700	1200	5	36000	PMH
PMH	Monday	11/2/19	730	400	8½	61200	PMH
PMH	Tuesday	12/2/19	800	430	8½	61200	PMH
PMH	Wednesday	13/2/19	800	430	8½	61200	PMH
PMH	Thursday	14/2/19	830	500	8½	61200	PMH
PMH	Friday	15/2/19	830	430	8	57600	PMH
PMH	Saturday	16/2/19	700	1200	5	36000	PMH

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
SR	Monday	18/2/19	1000	430	6½	46800	PMH
SR	Tuesday	19/2/19	930	430	7	50400	PMH
SR	Wednesday	20/2/19	800	430	8½	61200	PMH
SR	Thursday	21/2/19	830	400	7½	54000	PMH
PMH	Friday	22/2/19	830	330	7	50400	PMH
PMH	Saturday	23/2/19	700	1200	5	36000	PMH
PMH	Tuesday	26/2/19	800	330	7½	54000	PMH
PMH	Wednesday	27/2/19	730	400	8½	61200	PMH
PMH	Thursday	28/2/19	730	430	9	64800	PMH
PMH	Friday	29/2/19	700	400	9	64800	PMH
PMH	Saturday	30/2/19	700	1200	5	36000	PMH
PMH	Monday	4/3/19	830	200	5½	39600	PMH
SR	Wednesday	6/3/19	800	330	7½	54000	PMH
SR	Thursday	7/3/19	830	430	8	57600	PMH
PMH	Friday	8/3/19	830	430	8	57600	PMH
PMH	Saturday	9/3/19	730	1230	5	36000	PMH
PMH	Monday	11/3/19	830	430	8	57600	PMH
PMH	Tuesday	12/3/19	800	400	8	57600	PMH
PMH	Wednesday	13/3/19	830	430	8	57600	PMH
PMH	Thursday	14/3/19	730	1200	4½	32400	PMH
PMH	Friday	15/3/19	100	430	3½	25200	PMH
PMH	Saturday	16/3/19	700	1200	5	36000	PMH
PMH	Monday	18/3/19	800	430	9½	68400	PMH
PMH	Tuesday	19/3/19	730	400	8½	61200	PMH
PMH	Wednesday	20/3/19	830	430	8	57600	PMH
PMH	Thursday	21/3/19	860	300	7	50400	PMH

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Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
pmh	Monday	1/4/19	10 00	15 00	5	36,000	pmh
pmh	Tuesday	2/4/19	7 30	4 30	9	64,800	pmh
pmh	Friday	5/4/19	7 30	4 30	9	64,800	pmh
pmh	Saturday	6/4/19	7 00	12 00	5	36,000	pmh
pmh	Monday	7/4/19	8 00	4 30	8 ½	61,200	Ell
pmh	Tuesday	8/4/19	7 30	4 30	9	64,800	Ell
pmh	Wednesday	9/4/19	7 30	4 30	9	64,800	pmh
pmh	Thursday	10/4/19	9 00	4 00	5	36,000	pmh
pmh	Friday	11/4/19	7 00	4 30	9 ½	68,400	pmh
pmh	Saturday	12/4/19	7 00	12 00	5	36,000	pmh
pmh	Wednesday	17/4/19	7 00	4 30	9 ½	68,400	pmh
pmh	Thursday	18/4/19	7 30	5 00	9 ½	68,400	pmh
pmh	Friday	19/4/19	8 00	4 30	8 ½	61,200	pmh
pmh	Saturday	20/4/19	7 30	12 00	4 ½	32,400	pmh
pmh	Monday	22/4/19	8 00	4 00	8	57,600	pmh
pmh	Tuesday	23/4/19	8 00	4 00	8	57,600	pmh
pmh	Wednesday	24/4/19	8 00	4 00	8	57,600	pmh
pmh	Thursday	25/4/19	8 00	2 00	6	43,200	pmh
pmh	Friday	26/4/19	8 30	11 00	2 ½	18,000	pmh
pmh	Saturday	27/4/19	9 00	12 00	3	21,600	pmh
pmh	Wednesday	1/5/19	7 30	4 00	8 ½	61,200	pmh
pmh	Saturday	4/5/19	7 30	4 00	8 ½	61,200	pmh
pmh	Monday	6/5/19	7 30	4 00	8 ½	61,200	pmh
pmh	Tuesday	7/5/19	7 30	4 00	8 ½	61,200	pmh
pmh	Friday	10/5/19	8 00	3 30	7 ½	54,000	pmh
pmh	Saturday	11/5/19	7 00	12 00	5	36,000	pmh

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
pmh	Monday	13/5/19	700	500	10 0	72,000	pmh
lcll	Tuesday	14/5/19	730	500	9½	68,400	pmh
lcll	Wednesday	15/5/19	730	500	9½	68,400	pmh
lcll	Thursday	16/5/19	730	500	9½	68,400	pmh
lcll	Friday	17/5/19	800	400	8	57,600	pmh
lcll	Saturday	18/5/19	800	1200	4	28,800	pmh
lcll	Monday	20/5/19	1130	430	5	36,000	pmh
lcll	Tuesday	21/5/19	900	430	7½	54,000	pmh
lll	Wednesday	22/5/19	730	400	8½	61,200	pmh
lll	Thursday	23/5/19	800	400	8	57,600	pmh
lll	Saturday	25/5/19	800	1200	4	28,800	pmh
lll	Monday	27/5/19	800	430	8½	61,200	pmh
lll	Thursday	30/5/19	730	400	8½	61,200	pmh
pmh	Friday	31/5/19	730	430	9	64,800	pmh
pmh	Saturday	1/6/19	700	1200	5	36,000	pmh
pmh	Tuesday	4/6/19	800	500	9	64,800	pmh
Boer	Wednesday	5/6/19	800	500	9	64,800	pmh
Boer	Thursday	6/6/19	730	500	9½	68,400	pmh
pmh	Friday	7/6/19	730	500	9½	68,400	pmh
pmh	Saturday	8/6/19	700	1200	5	36,000	pmh
pmh	Monday	17/6/19	730	430	9	64,800	pmh
pmh	Wednesday	19/6/19	730	500	9½	68,400	pmh
pmh	Friday	21/6/19	700	500	10	72,000	pmh
pmh	Monday	24/6/19	700	430	9½	68,400	Boer
pmh	Tuesday	25/6/19	730	430	9	64,800	Boer
pmh	Wednesday	26/6/19	800	430	8½	61,200	lll

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
PMH	Thursday	27/6/19	800	400	8	57,600	PMH
PMH	Saturday	29/6/19	730	1200	4½	32,400	PMH
PMH	Monday	1/7/19	1100	430	5½	39,600	PMH
PMH	Tuesday	2/7/19	800	430	8½	61,200	PMH
PMH	Wednesday	3/7/19	730	400	8½	61,200	PMH
PMH	Thursday	4/7/19	730	400	8½	61,200	PMH
PMH	Friday	5/7/19	800	330	7½	54,000	PMH
PMH	Saturday	6/7/19	730	1200	4½	32,400	PMH
PMH	Tuesday	9/7/19	700	430	9½	68,400	PMH
PMH	Wednesday	10/7/19	900	230	5½	39,600	PMH
ELTB	Thursday	11/7/19	700	200	7	50,400	PMH
ELTB	Friday	12/7/19	100	430	3½	25,200	PMH
PMH	Saturday	13/7/19	700	1200	5	36,000	PMH
PMH	Monday	15/7/19	700	430	9½	68,400	PMH
PMH	Thursday	18/7/19	800	400	8	57,600	PMH
PMH	Friday	19/7/19	830	400	7½	54,000	PMH
PMH	Saturday	20/7/19	830	1200	3½	25,200	ELTB
PMH	Monday	22/7/19	930	430	7	50,400	ELTB
PMH	Tuesday	23/7/19	730	400	8½	61,200	PMH
ELTB	Wednesday	24/7/19	730	400	8½	61,200	ELTB
ELTB	Thursday	25/7/19	730	400	8½	61,200	PMH
PMH	Friday	26/7/19	800	400	8	57,600	PMH
PMH	Monday	29/7/19	830	400	7½	54,000	PMH
PMH	Tuesday	30/7/19	830	400	7½	54,000	PMH
PMH	Wednesday	31/7/19	800	400	8	57,600	PMH
PMH	Thursday	1/8/19	830	400	7½	54,000	PMH

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
PMH	Friday	2/8/19	700	500	10	72,000	PMH
PMH	Saturday	3/8/19	730	1200	4½	32,400	PMH
PMH	Monday	5/8/19	830	430	8	57,600	PMH
PMH	Tuesday	6/8/19	800	430	8½	61,200	PMH
PMH	Wednesday	7/8/19	730	400	8½	61,200	PMH
PMH	Thursday	8/8/19	730	400	8½	61,200	PMH
PMH	Friday	9/8/19	730	400	8½	61,200	PMH
PMH	Saturday	10/8/19	800	1200	4	28,800	PMH
PMH	Monday	12/8/19	830	200	5½	39,600	PMH
PMH	Tuesday	13/8/19	1100	430	5½	39,600	PMH
PMH	Wednesday	14/8/19	800	400	8	57,600	PMH
PMH	Thursday	15/8/19	800	400	8	57,600	PMH
PMH	Friday	16/8/19	800	400	8	57,600	PMH
PMH	Saturday	17/8/19	730	1200	4½	32,400	PMH
PMH	Monday	19/8/19	900	430	5½	39,600	PMH
PMH	Tuesday	20/8/19	830	400	7½	54,000	PMH
PMH	Wednesday	21/8/19	800	400	8	57,600	PMH
PMH	Friday	23/8/19	730	330	8	57,600	PMH
PMH	Monday	26/8/19	700	500	10	72,000	PMH
PMH	Tuesday	27/8/19	730	500	9½	68,400	PMH
PMH	Saturday	31/8/19	700	1200	5	36,000	PMH
PMH	Monday	2/9/19	730	400	8½	61,200	PMH
PMH	Tuesday	3/9/19	700	100	6	43,200	PMH
PMH	Friday	6/9/19	730	500	9½	68,400	PMH
PMH	Monday	9/9/19	700	500	10	72,000	PMH
PMH	Tuesday	10/9/19	730	500	9½	68,400	PMH

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
AMK	Wednesday	11/9/19	730	400	8 1/2	61,200	pm
pm	Thursday	12/9/19	1100	430	5 1/2	39,600	pm
pm	Friday	13/9/19	830	400	7 1/2	54,000	pm
pm	Saturday	14/9/19	900	1200	3	21,600	pm
pm	Monday	16/9/19	700	400	9	64,800	pm
pm	Tuesday	17/9/19	700	400	9	64,800	pm
pm	Wednesday	18/9/19	730	400	8 1/2	61,200	pm
pm	Thursday	19/9/19	730	400	8 1/2	61,200	pm
pm	Friday	20/9/19	730	400	8 1/2	61,200	pm
pm	Saturday	21/9/19	800	400	8	57,600	pm
pm	Monday	23/9/19	100	430	3 1/2	25,200	pm
pm	Tuesday	24/9/19	200	430	2 1/2	18,000	pm
pm	Wednesday	25/9/19	830	400	7 1/2	54,000	pm
pm	Thursday	26/9/19	800	400	8	57,600	pm
pm	Friday	27/9/19	800	400	8	57,600	pm
pm	Saturday	28/9/19	730	400	8 1/2	61,200	pm
pm	Monday	30/9/19	800	430	8 1/2	61,200	pm
pm	Tuesday	1/10/19	830	400	7 1/2	54,000	pm
pm	Wednesday	2/10/19	830	400	7 1/2	54,000	pm
pm	Friday	4/10/19	1000	430	6 1/2	46,800	pm
pm	Saturday	5/10/19	700	1200	5	36,000	pm
pm	Monday	7/10/19	730	430	9 hrs	64,800	pm
pm	Tuesday	8/10/19	730	430	9	64,800	pm
pm	Wednesday	9/10/19	730	430	9	64,800	pm
pm	Thursday	10/10/19	800	430	8 1/2	61,200	pm
pm	Friday	11/10/19	800	430	8 1/2	61,200	pm

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
PMH	Saturday	12/10/19	700	1200	5	36,000	PMH
PMH	Tuesday	15/10/19	700	500	10	72,000	PMH
PMH	Wednesday	16/10/19	700	500	10	72,000	PMH
PMH	Saturday	19/10/19	730	430	9	64,800	PMH
PMH	Monday	21/10/19	200	400	2	14,400	PMH
PMH	Tuesday	22/10/19	730	430	9	64,800	PMH
PMH	Wednesday	23/10/19	730	400	8½	61,200	PMH
PMH	Thursday	24/10/19	800	400	8	57,600	PMH
PMH	Friday	25/10/19	800	400	8	57,600	PMH
PMH	Saturday	26/10/19	700	1200	5	36,000	PMH
PMH	Monday	28/10/19	800	400	8	57,600	PMH
PMH	Tuesday	29/10/19	830	430	8	57,600	PMH
PMH	Friday	1/11/19	800	430	8½	61,200	PMH
PMH	Saturday	2/11/19	800	430	8½	61,200	PMH
PMH	Monday	4/11/19	830	430	8	57,600	PMH
PMH	Tuesday	5/11/19	830	430	8	57,600	PMH
PMH	Wednesday	6/11/19	800	430	8½	61,200	PMH
PMH	Thursday	7/11/19	830	400	7½	54,000	PMH
PMH	Friday	8/11/19	800	400	8	57,600	PMH
PMH	Saturday	9/11/19	730	1200	4½	32,400	PMH
PMH	Monday	11/11/19	1000	430	6½	46,800	PMH
PMH	Tuesday	12/11/19	730	330	8	57,600	PMH
PMH	Wednesday	13/11/19	800	400	8	57,600	PMH
PMH	Thursday	14/11/19	830	430	8	57,600	PMH
PMH	Friday	15/11/19	800	430	8½	61,200	PMH
PMH	Saturday	16/11/19	730	1200	4½	32,400	PMH

Hodgson Quarries and Plant Pty Ltd

Maroota

Bore Hole Pump

Started By	Day	Date	Start Time	Finish Time	Total Hours	Total Litres @ 120/Min	Turned Off By
<i>[Signature]</i>	Mon	18/11/19	8:00	4:30	8 1/2	61,200	<i>[Signature]</i>
<i>[Signature]</i>	TUE	19/11/19	8:00	4:30	8 1/2	61,200	<i>[Signature]</i>
<i>[Signature]</i>	WED	20/11/19	7:30	4:00	8 1/2	61,200	<i>[Signature]</i>
<i>[Signature]</i>	THUR	21/11/19	7:00	5:00	10	72,000	<i>[Signature]</i>
<i>[Signature]</i>	FRIDAY	22/11/19	7:00	12:00	5	36,000	<i>[Signature]</i>
<i>[Signature]</i>	SAT	23/11/19	7:00	12:00	5	36,000	<i>[Signature]</i>
<i>[Signature]</i>	Mon	25/11/19	10:00	4:30	6 1/2	46,800	<i>[Signature]</i>
<i>[Signature]</i>	TUE	26/11/19	7:30	12:00	4 1/2	32,400	<i>[Signature]</i>
<i>[Signature]</i>	WED	27/11/19	8:00	4:30	8 1/2	61,200	<i>[Signature]</i>
<i>[Signature]</i>	THUR	28/11/19	7:00	12:00	5	36,000	<i>[Signature]</i>
<i>[Signature]</i>	FRIDAY	29/11/19	10:00	4:30	6 1/2	46,800	<i>[Signature]</i>
<i>[Signature]</i>	SAT	30/11/19	8:00	12:00	4	28,800	<i>[Signature]</i>
<i>[Signature]</i>	Mon	2/12/19	8:00	4:00	8	57,600	<i>[Signature]</i>
<i>[Signature]</i>	TUE	3/12/19	8:30	4:00	7 1/2	54,000	<i>[Signature]</i>
<i>[Signature]</i>	WED	4/12/19	8:30	4:00	7 1/2	54,000	<i>[Signature]</i>
<i>[Signature]</i>	THUR	5/12/19	7:00	5:00	10	72,000	<i>[Signature]</i>
<i>[Signature]</i>	FRID	6/12/19	7:30	5:00	9 1/2	68,400	<i>[Signature]</i>
<i>[Signature]</i>	SAT	7/12/19	8:00	12:00	4	28,800	<i>[Signature]</i>
<i>[Signature]</i>	Mon	9/12/19	8:00	4:00	8	57,600	<i>[Signature]</i>
<i>[Signature]</i>	TUE	10/12/19	7:30	3:30	8	57,600	<i>[Signature]</i>
<i>[Signature]</i>	WED	11/12/19	7:30	3:30	8	57,600	<i>[Signature]</i>
<i>[Signature]</i>	FRID	13/12/19	7:00	12:00	5	36,000	<i>[Signature]</i>
<i>[Signature]</i>	SAT	14/12/19	8:00	12:00	4	28,800	<i>[Signature]</i>
<i>[Signature]</i>	Mon	16/12/19	7:30	5:00	9 1/2	68,400	<i>[Signature]</i>
<i>[Signature]</i>	TUE	17/12/19	7:30	5:00	9 1/2	68,400	<i>[Signature]</i>
<i>[Signature]</i>	WED	18/12/19	7:00	5:00	10	72,000	<i>[Signature]</i>

Appendix I Noise Monitoring Results

Noise Monitoring Assessment

Hodgson Quarries and Plant Pty Ltd



Document Information

Noise Monitoring Assessment

Prepared for: VGT Laboratories Pty Limited

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APPENDIX A – GLOSSARY OF TERMS

APPENDIX B – REGULATORY NOISE LIMITS

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by VGT Laboratories Pty Ltd to complete a Noise Monitoring Assessment (NMA) for Hodgson Quarries and Plant Pty Ltd ('the quarry'). The NMA has been completed to quantify operational noise emissions and off-site truck noise as per Condition 47 and 48 of their Project Approval (Department of Planning and Environment (DPE)) and Environment Protection License (EPL) (ref:6535) from NSW Environment Protection Authority (EPA).

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), 2017, Noise Policy for Industry (NPI);
- NSW Department of Environment, Climate Change and Water (DECCW), 2011, NSW Road Noise Policy (RNP);
- Australian Standard AS 1055.1:2018 - Acoustics - Description and measurement of environmental noise;
- NSW Environment Protection Authority (EPA), 2015, Environment Protection Licence EPL 6535 (EPL); and
- Development Application (DA No.267-11-99), 2000, Department of Planning and Environment (DPE).

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

2.1 Operational Noise Criteria

The project has operational noise criteria prescribed by both the DPE and EPA (see **Appendix B**). Notwithstanding, for consistency with the Acoustic Assessment prepared for Modification 2 of the quarry, this assessment has adopted criteria as per the Development Application summarised below:

Condition 47. For typical operations, noise from the premises must not exceed:

- *an LAeq, 15 min noise emission criterion of 43dBA (7am to 6pm) Monday to Saturday;*
- *an LAeq, 15 min noise emission criterion of 40dBA (6am to 7am) Monday to Saturday; and*
- *an LA1, 1 min noise emission criterion of 50dBA (6am to 7am) Monday to Saturday.*

Noise generated by the development is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy.

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

2.2 Road Noise Criteria

Condition 48 of the DA specifies noise criteria for off-site road trucks from the quarry. These criteria are consistent with those outlined in the RNP (DECCW, 2011) for local roads.

Condition 48.

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

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3 Methodology

Attended noise surveys for this assessment were conducted in general accordance with the procedures described in Australian Standard AS 1055.1:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL.

The acoustic instrumentation used carries current NATA calibration and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dBA. All equipment carried appropriate and current NATA (or manufacturer) calibration certificates.

3.1 Operational Noise Measurement Methodology

The locality surrounding the quarry is primarily rural/residential. Three representative receivers were selected for this assessment being Location A (north east), Location B (south east) and Location C (north west) (see **Figure 1**). The measurements were carried out using a Svantek Type 1, 971 noise analyser on Thursday 6 June 2019.

The monitoring consisted of six 15-minute monitoring intervals between 6am to 8:30am. Where possible throughout each survey the operator quantified the contribution of any significant noise sources. It is noted that quarry operations commence at 6am, with quarrying operations after 7am. The programme of the measurements and list of quarry activities is presented in **Table 1**.

Table 1 Noise Monitoring Programme			
Number of 15 minute Measurements	Measurement Period	Assessment Period	Quarry Activities
3	6am to 7am	Night	Toolbox Talks, Loading/Transportation, No Processing
3	7am to 8:30am	Day	Full Quarry Operations, including processing

3.2 Road Noise Assessment Methodology

Road noise monitoring was conducted at 4405 Old Northern Road, Maroota NSW using a Type 1 Svantek, 977 noise analyser on Thursday 6 June 2019. The monitoring was conducted between 6am to 8:30am as per Condition 48 of the DA, with the monitoring position situated at a 15m offset from Old Northern Road.

This location was selected as it had a clear line of site to Old Northern Road and could also be used to visually identify project related trucks entering and leaving site via Roberts Road. Noise levels obtained at the monitoring location are considered representative for receivers situated 15m from the road alignment, which is considered a representative worst case.



FIGURE 1 - LOCALITY PLAN

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4 Results

4.1 Operational Noise Results

The monitoring and assessment results are presented in individual tables for each monitoring location. The results of the fifteen minute attended noise measurements for Thursday 6 June 2019 for Location A are summarised in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location A						
Time (hrs)	Primary Noise Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL, dBA
	L _{Amax}	L _{A10}	L _{Aeq}	L _{A90}		
06:00	81	52	59	40	WS: 0.1m/s WD: SW Rain: Nil	Passing Traffic 44-81
						Domestic AC Unit 35-40
						Quarry Engines 32-35
						Quarry Reverse Alarm 39 (5 Secs)
Quarry Site L _{Aeq} (15min) Contribution						34
07:07	59	47	45	41	WS: 0.1m/s WD: W Rain: Nil	Passing Traffic 44-46
						Birds 40-59
						Quarry Excavator Operations 38-41
						Quarry Plant Alarms 40-45 (5 Secs)
Quarry Site L _{Aeq} (15min) Contribution						40

The results of the fifteen minute attended noise measurements for Thursday 6 June 2019 for Location B are summarised in **Table 3**.

Table 3 Operator-Attended Noise Survey Results – Location B						
Time (hrs)	Primary Noise Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL, dBA
	L _{Amax}	L _{A10}	L _{Aeq}	L _{A90}		
06:19	72	48	49	41	WS: 0.1 m/s WD: W Rain: Nil	Traffic 42-71
						Aircraft 45-48
						Quarry Truck 40-45 (120 secs)
						Quarry Operations 40-42 (60 secs)
Quarry Site L _{Aeq} (15min) Contribution						39
07:26	56	46	44	41	WS: 0.1 m/s WD: W Rain: Nil	Aircraft 40-45
						Traffic 40-50
						Quarry Excavator Impact 50 (2 Secs)
						Quarry Operations 38-44
Quarry Site L _{Aeq} (15min) Contribution						41

The results of the fifteen minute attended noise measurements for Thursday 6 June 2019 for Location C are summarised in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location C						
Time (hrs)	Primary Noise Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL, dBA
	L _{Amax}	L _{A10}	L _{Aeq}	L _{A90}		
06:39	70	49	47	42	WS: 0.1m/s	Traffic 44-50
					WD: W	Birds 48-70
					Rain: Nil	
Quarry Site L _{Aeq} (15min) Contribution						N/A (quarry inaudible)
07:50	64	47	45	40	WS: 0.3m/s	Traffic 40-47
					WD: W	Aircraft 38-45
					Rain: Nil	Birds 50-64
Quarry Site L _{Aeq} (15min) Contribution						N/A (quarry inaudible)

4.2 Road Noise Results

The results of the road noise attended measurements for Thursday 6 June 2019 are summarised in **Table 5**. Generally, meteorological conditions at the time of the measurements were neutral to adverse (ie noise enhancing).

It was evident from attended noise monitoring that overall L_{Aeq}(1hr) noise levels were dominated by vehicles not associated with the quarry. Therefore, road traffic noise calculations were undertaken to quantify project road noise contributions at the measurement position. The calculations were completed using the United States (US) Environment Protection Agency's road traffic calculation method. This method is an internationally accepted theoretical traffic noise prediction model. Results of the traffic noise calculations identify that quarry vehicles satisfy the relevant day and night road noise criteria.

Table 5 Road Noise Survey Results				
Period	Number of Quarry Trucks (passbys)	Overall Measured	Calculated L _{Aeq} (1hr)	
		L _{Aeq} (1hr)	Project Truck	Criteria, dBA
		(dBA re 20 µPa)	Contribution	L _{Aeq} (1hr)
		dBA	dBA	
6am to 7am	4	76	39	50
7am to 8am	0	76	0	55

5 Discussion

5.1 Operational Noise Discussion

5.1.1 Discussion of Results – Location A, Thursday 6 June 2019

Attended measurement results for monitoring conducted at Location A on Thursday 6 June 2019 identified that quarry noise was audible prior to 7am with engines idling onsite. Generally, road traffic such as off-site trucks and aircraft were dominant throughout the period with the onsite trucks briefly audible which were noted to contain similar acoustic characteristics as non-project road traffic. At approximately 7am quarry operations commenced with an excavator operating which was audible periodically throughout the measurement. The noise contribution from the quarry satisfied the relevant noise criterion for the entire attended measurement on Thursday 6 June 2019. L_{Amax} emissions from the quarry remained below the sleep disturbance criterion.

5.1.2 Discussion of Results – Location B, Thursday 6 June 2019

Monitoring results for Location B on Thursday 6 June 2019 were dominated by passing and distant traffic noise. Onsite quarry engine noise was audible throughout both measurements. At approximately 7am quarry operations commenced with an excavator operating which was audible periodically throughout the measurement. The overall site contribution for both measurements complied with the applicable noise criteria. L_{Amax} emissions from the quarry remained below the sleep disturbance criterion.

5.1.3 Discussion of Results – Location C, Thursday 6 June 2019

Noise levels at Location C on Thursday 6 June 2019 were dominated by ambient sources not associated with quarrying operations including birds, aircraft and passing traffic. The quarry was not audible during the period between 6am and 8am. Therefore, quarrying operations satisfied relevant operational and sleep disturbance noise criterion.

5.2 Road Noise Discussion

Road noise emission from quarry vehicles, satisfied relevant noise criteria as specified by Condition 48 of the DA for receivers situated at a 15m offset to the roadway. Furthermore, ambient road traffic not associated with the project dominated measured noise levels throughout measurements.

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6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment on behalf of Hodgson Quarries and Plant Pty Ltd. The assessment was completed to quantify site noise emissions against relevant noise criteria pertaining to quarry operations and off-site truck movements.

Attended monitoring has identified that operational and road noise emissions generated by the quarry comply with relevant statutory noise limits. Furthermore, project related noise emissions are generally masked by extraneous non-quarry sources.

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Appendix A – Glossary of Terms

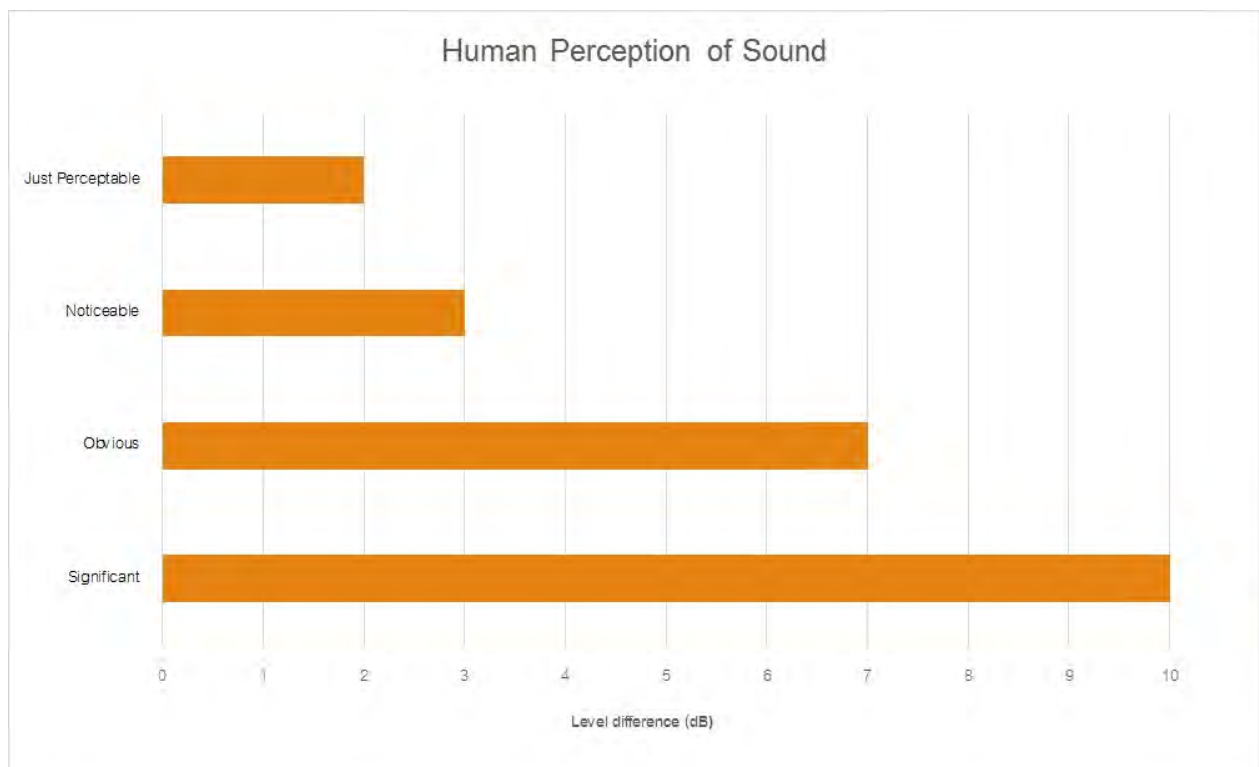
Table A1 provides a number of technical terms have been used in this report.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAm _{ax}	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : $= 10 \cdot \log_{10} (W/W_0)$ Where : W is the sound power in watts and W ₀ is the sound reference power at 10-12 watts.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Regulatory Noise Limits

Environment Protection Licence



Licence - 6535

Licence Details

Number:	6535
Anniversary Date:	12-March

Licensee

HB MAROOKA PTY LTD

PO BOX 1778

GOSFORD NSW 2250

Premises

HB MAROOKA PTY LTD

CNR ROBERTS & OLD NORTHERN ROADS

MAROOKA NSW 2756

Scheduled Activity

Crushing, Grinding or Separating

Extractive Activities

Fee Based Activity

Scale

Crushing, grinding or separating	> 100000-500000 T processed
Land-based extractive activity	> 100000-500000 T extracted, processed or stored

Region

Metropolitan - Sydney Industry

Level 13, 10 Valentine Ave

PARRAMATTA NSW 2150

Phone: (02) 9995 5000

Fax: (02) 9995 6900

PO Box 668 PARRAMATTA

NSW 2124

Environment Protection Licence



Licence - 6535

P1 Location of monitoring/discharge points and areas

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

3 Limit Conditions

L1 Pollution of waters

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

L2 Noise limits

L2.1 Noise from the premises must not exceed the sound pressure level expressed as LA10 (15 minute) of 45 dB(A), except as expressly provided by this licence.

L2.2 Noise from the premises is to be measured or computed at any point within one metre of any residential boundary, or at any point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition L2.1.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

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

This includes:

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

O2 Maintenance of plant and equipment

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

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

O3 Dust

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

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

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

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

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

Andrew Refshauge MP
Minister for Urban Affairs and Planning

Sydney 2000 File No. S98/00772

SCHEDULE 1

Application made by: Dr L. S. Martin ("the Applicant").

To: The Minister for Urban Affairs and Planning ("the Minister").

In respect of: Lots 1 and 2 DP 228308, Lot 2 DP 312327, Roberts Road, Maroota, in the Baulkham Hills Local Government Area.

For the following: Extraction and on-site processing of sand, clay and pebble; construction of a bund wall.

Development Application: DA No. 267-11-99 lodged with the Department of Urban Affairs and Planning on 22 November 1999, accompanied by a Environmental Impact Statement prepared by Nexus Environmental Planning Pty Ltd. and dated November 1999.

Determination: 1) To ascertain the date upon which the consent becomes effective, refer to Section 83 of the Act.
2) To ascertain the date upon which the consent is liable to lapse, refer to Section 95 of the Act.
3) Section 97 of the Act confers on an applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of notice.

This instrument includes changes made by DA 267-11-99 Mod 1 in 29 November 2000 (marked red).

This instrument includes changes made by DA 267-11-99 Mod 3 in 18 August 2015 (marked blue).

This instrument includes changes made by DA 267-11-99 Mod 2 in 18 March 2016 (marked green).

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

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

Process Water Dam Design and Construction

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

NOISE

Noise Management Plan

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

The Noise Management Plan shall:

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

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

47. For typical operations, noise from the premises must not exceed:
- an $L_{Aeq,15 \text{ min}}$ noise emission criterion of 43 dB(A) (7am to 6pm) Monday to Saturday;
 - an $L_{Aeq,15 \text{ min}}$ noise emission criterion of 40 dB(A) (6am to 7am) Monday to Saturday; and
 - an $L_{A1,1 \text{ minute}}$ noise emission criterion of 50 dB(A) (6am to 7am) Monday to Saturday.

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

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

- 47(a) The excavator to be used is to be fitted with acoustic mufflers to achieve a noise level of approximately 76dB(A) when measured at 7 metres.
- 47(b) The on-site generator is to be fitted with an acoustic enclosure to ensure that noise levels less than 44dB(A) at 30m are achieved.
- 47(c) A noise compliance investigation is to undertaken within one month of the installation of the equipment to demonstrate compliance with the noise level limits stated in Conditions 47(a) and 47(b). The results of the compliance investigation are to be provided for the approval of the Secretary within 14 days of the completion of the investigations.
- 47(d) The Applicant must ensure works associated with atypical operations, as described in Modification 2, only occur:
- (a) for a maximum of 24 days in a year, and only between 8 am to 5 pm on those days, Monday to Saturday;
 - (b) after an investigation of options for avoiding multiple atypical operations at any one time so as to limit noise levels at affected receptors, and the outcomes of this investigation are detailed in the Noise Management Plan; and
 - (c) at least 24 hours after notifying potentially affected receptors, with such notification to include information on the duration and extent of works, the likely noise to be experienced, and a contact telephone number.

TRAFFIC AND TRANSPORT

Road Noise Management Plan

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

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

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

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

Truck movements

50. The Applicant shall ensure that truck movements associated with the development do not exceed 100 movements per day (50 laden truck movements) or 20 (10 laden truck movements) movements per hour, during construction or operation.

Muller Acoustic Consulting Pty Ltd
PO Box 262, Newcastle NSW 2300
ABN: 36 602 225 132
P: +61 2 4920 1833
www.mulleracoustic.com



Appendix J Flora Monitoring Results

ANNUAL BIODIVERSITY MONITORING REPORT 2019

Prepared for Hodgson Quarries and Plant Hire Pty Ltd

August 2019 V.1



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Annual Biodiversity Monitoring Report 2019

**Hodgson Quarries and Plant Hire Pty Ltd
Roberts Road Maroota NSW**

This assessment has been prepared by

South East Environmental

August 2019 V.1

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Appendix A Native flora species identified

Appendix B Exotic flora species identified

Appendix C Fauna species identified

Appendix D Recommended weed control methods

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Table 1 Performance and criteria 7

Abbreviations

Abbreviation	Description
BC Act	<i>Biodiversity Conservation Act 2016</i>
EEC	Endangered Ecological Community
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
HTW	High Threat Weed
KPI	Key Performance Indicators
KTP	Key Threatening Processes
LEP	Local Environmental Plan
NSW OEH	New South Wales Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
ONR	Old Northern Road
PCT	Plant Community Type
SEPP	State Environmental Planning Policy
THSC	The Hills Shire Council
VIS	Vegetation Information System
WoNS	Weeds of National Significance

1 INTRODUCTION

This Annual Biodiversity Monitoring Report presents the findings of the annual monitoring of the biodiversity value within the Hodgson Quarries operation at Roberts Road Maroota.

1.1 BACKGROUND

Hodgson Quarries and Plant Hire Pty Ltd operates a sand extraction and processing operation on a 28 hectare site including Lot 1 and 2 of DP228308 and Lot 2 of DP312327 Roberts Road Maroota. The quarry operates in compliance to Development Consent File No. S98/00772 issued by the Minister for Urban Affairs and Planning in 2000.

Several modifications have been made to the Development Consent, the most recent being approved in 2016. The most recent approval triggered a review of the Operational Environmental Management Plan (OEMP) which included the update of a Flora and Fauna Management Plan. A requirement of the Flora and Fauna Management Plan as addressed in Schedule 2 Condition 55 of the consent is to develop an ongoing monitoring program for existing vegetated areas to assess their floristic structure and diversity, resilience and robustness to disturbance, and fauna species diversity.

1.2 OBJECTIVES

The objectives of this Annual Biodiversity Monitoring Report is to describe the current condition of the vegetation found throughout the site and to advise Hodgson Quarries on the appropriate management measures that should be implemented to meet the expectations of the Flora and Fauna Management Plan (2016) prepared by VGT Pty Ltd.

This report will:

- identify native flora and fauna species, populations and ecological communities known to or likely to occur within the site;
- describe the native vegetation and habitats within the site;
- describe the current condition of the threatened flora and its habitat found within the site;
- determine the legislative and conservation significance of species, populations and ecological communities known or likely to occur within the site with reference to the Commonwealth *EPBC Act 1999* and the *NSW BC Act 2016*;
- recommend appropriate biodiversity and environmental management measures that should be implemented to reach criteria for monitoring success set by the Flora and Fauna Management Plan for the Sand Quarry, Roberts Road Maroota, NSW (2016);
- provide an independent monitoring report for inclusion as part of the external reporting for the quarry Annual Review.

2 METHODOLOGY

2.1 SITE HISTORY

2.1.1 Agricultural use

Much of the undisturbed area on the Roberts Road quarry site is agricultural land which currently supports beef cattle. Approximately 9 hectares is currently in use for this purpose, with approximately 0.5 hectares currently under active rehabilitation within the agricultural land area as will be discussed further in this report.

The remaining vegetation within the agricultural land area has had ongoing disturbance over many years which has including timber removal, livestock grazing and fruit orchards. As a result, exotic weed species are prolific and at times dominate the landscape. Farm dams have been dug which once provided irrigation to the fruit orchards and now provide water to livestock. They also provide a water source for native and exotic species that occur in the immediate area.

2.1.2 Remnant native vegetation

An area immediately north of the entrance gate along Roberts Road contains remnant native vegetation which has been excluded from the sand extraction operational area. Although this area shows signs of past disturbance, it remains relatively intact and appears to be supporting a reasonable diversity of native flora and fauna given its small size of approximately 1 hectare.

The remnant native vegetation consists of a Sandstone Gully Forest type which was most likely once a moist open forest at the head of the catchment for Coopers Creek further to the north. This vegetation type would have supported several species of canopy tree which were likely to have been harvested for fence post timber in the early European settlement era. Remaining canopy species are most likely regrowth from a clearing event in the early 1900's and provide ample protection for the lower stratum. Fencing to exclude livestock has improved the ability for native species, particularly the ground cover stratum, to flourish.

2.1.3 Threatened flora habitat

An area in the north eastern corner of the site contains a threatened flora species which has previously been identified and monitored. The area where this species has been located has had severe disturbance in the past from clearing, grazing and most recently the sand quarry operations.

The area immediately surrounding the threatened species consists of pushed up crushed sandstone material which has resulted in an extremely compacted ground surface. Native shrubs from the soil seed bank and surrounding areas are becoming established despite the harsh growing conditions. It is expected that over time without intervention this area will establish as an extension of the remnant native vegetation adjacent although the plant community type may remain different indefinitely.

2.2 FIELD SURVEY

Botanical surveys of the study area were conducted during July 2019. The survey consisted of a random meander throughout the areas of the property not in current use by quarry operations.

A targeted threatened flora survey was undertaken to locate *Acacia bynoeana* onsite. All flora species recorded are listed in Appendix A of this report.

Opportunistic sightings were also undertaken for indirect evidence of native fauna, including scratches, scats, nests, hollows in use, camps, roosts, den sites etc. Opportunistic sightings of all fauna species were recorded throughout the survey period.

No previous records of threatened fauna have been located onsite therefore no targeted threatened fauna survey was undertaken for this report.

2.3 CRITERIA TO MONITOR SUCCESS

VGT Pty Ltd 2016 have outlined the Key Performance Indicators (KPI) to measure success of the biodiversity and rehabilitation effort of the flora and fauna management within the Roberts Road quarry site. The following tables depict the performance and completion criteria for the site.

Table 1. Performance and completion criteria for Roberts Road quarry (taken from VGT Pty Ltd 2016)

<i>Performance Criteria being monitored</i>	
<i>Native Vegetation monitoring</i>	Demonstrated use of native plant species naturally occurring in the Maroota area used in all progressive revegetated and rehabilitated areas.
	Low mortality of plants used in progressive revegetation with 75% becoming established 3 years after planting.
	Installation of high durability fencing, with low maintenance requirements and suitable for excluding cattle and other livestock, to be installed prior to the completion of revegetation work areas.
	Fencing surrounding revegetated and rehabilitated areas are maintained in working condition.
	Installation of fencing along the southern fence line and to the north of the site entrance completed during dewatering of the fines ponds and prior to the construction of the new access track.
	Vegetation is retained.
	Low evidence of native vegetation disturbance surrounding the bund walls at the corner of Old Northern Road and Roberts Road.
<i>Fauna Monitoring</i>	Weeds, pests and feral animals are to be controlled.
	Connectivity between current and future rehabilitated areas are established adjacent to existing and future areas of vegetation. Patches are not to be separated by more than 10 metres.
	Evidence of varying sized rocks between 20mm and greater than 200mm spread over rehabilitated areas.
	Evidence of logs and other fallen timber spread over rehabilitated areas.
	Ground dwelling fauna species of similar diversity to adjacent areas of similar habitat.
	On completion of the rehabilitation, a suitably qualified ecologist has determined the requirement on whether nest boxes are required. If nest boxed required to be installed a nest box management plan has been prepared.

2.4 SURVEY LIMITATIONS

The survey was conducted within a short timeframe during winter. Therefore some plant species may not have been identified due to the survey being performed when not in flower, or when dormant. It is noted that some flora species are seasonal, and may not have been visible at the time of the surveys. In addition to this, extreme dry weather conditions have been persistent for more than 18 months leading up to the survey period. Some species may therefore appear to be dead or dormant when they otherwise would not.

The survey limitations have been addressed through:

- consideration of flora and fauna species known to occur in the locality (including number of records from BioNet);
- consideration of habitat suitability present within the study areas and connectivity to other areas of habitat in the local landscape;
- consideration of current weather conditions;
- A conservative approach in assuming the presence of a species that could potentially be present in the study areas.

Where the study area contains potential habitat for threatened fauna species known to occur in the locality, and where survey areas support a likelihood of occurrence, it has been assumed on a conservative approach that such species may occur in the study area.

3 RESULTS

Results from the field surveys conducted over July 2019 have been separated into three distinct areas to enable quantification of condition for each specific location and its monitoring objectives.

3.1 REMNANT NATIVE VEGETATION

The remnant native vegetation is a disturbed patch of native dominant species located in the north eastern corner of the property. The condition of the remnant area can be further divided into two separate areas as determined by disturbance level and the current soil profile available for flora species.

3.1.1 Immediately north of Roberts Road site entry gate

The remnant native vegetation within this area has a mature canopy of Eucalyptus and Angophora species. Lower stratum are present including midstorey canopy, shrubs and ground cover. The exclusion of livestock grazing within this area has resulted in an increase of native ground cover species which over time will contribute to a much richer biodiversity value.

Biodiversity functional attributes such as size class of canopy species, litter cover, fallen timber and natural regeneration of species occurring is present within the area. Such attributes are likely to increase over time providing disturbance remains excluded within the area.



Figure 1. Remnant vegetation located immediately north of Roberts Road site entry gate.

3.1.2 North eastern corner

The remnant vegetation within the area of the far north eastern corner of the site has undergone past disturbance which has left the canopy broken. Eucalyptus and Angophora species are recovering throughout much of the area however the mature specimens are spaced apart providing little in canopy protection to the stratum below. The shrub stratum in this area is dominant and in some areas almost impenetrable. In other areas the shrub stratum is sparse and bare ground occurs.

Leaf litter is abundant throughout most of this area however fallen timber and size class of canopy species is limited.



Figure 2. Remnant vegetation located in the north eastern corner of the site.

3.2 AGRICULTURAL LAND

3.2.1 Roberts Road Boundary

Exotic grasses dominate the agricultural land along Roberts Road. Perhaps due to the large bund wall which provides protection from the hot westerly sun, some native grass species are present including Three-awned Speargrass *Aristida vagans*, Slender Rat's Tail Grass *Sporobolus creber* and Weeping Grass *Microlaena stipoides*. Agricultural weeds occur within the area although they are not considered to be dominant within the landscape. No Weeds of National Significance (WoNS) were identified to occur.

Native species have been planted on a bund wall bordering Roberts Road and Old Northern Road within this area.



Figure 3. Agricultural land between Roberts Road and extraction area.

3.2.2 Old Northern Road Boundary

This area of agricultural land is dominated by exotic grass species suitable for livestock grazing. Some agricultural weed species occur although they do not dominate the landscape. A WoNS species, Fireweed *Senecio madagascariensis*, was observed in low density within this area. The Common Eastern Toadlet *Crinia signifera* was heard calling from the large dam adjacent to Old Northern Road along the western boundary.



Figure 4. Agricultural land adjacent to Old Northern Road

3.2.3 North western corner

A plant nursery is established in the far north western corner of the site. The nursery makes use of water in the farm dams located on site. The agricultural land directly to the east of the nursery site is dominated by exotic grass species suitable for livestock grazing. No WoNS were identified to occur in this location although it may be possible that Fireweed *Senecio madagascariensis* occurs. The Common Eastern Toadlet *Crinia signifera* was heard calling along the neighboring property fence line to the north.



Figure 5. Agricultural land towards the north western corner. Nursery can be seen in rear of photo

3.3 PLANTED NATIVE VEGETATION

3.3.1 North of Roberts Road entrance gate

Bottlebrush *Callistemon* species have been planted along the eastern boundary of the property adjacent to the existing native vegetation. These shrubs are well established and provide a screen to Roberts Road. The shrubs provide habitat for small birds and food resources for a range of mammals, birds and invertebrate.



Figure 6. Bund wall immediately north of Roberts Road site entrance

3.3.2 Old Northern Road

The southeastern corner and southern boundary of the site has small bund walls with planted native trees and shrubs. The trees along Old Northern Road have required pruning due to their close proximity to electrical power lines. As a result some of the trees have perished. There is no fencing excluding livestock from these areas which may have impacted upon the success of the planting and the lack of vigor demonstrated by the remaining plants.



Figure 7. Planted native vegetation along Old Northern Road

3.3.3 Northern Boundary

A variety of Bottlebrush *Callistemon* species have been planted in two locations along the northern boundary of the property. This planting appears to have been undertaken in the past 12 months. Exclusion fencing has been undertaken and success to date appears to be high. There were two WoNS species present along the fence line of the neighboring property, Lantana *Lantana camara* and Blackberry *Rubus fruticosus sp. aggregate*.



Figure 8. Planted native vegetation along northern property boundary

3.4 THREATENED FLORA

A single threatened flora species was previously identified within the property boundary. During the site survey in July 2019 the *Acacia bynoeana* was located and identified onsite within the verge of the remnant native vegetation area and the sand quarry operational area. The plant was approximately 250mm high, 300mm in diameter with multi-stems which were all healthy and had ample foliage. There were no flowers on the plant however carpels from last season's fruit were located beneath the plant indicating the plant has reached reproductive maturity. The location of the plant is marked with permanent posts nearby. Livestock are excluded from the area by electric fencing.

NSW OEH plant profile describe the habitat for the *Acacia bynoeana* as:

- Occurs in heath or dry sclerophyll forest on sandy soils;
- Seems to prefer open, sometimes slightly disturbed sites such as trail margins, edges of roadside spoil mounds and in recently burnt patches; and
- Associated overstorey species include Red Bloodwood, Scribbly Gum, Parramatta Red Gum, Saw Banksia and Narrow-leaved Apple.

The location in which this plant occurs is a spoil mound pushed up from the silt pond adjacent. There is no canopy nearby which can be associated with the habitat.



Figure 9. *Acacia bynoeana* identified and located onsite

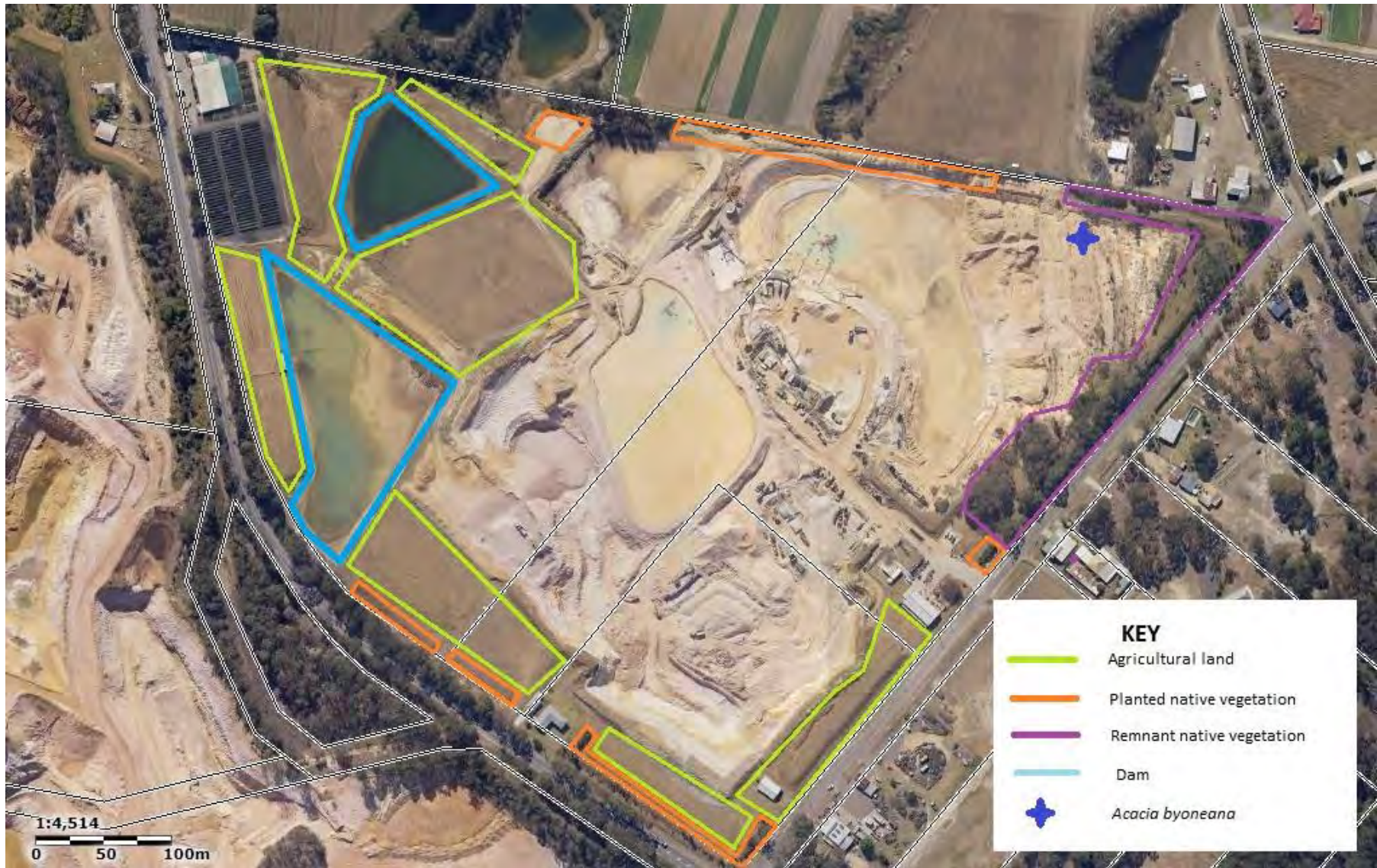


Figure 10. Location of vegetation zones within the Hodgson Quarries Roberts Road site

3.5 NATIVE FAUNA

There was no dedicated native fauna survey undertaken for this report. No threatened fauna species have been previously identified within the property and limited resources would suggest there is a low possibility of threatened fauna species residing within the property boundary.

During the botanical survey in July 2019 opportunistic sightings of native fauna were recorded. In total 15 native species were recorded onsite and one nest, most likely that of an Australian Magpie. No threatened fauna species were identified or recorded. Complete list of fauna observed can be found in Appendix C.

Overall the condition of habitat for native fauna species within the property is considered to be low in its current state. The remnant native vegetation areas currently have the most habitat value to support a range of native fauna species however this area is small and not likely to be large enough to support any viable population. Connectivity to native vegetation in all directions is broken due to road easements or surrounding agricultural land use.

4 DISCUSSION AND RECOMMENDATIONS

This is the second Annual Biodiversity Monitoring Report produced for Hodgson Quarries Roberts Road Maroota. Rehabilitation work is in the early stages and will increase with both intensity and measurable criteria in the years that follow, particularly as the quarry operations come to an end.

Due to the ongoing dry weather conditions which have persisted from mid 2017, throughout 2018 and into 2019 a reduction in ground cover herbaceous flora is thought likely to have occurred throughout all native vegetation sites monitored. Forbs and ferns were not well represented, even in plant communities in which they would normally occur in higher density, such as the remnant native vegetation immediately north of the Roberts Road site entrance. It is therefore expected following a return to average weather conditions this stratum layer will demonstrate the biggest increase in density and diversity. If dry conditions continue through to the following annual reporting period it may be expected that this layer could almost completely disappear in some areas and a reduction in shrub diversity and density could also take place.

However, it would appear that some natural native regeneration from the soil seed bank is occurring throughout much of the remnant native vegetation areas. Fencing to exclude livestock has occurred which has most likely assisted in the ability for natural regeneration to occur undisturbed. Fencing has also taken place in planted areas along the northern property boundary where planting success, at least for the moment, is high.

Weeds are present within the remnant native vegetation with WoNS occurring in low density. High Threat Weeds (HTW), as determined by the OEH BAM Calculator, are also present although most of these weeds can be found within the agricultural land area. It is highly recommended these weeds are managed before the return to average rainfall conditions so as to maintain control of their growth and spread. Furthermore, Fireweed which is a common agricultural weed throughout the Sydney basin and surrounding areas was identified within the agricultural land areas. Regular sweeps for Fireweed is recommended throughout the year to minimise the further spread and density of this weed throughout the property. Recommended weed control methods suitable for use throughout the year is supplied in Appendix D.

5 LIMITATIONS AND ASSUMPTIONS

This study was limited by the timing and frequency of the survey. There may be flora and/or fauna species present at the site that were not recorded due to their seasonal, territorial or cryptic nature.

It can never be proven that threatened species have not, do not or will not use the site as habitat. The conclusions drawn in this report are a result of testing, observation and experience.

This report describes the habitat and vegetation of the site at the time of the field survey. Vegetation and habitat will change over time and therefore the findings of this report are only relevant for the current proposal and for the duration of the application.

6 QUALIFICATIONS AND EXPERIENCE OF THE AUTHOR AND FIELD ECOLOGIST

The Author and Field Ecologist, Melissa Mass, has formal qualifications including a Bachelor of Applied Science (B. App. Sc.), majoring in Ecology, and a Certificate 3 in Horticulture. Her current Scientific Licence number issued from the NSW OEH is SL101441 with expiry date 31st Oct 2018. Furthermore an Animal Research Authority issued by the NSW Animal Care and Ethics Committee is current to undertake general survey work in THSC local government area with expiry date 23rd Mar 2021. Melissa is an accredited Biodiversity Assessor conforming to the requirements as imposed by OEH with Accreditation number being BAAS18053.

Melissa has been working as an Ecologist for 11 years. Her work has included targeted threatened species assessment and management, reviews of environmental factors, bush regeneration, environmental impact assessments, and environmental survey and monitoring.

Melissa has a strong focus on threatened species ecology and has actively contributed to the Long-nosed Potoroo National Recovery Plan.

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8 APPENDIX

Appendix A – Native Flora identified and recorded as present onsite July 2019

Scientific Name	Common Name	Status
<i>Acacia bynoeana</i>	Bynoe's Wattle	BC Act – Endangered EPBC Act – Vulnerable
<i>Acacia linifolia</i>	White Wattle	
<i>Acacia myrtifolia</i>	Red-stemmed Wattle	
<i>Acacia parramattensis</i>	Parramatta Wattle	
<i>Acacia suaveolens</i>	Sweet Wattle	
<i>Acacia ulicifolia</i>	Prickly Moses	
<i>Allocasuarina paludosa</i>	Swamp She-oak	
<i>Allocasuarina torulosa</i>	Forest Oak	
<i>Amyema congener</i>	Variable Mistletoe	
<i>Angophora bakeri</i>	Narrow Leaved Apple	
<i>Angophora costata</i>	Smooth Barked Apple	
<i>Anisopogon avenaceus</i>	Oat Speargrass	
<i>Aristida vagans</i>	Three-awn Speargrass	
<i>Aristida warburgii</i>	Fine leafed wire grass	
<i>Blechnum cartilagineum</i>	Gristle Fern	
<i>Breynia oblongifolia</i>	Coffee Bush	
<i>Callistemon citrinus</i>	Crimson Bottlebrush	
<i>Cassytha pubescens</i>	Devils Twine	
<i>Cyathea australis</i>	Rough Tree Fern	
<i>Daviesia ulicifolia</i>	Gorse Bitter Pea	
<i>Dianella caerulea</i>	Blue Flax-lily	
<i>Dichelachne micrantha</i>	Shorthair Plumegrass	
<i>Dodonaea triquetra</i>	Large Leaf Hop Bush	
<i>Einadia hastata</i>	Berry Saltbush	
<i>Eucalyptus acmenoides</i>	White Mahogany	
<i>Eucalyptus eugeniodides</i>	Thin Leaved Stringybark	
<i>Eucalyptus notabilis</i>	Mountain Mahogany	
<i>Eucalyptus tereticornis</i>	Forest Red Gum	
<i>Eucalyptus umbra</i>	Broad-leaved White Mahogany	
<i>Euchiton sphaericus</i>	Star Cudweed	
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	
<i>Grevillea buxifolia</i>	Grey Spider Flower	
<i>Grevillea speciosa</i>	Red Spider Flower	
<i>Hakea teretifolia</i>	Needlebush	
<i>Juncus usitatus</i>	Common Rush	
<i>Kunzea ambigua</i>	Tick Bush	
<i>Leptospermum polygalifolium</i>	Tantoon	
<i>Lindsaea microphylla</i>	Lacy Wedge Fern	
<i>Lomandra longifolia</i>	Spiny head Mat-rush	
<i>Microlaena stipoides</i>	Weeping grass	
<i>Notelaea longifolia</i>	Large Mock Olive	
<i>Parsonsia straminea</i>	Common Silkpod	

<i>Petrophile pulchella</i>	Conesticks	
<i>Phyllota phylloides</i>	Heath Phyllota	
<i>Pittosporum undulatum</i>	Sweet pittosporum	
<i>Pteridium esculentum</i>	Bracken Fern	
<i>Senecio linearifolius</i>	Fireweed Groundsel	
<i>Sporobolus creber</i>	Slender Rat's Tail Grass	
<i>Themeda triandra</i>	Kangaroo Grass	

Appendix B – Exotic flora identified and recorded as present onsite July 2019

Scientific Name	Common Name	Status
<i>Agapanthus spp.</i>	Agapantha	
<i>Ageratina adenophora</i>	Crofton Weed	High Threat Weed (HTW)
<i>Andropogon virginicus</i>	Whisky Grass	HTW
<i>Bidens pilosa</i>	Cobblers pegs	HTW
<i>Briza minor</i>	Shivery Grass	
<i>Cestrum parqui</i>	Green Cestrum	HTW
<i>Chloris gayana</i>	Rhodes Grass	
<i>Cirsium vulgare</i>	Spear Thistle	
<i>Conyza bonariensis</i>	Flax-leaf fleabane	
<i>Cotoneaster glaucophyllus</i>	Cotoneaster	HTW
<i>Cynodon dactylon</i>	Couch Grass	
<i>Eragrostis curvula</i>	African Lovegrass	HTW
<i>Hypochaeris radicata</i>	Catsear	
<i>Lantana camara</i>	Lantana	WoNS, HTW
<i>Oxalis corniculata</i>	Creeping Woodsorrel	
<i>Paspalum dilatatum</i>	Paspalum	HTW
<i>Paspalum urvillei</i>	Vasey's Grass	
<i>Pennisetum clandestinum</i>	Kikuyu Grass	
<i>Phytolacca octandra</i>	Inkweed	
<i>Plantago lanceolata</i>	Lambs Tongues	
<i>Poa annua</i>	Winter Grass	
<i>Rubus fruticosus sp. agg.</i>	Blackberry	WoNS, HTW
<i>Senecio madagascariensis</i>	Fireweed	WoNS, HTW
<i>Setaria parviflora</i>	Slender Pigeon Grass	
<i>Sida rhombifolia</i>	Paddy's Lucerne	
<i>Solanum mauritianum</i>	Wild Tobacco Bush	
<i>Solanum pseudocapsicum</i>	Madeira Winter	
<i>Solanum sisymbriifolium</i>	Sticky Nightshade	
<i>Taraxacum officinale</i>	Dandelion	
<i>Trifolium repens</i>	White Clover	
<i>Verbena bonariensis</i>	Purpletop	
<i>Vicia sativa</i>	Common Vetch	

Appendix C – Fauna identified and recorded as present onsite July 2019

Scientific Name	Common Name	Observation Type
Bird		
<i>Anthochaera chrysoptera</i>	Little Wattlebird	Observed
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	Observed
<i>Corvus coronoides</i>	Australian Raven	Observed
<i>Cracticus tibicen</i>	Australian Magpie	Observed
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Observed
<i>Eopsaltria australis</i>	Eastern Yellow Robin	Observed
<i>Falco cenchroides</i>	Australian Kestrel	Observed
<i>Malurus cyaneus</i>	Superb Fairy Wren	Observed
* <i>Manorina melanocephala</i>	Noisy Minor	Observed
<i>Meliphaga lewinii</i>	Lewin's Honeyeater	Observed
<i>Sericornis frontalis</i>	White-browed scrubwren	Observed
<i>Strepera graculina</i>	Pied Currawong	Observed
Mammal		
* <i>Bos taurus</i>	Cattle	Observed
* <i>Oryctolagus cuniculus</i>	European Rabbit	Scat and digs
<i>Trichosurus vulpecula</i>	Brush-tailed Possum	Scat
* <i>Vulpes vulpes</i>	European Red Fox	Scat
<i>Wallabia bicolor</i>	Swamp Wallaby	Scat
Reptile		
<i>Lampropholis guichenoti</i>	Common Skink	Observed
Amphibian		
<i>Crinia signifera</i>	Common Eastern Toadlet	Heard call

*Pest species

Appendix D – Recommended weed control for each month of the year (WoNS and HTW only)

	Jan	Feb	Mar	Apr	May	Jun	JuL	Aug	Sep	Oct	Nov	Dec
African Lovegrass	Herbicide	Herbicide	Slashing	Slashing	Slashing				Herbicide	Herbicide	Herbicide	Herbicide
Blackberry	Herbicide	Herbicide	Herbicide						Herbicide	Herbicide	Herbicide	Herbicide
Cobblers Pegs	Hand removal	Hand removal	Hand removal	Hand removal					Herbicide	Herbicide	Herbicide	Hand removal
Cotoneaster									Herbicide*			
Crofton Weed	Slashing	Herbicide	Herbicide	Herbicide	Herbicide				Slashing	Slashing	Slashing	Slashing
Fireweed	Hand removal	Hand removal	Hand removal	Slashing	Slashing	Slashing	Slashing	Slashing	Slashing	Hand removal	Hand removal	Hand removal
Green Cestrum									Herbicide*			
Lantana	Herbicide	Herbicide	Herbicide	Herbicide	Herbicide				Herbicide	Herbicide	Herbicide	Herbicide
Paspalum	Slashing	Slashing	Slashing	Herbicide	Herbicide	Herbicide			Slashing	Slashing	Slashing	Slashing
Whiskey Grass	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Hand removal	Herbicide	Herbicide	Herbicide	Hand removal

Herbicide – Foliar spray with an appropriate product as per the instructions on the label. Foliar spray should be carried out during active growing season.

Slashing - Slashing within agricultural land areas only. Slashing is only effective if the targeted species has not yet reached flowering maturity.

Hand removal – Necessary when targeted species have reached flowering maturity. Entire plant can be removed or flowering heads may be cut. Removed material should be immediately bagged to prevent spread of seed and appropriately disposed of.

Herbicide* – Treatment via either cut and paint or drill and inject methods.

This table should be considered a guide for appropriate treatment during different months of the year. It does not indicate a specified work schedule.

Appendix K

Induction Checklist

Hodgson Quarries & Plant Pty Ltd

Work Health & Safety Policy

The Occupational Health and Safety of all persons employed by this company and those visiting any of its sites are considered to be of the utmost importance. Management has every desire to provide a safe working environment for its employees.

To accomplish this, resources equivalent with the importance attached to comply with all relevant Acts and Regulations and to ensure the health, safety and welfare of all employees.

This organization will address Accident Prevention and Control, Hazard Control and Rehabilitation as priorities. Occupational Health and Safety is both an individual and shared responsibility of all parties.

This organisation places occupational health and safety on a priority equal to productivity.

The following people endorse this policy

Management

Employee / Contractor

Date

_____/_____/_____

Hodgson Quarries & Plant Pty Ltd

DEFINITIONS

Competency -a combination of attributes such as knowledge, skills, abilities and attitudes underlying some aspect of successful professional performance.

Contractor - person(s) contracted to carry out work for and on behalf of Hodgson Contracting Services including self-employed persons and sub-contractors, for the period of time defined by the contract.

Crisis - an actual or potential threat to Hodgson Quarries & Plant long-term ability to do business due to the impact on:

- ⇒ Operability / assets;
- ⇒ Image / reputation;
- ⇒ Liability.

Crisis Management - strategy and actions undertaken to protect Company assets real and intangible - from an actual or potential threat to long-term viability posed by a catastrophic incident, a non-physical event, or a series of negative developments that escalate to crisis proportions.

Duty of Care - that duty owed to an employee by an employer to provide safe premises, safe plant and equipment and a safe system of work.

Emergency Response - actions taken at the site of a physical incident to preserve lives, property and to protect the environment, as well as the direction, resourcing and direct support of these actions and external communications and notifications.

Employee - person who works for Hodgson Quarries & Plant under a contract of employment, apprenticeship or traineeship.

Hazard - the intrinsic potential for an agent or process to cause damage to any person, property or the environment.

Hodgson Quarries & Plant Pty Ltd

High Potential Event - any event in which any of the following occurred or could have realistically occurred:

- ⇒ fatality or injuries likely to cause permanent work incapacity, injuries involving hospital admittance or lost time from work;
- ⇒ events likely to cause major damage to plant, equipment or the environment; or
- ⇒ events likely to result in major safety regulatory non-compliance involving investigation and possible fines.

Occupational Health - the status of the physiological, physical, psychological and sociological conditions of the workforce and the workplace.

Operations - all activities involved in the production and distribution processes.

Incident/Accident - any occurrence directly associated with HODGSON QUARRIES & PLANT Pty Ltd operations, products or services, which results in personal injury and / or property damage and / or environmental damage or the possibility of such damage.

Practicable - the extent to which actions are technically feasible, in the light of cost, current knowledge and best practices in existence and under operating circumstances of the time.

Risk - the likelihood and extent to which a hazardous event has potential to cause damage to people, plant or the environment.

Safety - the minimisation of contact with hazards so as to prevent damage to persons, plant and equipment and the environment.

Services - any supply of articles, commodities or activities required or demanded by external or internal customers.

Standard - in the context of a documented standard means a standard generally used and accepted by industry.

Visitor - a person who is not an employee or contractor to HODGSON QUARRIES & PLANT Pty Ltd, who is visiting a site either under the management and control of the Company or uninvited without the formal control of the Company.

Hodgson Quarries & Plant Pty Ltd

Code of Conduct Policy

1. Purpose

To ensure the safety and well being of all personnel in or about any of the sites we operate, to comply with all legal requirements within our community {whilst in the work place.} To provide a workplace that is comfortable for all on site.

2. Scope.

To cover all persons in and about our sites, using plant and equipment or in company vehicles.

3. Responsibilities.

All individuals have obligations under varying statutes as a normal prerequisite within the community, these laws apply on any of the companies sites OR whilst you are at work, some of the items listed below are for your & others safety, you are answerable to your supervisor for all of these issues whilst at work. You have a responsibility to report any breaches to your supervisor. Breaches of any of the below listed will result in disciplinary action, being either in accordance with the Policy being breached or possibly instant dismissal.

Unacceptable conduct is:

- 1/ Proven theft, occurring on-site
- 2/ Wilful damage
- 3/ Any breaches of Company Policy
- 4/ Any prosecutable offence which occurs on-site
- 5/ Harassment
- 6/ Non Compliance with Safe Work Procedures OR Work Instructions
- 7/ Violence or assault
- 8/ Unsafe conduct
- 9/ Language – should be equivalent and acceptable to those within hearing.

Management _____ **Date** _____

Employee / Contractor _____ **Date** _____

Hodgson quarries & Plant Pty Ltd
CODE OF CONDUCT POLICY

Author: Stuart Reed : Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/2017

ISSUE NUMBER: 2.0 PAGE NUMBER: 1 of 1

HODGSON QUARRIES & PLANT Pty Ltd

Drug & Alcohol Policy

Hodgson Quarries & Plant Pty Ltd and its employees have decided that this is our drugs and alcohol policy, this is an integral part of the company's health and safety policy, which is intended to ensure that company activities are performed in a manner that protects the health and safety of employee's, contractors and the general public.

Hodgson Quarries & Plant Pty Ltd and its employees recognise that drug and alcohol abuse by employees or contractors can expose the individual, fellow workers, the general public and company property to unacceptable risks, whilst at work. This policy is portable and extends to all employees that may be engaged to work for the company, but not necessarily on company sites, this also includes the operation or the control of any company owned vehicles.

Hodgson Quarries & Plant Pty Ltd has a commitment to health and safety and legal obligations to its employees, contractors and the general public, the company's policy is therefore to:

- Encourage the counselling, treatment and rehabilitation of employees and contractors with drug and alcohol problems.
- Prohibit the possession OR consumption of alcohol or illegal drugs on company sites or in company or contractor vehicles.
- Ensure that no employee, contractor or visitor enters or remains on company sites, or in control of company vehicles or contractor vehicles whilst under the influence of illegal drugs or alcohol.
- Notify your supervisor of the consumption of prescription or over the counter medications either taken prior to commencing work or whilst at work. You may need to supply the original packaging for over the counter medication or your Doctor's recommendation as to the affects of prescribed drugs and safe work practices after the consumption thereof. Not adhering to recommended or prescribed rates of consumption for these drugs can result in the request to vacate the site of employment.
- Maintain a zero tolerance policy towards the consumption of illegal drugs prior to work, or at work, or the possession of alcohol or illegal drugs in the work place.
- Maintain a maximum limit of alcohol to be 0.02 to carry out any work related activities. Readings above 0.02 and below 0.05 will require the

Hodgson Quarries & Plant Pty Ltd	
DRUG & ALCOHOL POLICY	
Author: Stuart Reed	
Approved by: Martin Hodgson	
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HODGSON QUARRIES & PLANT Pty Ltd

individual to remain off site and disciplinary action will apply. One warning will be given on the first offence; the second offence will result in termination of employment. Readings above 0.05 will result in termination of employment.

- Operate a drug and alcohol-testing program.
- Notify your supervisor if you know or suspect a co-worker, visitor or sub-contractor that is affected by OR is consuming either illegal drugs or alcohol in the work place OR the affects thereof are presenting in the workplace resulting in a safety hazard.

Employees, Contractors and visitors to the company's sites should be aware that the company may ask any person/s on site/s, operating plant and equipment or operating company road registered vehicles to undergo a test to evaluate the level of alcohol or drugs, and we accept this for safety reasons.

We accept that failure to comply with a request to undertake a drug or alcohol test will equate to a breach under the Act. The Dept. of Mineral Resources will be notified in the event that anyone fails to comply with the request; this is a prosecutable offence in its own right.

We accept that the failure to comply with a request to undertake a drug and alcohol test OR a positive result/s from a drug and alcohol test will then result in disciplinary action. Due to the company's and its employee's emphasis on safety relating to these actions, we agree that the disciplinary action resulting from a confirmed positive test OR refusing to be tested will result in termination of employment.

I accept as a result of my actions equating to a breach of this policy and termination occurring that this does not equate to an unfair dismissal.

I accept and understand that I must consent to drug and alcohol testing in the workplace for safety reasons.

I understand and accept this policy; this policy is designed to provide a safe work place.

Management _____ Date _____

Employee / Contractor _____ Date _____

Hodgson Quarries & Plant Pty Ltd	
DRUG & ALCOHOL POLICY	
Author: Stuart Reed	
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Hodgson Quarries & Plant Pty Ltd

Impaired Work Performance Policy

HODGSON QUARRIES & PLANT Pty Ltd and its employees are committed to meeting the social, moral and legislative obligations to the community and our employees.

Part of this obligation is the prevention, education, counseling and rehabilitation of employees who may at some time suffer mental or physical impairment through a number of causes, some of which may be beyond their control and for which assistance may be available within or outside the company's management structure.

All available medical, psychological and other scientific data reveals that people who suffer some type of physical / mental impairment, temporary or permanent for whatever reason, whether at work or not, are more likely to create a hazardous situation where an accident will result with possible injuries to themselves or other persons.

The data identifies some of the root causes as:

- Drug & Alcohol abuse.
- Legal problems.
- Health problems.
- Emotional Stress / Overload.
- Marital / Family Problems.
- Financial Problems.
- Fatigue.

Both the company and our employees have a major interest in ensuring that our workplaces are safe and accident free.

It is essential that the parties ensure that a safe and health workplace is maintained.

It is your obligation to report any one on any site displaying any signs of work impairment performance to your supervisor.

Managers, Supervisors and workers are encouraged to assist each other wherever possible to overcome these problems with co-operation and assistance that befits that person's particular situation.

Employee/Contractor _____ Date_____

Hodgson Quarries & Plant Pty Ltd

Mobile Phone at Work Policy

Policy

The following policy regarding the use of mobile phones applies to all employees (including subcontractors / labour hire) at Hodgson Quarries & Plant Pty Ltd.

- No employee shall have on their person a mobile phone while at work. Employees will be permitted to leave their phones in the lunch room (at your own risk) or in your car, for use during meal breaks only.
- The only people permitted to use a mobile phone whilst in the work place are Management or Supervisors. However, they shall only use a mobile phone when safe to do so.
- Emergency contact number 0408251393 shall be prominently displayed for all employees to provide to their families in case of emergency. Hodgson Quarries & Plant Pty Ltd shall ensure that such messages are passed onto the employees immediately.

Disciplinary Action

Hodgson Quarries & Plant Pty Ltd regards any breach of the above as a serious incident which may result in disciplinary action, continual disregard of this policy may result in the termination of employment.

Employee / Contractor _____ Date _____

Hodgson Quarries & Plant Pty Ltd
MOBILE PHONE AT WORK POLICY
Author: Stuart Reed
Approved by: Martin Hodgson
DATE OF ISSUE: 9/01/17 ISSUE NUMBER: 2.0
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Hodgson Quarries & Plant Pty Ltd

Non – Smoking Policy

Smoking is prohibited in the following areas: -

- All earthmoving plant
- All company vehicles
- Within five (5) metres of flammable liquid or dispensing.
- All enclosed areas.

This policy is effective immediately.

Management will assist any employee/subcontractor smoker wishing to stop smoking by introducing them to programs such as Quit or counseling.

Therefore, all job recruiting will clearly note employees must comply with non-smoking areas. Smokers will be informed of this policy and asked if they will have any problems adhering to this policy.

Anyone breaching this policy will be given written warning. Repeat offences will result in termination.

The following people endorse this policy.

Employee / Subcontractor _____

Date _____

Hodgson Quarries & Plant Pty Ltd

NON-SMOKING POLICY

Author: Stuart Reed

Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/17

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Hodgson Quarries & Plant Pty Ltd

Sick Leave Policy

Purpose

The purpose of this document is to establish policy to staff in relation to the taking of Sick Leave.

Notification

An employee unable to attend work through illness shall contact their supervisor as soon as possible, preferably before 7.00am on the day leave is being taken.

Medical Certificates

A certificate issued by a registered medical practitioner shall be accepted for sick leave purposes.

A certificate from a registered practitioner who is not also a registered medical practitioner, such as a dentist, optometrist, chiropractor, physiotherapist, shall be accepted for a maximum period of absence of one week. Periods in excess of one week must be supported by a medical certificate from a registered medical practitioner.

An employee shall provide a medical certificate for the absence in excess of two days or for lesser period if required by Management.

Disciplinary Action

Hodgson Quarries & Plant Pty Ltd regards any breach of the policy may result in one weeks' notice to the employee.

Employee _____

Date _____

Hodgson Quarries & Plant Pty Ltd
SICK LEAVE POLICY
Author: Stuart Reed
Approved by: Martin Hodgson
DATE OF ISSUE: 9/01/17 ISSUE NUMBER: 2.0
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HODGSON QUARRIES & PLANT PTY LTD

Environmental Induction Checklist

1. Purpose

To minimise environmental harm arising from the operation of the quarry activities.

2. Scope

To apply to all workers and contractors coming onto the site.

3. Items

- i. There shall be no discharge of water, or any substance off site without the authorisation of the Manager.
- ii. All vehicles leaving site to be covered.
- iii. Dust will be controlled using the water cart.
- iv. All staff will visually assess if dust is being generated and notify the Manager or Supervisor should the water cart be required.
- v. Any spills eg fuel, oil or similar substances shall be contained and reported to the Manager / Supervisor.
- vi. Any dumped rubbish, vehicles or trespassers shall be reported to the Manager / Supervisor.
- vii. To minimise air and noise pollution, all equipment must be well-maintained. Avoid the use of engine brakes on Roberts Rd.
- viii. No vehicles or equipment shall enter the vegetation exclusion and rehabilitation areas. If you are unsure, or have an unexpected find in a new area, please contact your supervisor.
- ix. All vehicles to adhere to the speed limit, within the site and on public roads.
- x. All community complaints to be recorded and referred to the Manager.

Hodgson Quarries & Plant Pty Ltd

Safe Work Procedure

Personal Protective Equipment

1.0 Purpose.

The purpose of this procedure is to list the basic range of Personal Protective Clothing commonly used on sites, but not be limited to.

2.0 Procedure.

2.2 As a minimum high visibility clothing and safety footwear is require as a minimum in the site proper. (High visibility clothing is not required in the workshop).

2.2 Other listed Personal Protective Equipment may be required in various locations on site. Signs indicate at each specific location what additional Personal Protective Equipment is required.

HODGSON QUARRIES & PLANT PTY LTD

SAFE WORK PROCEDURE

Visitors On Site

1.0 Purpose.

To ensure the safety of all visitors in accordance with the Mines Act 1901, General Rule 2000.

2.0 Scope

To apply to all visitors coming onto the sites.

3.0 Responsibility

Under the above-mentioned legislation it is Hodgson Quarries & Plant Pty Ltd responsibility to ensure the health and safety of all on site.

- Children and animals are not permitted to leave visitors vehicles whilst within the sites.
- As a visitor you are not permitted to leave the visitor's car park or site office area's unattended, regardless of being inducted or not.
- You will be advised as to the emergency gathering point and location of the First Aid Stations.
- Access will be denied to any person who is in possession of illegal drugs or consuming illegal drugs or alcohol in accordance with our Drug and Alcohol Policy.
- You are required to read the Hodgson Contracting Services Work Health &S Policy in conjunction with our Drug and Alcohol Policy posted within the site office.
- You must comply with all signs within the site.
- If you have need to move around the site you will need as a minimum to wear high visibility clothing and safety footwear in conjunction with being accompanied by a Hodgson Contracting Services Supervisor.
- Running is prohibited on site, as trip hazards are present.
- Do not approach any machine.
- Do not enter areas which are sign posted as "DANGER", "KEEP OUT", "RESTRICTED ACCESS" etc. etc., or signs restricting entry.
- Do not enter areas which you are verbally advised by Hodgson Contracting Services Supervisor not to enter for safety reasons.
- As a visitor you are required to sign the visitor's book upon entry and prior to leaving, this is located within the site office.

Hodgson Quarries & Plant Pty Ltd

Safe Work Procedure

Constructing Bund Walls

1.0 Purpose.

The purpose of this procedure is to define areas where bund walling should be used, and describe how they should be constructed.

3.0 Procedure.

3.1 Bund walling should be constructed around/along any identified hazard such as quarry/power transformer or any other hazard which bund walling is applicable for safety reasons.

3.2 Bund walling can be constructed using front-end loaders, dozers, dump trucks and excavators.

3.3 Bund walls should be constructed using a stable material so as to stay as placed.

3.4 Machines constructing bund walls will do so at a 90-degree angle to the face or hazard.

3.5 Any operator who in his daily routine notices any defects in any bund walling should report this to his supervisor immediately.

3.6 Bund walling should be a minimum of half the height of the largest vehicle's wheels on the property.

3.7 No operator should construct or repair bund walling without notifying his supervisor.

Hodgson Quarries & Plant Pty Ltd

SWP – CONSTRUCTING BUND WALLS

Author: Stuart Reed

Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/17

ISSUE NUMBER: 2.0

PAGE NUMBER: 1 of 1

HODGSON QUARRIES & PLANT PTY LTD

Safe Work Procedure

Walking Around Site		
Personal Protective Equipment	Tools & Equipment	Personnel Required
Noise Protection, Safety Boots, High Visibility Clothing.		Anybody/Everybody

1.0 Purpose.

The purpose of this procedure is to outline what is required, who can walk around and outline fixed hazards that may be encountered or to be avoided.

3.0 Procedure.

3.1 The only unaccompanied person permitted to walk around a site is an inducted company employee with the appropriate personal safety equipment. Only visitors or contractors that have been fully inducted can walk around unaccompanied.

3.2 The bare minimum of personal protective equipment to be worn is high visibility clothing and safety work boots. Hard hats and noise protection may be required.

3.3 Under no circumstance are children or animals permitted to be on foot within the site boundaries. They may stay wholly within vehicles attending the site.

3.4 Prior to any visitor or contractor being escorted around the site they must be inducted.

3.5 Trip hazards are present throughout the sites, as a result running is not permitted.

3.6 Visitors or contractors shall not be escorted on dam walls, wash plants, workshops, switch rooms or within the close proximity of quarry faces unless it is relevant to their expertise and is specific to their visit / attendance.

3.7 All visitors are required to sign out on the visitor's book located within the office prior to departure.

HODGSON QUARRIES & PLANT PTY LTD

Safe Work Procedure

Work Place Signs

1.0 Purpose.

A static means of giving information, in this case with regard to hazards or potential hazards or for safety reasons.

Work place signs must be prominently displayed and maintained in good condition, kept clean, legible and well illuminated.

All signs must be applicable to the hazard. When the hazard is permanently removed, the sign should be removed also.

All signs must be able to be understood by all personnel. Adequate instruction in the meaning and the use of signs should be given to all employees, including changes by addition or relocation of signs. Consideration should be given to employees who have English as a second language or where literacy could be a problem.

All personnel must obey all signs.

2.0 Categories of Signs

Signs for the working environment fall into 5 categories:

2.1 Regulatory Signs

Prohibition Signs – forbidding an action e.g. no entry, no smoking.

Mandatory Signs – an order for action that must be obeyed e.g. hearing protection must be worn, internal speed limits.

2.2 Caution Signs

Indicates a potential hazard is present e.g. low headroom, slipper floor, and synthetic mineral fibre contamination.

2.3 Emergency Related Signs

Signs related to fire protection, such as fire extinguisher locations, first aid equipment and location of emergency exits.

2.4 Dangerous Goods Signs

Used for identification of dangerous goods in accordance with the ADG Code and international convention.

HODGSON QUARRIES & PLANT PTY LTD

Safe Work Procedure

Quarry Road Safety

1.0 Purpose.

The purpose of this procedure is to describe the safe method for working in quarries or civil sites.

3.0 Procedure.

3.1 All vehicles entering the site or working on the site are to obey all signage displayed.

3.2 Quarry equipment / vehicles have right of way at all times.

3.3 Internal roadways should not be allowed to be blocked.

3.4 Internal roadways should be maintained so as to provide safety, higher efficiencies, less noise and dust.

3.5 Spillage on internal roadways should be promptly cleared for safety purposes in conjunction with preventing tyre damage to any vehicle.

Hodgson Quarries & Plant Pty Ltd

SWP – QUARRY ROAD SAFETY

Author: Stuart Reed

Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/17

ISSUE NUMBER: 2.0

PAGE NUMBER: 1 of 1

Hodgson Quarries & Plant Pty Ltd

Safe Work Procedure

Approaching Mobile Machinery

1. Purpose

To ensure the safety and well being of all personnel in and about the quarry / sites, while they are in the vicinity of operating any plant and equipment.

2. Scope

To cover all persons whilst in and about the quarry / sites.

3. Responsibilities

The Quarry Manager / Site Supervisor has overall responsibility to ensure the observance of the requirements of this procedure.

All personnel within the quarry / site have a responsibility to comply with the requirements of this procedure and to at all times follow the directions of the Quarry Manager / Site Supervisor.

4. Procedure

Persons must at all times wear a safety vest while moving about the quarry site.

Never approach an operating mobile machine from the rear of the machine.

If it is necessary to approach, then contact should first be made with the operator by radio if possible.

Do not approach machinery until eye contact is made with operator & he/she acknowledges your presence and equipment is grounded, at no time should you climb onto the machine, but rather stand back and let the operator climb down to meet you.

When leaving the area, the operator must not operate the machine until he/she has the acknowledgment from that person that they have left the immediate area.

HODGSON QUARRIES & PLANT PTY LTD

Safe Work Procedure

Re-Fueling Mobile & Static Plant

1.0 Purpose. The purpose of this procedure is to outline the processes involved in re-fuelling.

2.0 Scope. To cover all persons involved in re-fuelling plant & equipment.

3.0 The Manager / Supervisor must ensure that the re-fueller is familiar with this procedure in conjunction with plant operators.

4.0 Procedure.

4.1 Take possession of the re-fuelling vehicle, obey all road rules and company policies and procedures in filling the tank and returning to the sites.

4.2 Prior to approaching any mobile plant make contact with the plant operator and make your intentions known, only approach after the mobile plant is parked and equipment grounded and you have contact with the operator. Approach in a manner as set out in SWP "Approaching Mobile Plant"

4.3 Use designated fuel containers only.

4.4 Proceed with re-fuelling. At completion record relevant information on forms provided.

4.5 When completed, fuel consumed is to be recorded against each machine.

4.6 Re-fuelling vehicle to be parked parallel to machine being re-fuelled.

4.7 Obey all signs

4.8 In the event of spillage of fuel, firmly isolate leak / spillage, use absorbent material to remove spilt / leaked fuel/ oil. Report incident to supervisor as quickly as possible after isolating leakage.

HODGSON QUARRIES & PLANT PTY LTD

Safe Work Procedure

Loading Trucks

Personal Protective Equipment

Tools and Equipment

Personnel Required

- Front End Loader
- Tipper Truck
- Front End Loader Operator
- Truck Driver

1.0 PURPOSE

The purpose of this procedure is to describe the safe method for loading trucks.

2.0 REFERENCES

SWP – Working from face
SWP – Working from stockpile

3.0 PROCEDURE

- 3.1 Drivers to proceed to the designated loading area.
- 3.2 Once in the designated loading area drivers are to contact the loader driver by using CB radios or informing the loader driver in person.
- 3.3 Load truck in a competent manner from certified stockpile
- 3.4 Advise driver when truck is fully loaded
- 3.5 Park front end loader

HODGSON QUARRIES & PLANT PTY LTD

SWP - LOADING TRUCKS

Author: Stuart Reed

Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/17

ISSUE NUMBER: 2.0

PAGE NUMBER: 1 of 1

Hodgson Quarries Plant Pty Ltd

Safe Work Procedure

Working From Stockpiles

1.0 PURPOSE

The purpose of this procedure is to describe the safe method for working from stockpiles.

2.0 PROCEDURE

- 2.1 Operators to carry out pre-start checks on machinery as per manufacturers recommendations.
- 2.2 At beginning of the shift, the Shift Manager/ Supervisor to inform Loader Operators / Excavator Operators which section of the site they will be working in.
- 2.3 Each day Manager / Supervisor to inspect any face that will have machinery working below
- 2.4 Loader drivers to ensure that stockpile are worked evenly so as to ensure full bucket of material for maximum productivity and safety.
- 2.5 Loader Operators / Excavator Operators are to determine what product is to be loaded in the case of sales trucks and quantities to be safely carried in each instance.

Hodgson Quarries & Plant Pty Ltd

Safe Work Procedure

Operating Mobile Screen & Stacker

1. Purpose

- To Ensure the Mobile Screen Plant is operated in a safe manner

2. Procedure

Start up

- Undertake the pre-start check as per HB Plant Hire guidelines
- Visual check of build up / spillage under conveyors and rollers etc
- Start engine by pressing solenoid button and turning key

Working

- Start belt, screen and conveyor by operating appropriate levers
- Accelerate engine to operating speed via manual throttle

Shut down

- Idle engine down
- Shut down in order feed bin, screen then conveyor
- Turn engine off via key

Hodgson Quarries & Plant Pty Ltd

SWP – OPERATING MOBILE SCREEN & STACKER

Author: Stuart Reed

Approved by: Martin Hodgson

DATE OF ISSUE: 9/01/17

ISSUE NUMBER: 2.0

PAGE NUMBER: 1 of 1

Hodgson Quarries & Plant Pty Ltd

Confirmation of Induction Form

I _____ confirm that I have been inducted to Hodgson Quarries & Plant Pty Ltd Mines Safety Management Plan, that I have read, I do understand, and that I will comply with the following safe work procedures.

Safe Work Procedure Title	Initials
• Approaching Mobile Machinery	_____
• Operating Mobile Screen & Stacker	_____
• Working From Stock Piles / Loading Trucks	_____
• Bund Walling	_____
• Personal Protective Equipment	_____
• Quarry Road Safety	_____
• Re-Fuelling Mobile & Static Plant	_____
• Walking Around Sites	_____
• Work Place Signs	_____
• Loading Trucks	_____
• Visitors On Site	_____
• Health & Safety Site Rules	_____

I also confirm that I have read and understood the following policies and that I will comply with them. They include Hodgson Contracting Services Drug and Alcohol Policy, Occupational Health and Safety Policy, Impaired Work Performance Policy, Non Smoking in Workplace Areas Policy and any other policy contained within the Hodgson Contracting Services Mines Safety Management Plan.

(Please Sign) _____

<u>INDUCTEE</u>	
Full Name	_____
Position	_____
Signature	_____
Date	_____
Time	_____

<u>INDUCTOR</u>	
Full Name	_____
Position	_____
Signature	_____
Date	_____
Time	_____

Appendix L

Correspondence



Contact: Elizabeth Williamson
Phone: 02 8289 6610
Email: compliance@planning.nsw.gov.au

Stuart Reed
Quarry Manager
Hodgson Quarries & Plant Pty Ltd
106 Erina Street
GOSFORD NSW 2250

Email: hodgsonquarries@gmail.com

**Roberts Road Maroota Sand Quarry (DA 267-11-99)
- Annual Review and Compliance Report 2017**

Dear Mr Reed,

I refer to the 2017 Annual Review and Compliance Report (Report), submitted to the Department of Planning and Environment (Department) on 27 March 2018 as required under Condition 66 of Development Consent DA 267-11-99, as modified (Consent).

The Department has reviewed the document and considers it to generally satisfy the requirements of the Consent in relation to the Report. Please note that approval of the Report is not endorsement of the compliance status of the project.


The Department notes that there were three non-compliances shown in the Report and there were ten non-compliances or not verified conditions in the 2017 Independent Environmental Audit (IEA). The Secretary requests in accordance with Condition 3 of the consent that:

- The Report be updated to include within the non compliance section, any non compliances identified in the IEA that were occurring in the 2017 Report period;
- The Report be resubmitted for the Department's records via email to compliance@planning.nsw.gov.au; and
- The above tasks are completed by no later than close of business 1 August 2018.

Please note that any non-compliances from the Report may be addressed through further correspondence.

Should you need to discuss the above, please contact Elizabeth Williamson on 02 8289 6610 or email to compliance@planning.nsw.gov.au.

Yours sincerely,

PP- 

Stewart McLachlan
A/Team Leader – Compliance
as the Secretary's nominee

18/07/18



Contact: Elizabeth Williamson
Phone: 02 8289 6610
Email: compliance@planning.nsw.gov.au

Hodgson Quarries & Plant Pty Ltd
106 Erina Street
GOSFORD NSW 2250

Attention: Mr Stuart Reed - Quarry Manager
Email: hodgsonquarries@gmail.com

Dear Mr Reed,

**Roberts Road Maroota Sand Quarry (DA 267-11-99)
- resubmission of Annual Review and Compliance Report 2017**

I refer to the revised 2017 Annual Review and Compliance Report (Report), submitted to the Department of Planning and Environment (Department) on 26 July 2018 as required under Condition 66 of Development Consent DA 267-11-99, as modified (Consent).

While the Department does not require any further action for this Report, please ensure that future reports include all non-compliances that occurred during the relevant reporting period in one table. This table should include any Conditions of Consent that have been classed as non-compliant at any point during the reporting period, even if they have been remedied prior to the end of the reporting period. Please also include in the same table any conditions that have been reported as non-compliant in an Independent Environmental Audit, if the non-compliances occurred during the relevant reporting period.

I have included below a link to the Department's recently released *Compliance Reporting Post Approval Requirements* (PAR) document which will become a requirement for future development consents. You can consider this document when completing any future compliance reporting requirements.

Please note that as the Roberts Road Consent was already in existence when the PAR was released, you may elect to voluntarily comply with the PAR but compliance with the Conditions of Consent takes priority.

The PAR is available on the Department's website at: <http://www.planning.nsw.gov.au/Assess-and-Regulate/Compliance-functions/Compliance-policy-and-guidelines/Compliance-reporting-post-approval-requirements>

Please note that any non-compliances from the Report may be addressed through further correspondence.



**Planning &
Environment**

Should you need to discuss the above, please contact Elizabeth Williamson on 02 8289 6610 or email to compliance@planning.nsw.gov.au

Yours sincerely,

29.10.2018

Chris Mathieson
Team Leader – Compliance (Metro)
As Nominee of the Secretary



Contact: Elizabeth Williamson
Phone: 02 8289 6610
Email: compliance@planning.nsw.gov.au

Hodgson Quarries & Plant Pty Ltd
106 Erina Street
GOSFORD NSW 2250

Attention: Stuart Reed, Quarry Manager

Email: hodgsonquarries@gmail.com

**Roberts Road Maroota Sand Quarry (DA 267-11-99)
- Annual Review Non-Compliance**

Dear Mr Reed,

I refer to the revised 2017 Annual Review and Compliance Report (Report), submitted to the Department of Planning and Environment (Department) on 26 July 2018 as required under Condition 66 of Development Consent DA 267-11-99, as modified (Consent).

The Report identifies a non-compliance with Condition 29c of the Consent. Condition 29c of the Consent states:

*"The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall provide details of dust suppression measures for all sources of dust from the development, including a planting and watering regime to ensure that no more than **3 hectares** of the site are exposed and active at any one time."*

The Report states that there is total disturbed area of 14.6 hectares and that "limited rehabilitation has been undertaken on site due to the cell staging that has been required". The Department requests that you provide more detail in relation to this non-compliance and the associated cell staging requirements, including answers to the following questions.

1. What are the reasons behind this non-compliance?
2. How long has the maximum exposed area (3 hectares) been exceeded?
3. What actions are proposed to remedy this non-compliance?

Please provide your response to compliance@planning.nsw.gov.au by no later than **5pm on Wednesday 19 December 2018**.

Should you need to discuss the above, please contact Elizabeth Williamson on 02 8289 6610 or email to compliance@planning.nsw.gov.au.

Yours sincerely,

Chris Mathieson
Team Leader – Compliance
as the Secretary's nominee

29.11.2018

Lisa Thomson

Subject: DA 267-11-99 Roberts Road Maroota Sand Quarry response to letter dated 29/11/2018

From: **Elizabeth Williamson** <Elizabeth.Williamson@planning.nsw.gov.au>

Date: Mon, Jan 21, 2019 at 1:49 PM

Subject: FW: DA 267-11-99 Roberts Road Maroota Sand Quarry response to letter dated 29/11/2018

To: Hodgson Quarries and Plant Pty Ltd . <hodgsonquarries@gmail.com>

Good afternoon Stuart,

Thank you for sending through the below Roberts Road response in relation to Condition 29c of DA 267-11-99. Could you please send an email to the Department with an indication of when you expect compliance with this Condition to be achieved?

Please do not hesitate to contact me if you have any questions.

Kind regards,

Elizabeth Williamson

Senior Compliance Officer

Compliance

Level 30, 320 Pitt Street | GPO Box 39 | Sydney NSW 2001
T 02 8289 6610 | M 0447 041 325

General Compliance email: compliance@planning.nsw.gov.au



Planning &
Environment



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Thursday, 21st February 2019.

Ref: 5336 Response3

Dept Planning and Environment

Via email: compliance@planning.nsw.gov.au

Attn: Chris Mathieson, Team Leader – Compliance

CC: Elizabeth Williamson, Senior Compliance Officer

Elizabeth.Williamson@planning.nsw.gov.au



Environmental
Compliance
Solutions Pty Ltd

PO Box 2335 Greenhills NSW 2323
P (02)4028 6412 E mail@vgt.com.au
www.vgt.com.au ABN 26 621 943 888

Roberts Road Maroota Sand Quarry (DA 267-11-99)

Dear Chris Mathieson,

This letter is in response to recent communications regarding a non-compliance against the following condition:

29. The Applicant shall prepare an Air Quality Management Plan as part of the EMP. The Air Quality Management Plan shall:

(c) provide details of dust suppression measures for all sources of dust from the development, including a planting and watering regime to ensure that no more than 3 hectares of the site are exposed and active at any one time. The use of a polymer in the water to minimise dust impacts shall be investigated as part of this Plan.

The DPE has requested information as to when the site could be considered compliant against this condition. The site operators now consider that this condition is in compliance.

1. Domain Areas

The following table will be included in the upcoming Annual Review and Compliance Report (ARCR) for 2018:

Table 1. Domain Areas for 2016 to 2019 (estimated from Google Earth)

Mine Area Type	2016 Ha	2017 Ha	2018 Ha	2019 Ha
Exposed and Active	3.9	3.1	3.1	2.8
Active extraction area	2.5	2.4	2.2	2.0
Access tracks and haul roads (unsealed)	1.4	0.7	0.9	0.8
Areas not Actively Creating Dust				
Stripped ahead of mining (accessed < once per month)	0.6	2.4	2.5	2.2
Water Management	4.0	3.8	4.3	4.3
Overburden Emplacements / Machinery Storage	1.5	1.8	1.1	1.1
Land Being Prepared for Rehabilitation	1.9	1.9	1.8	1.8
Topsoil Stockpiles / Bunds / Land under active Rehabilitation (ie vegetated)	0.7	1.7	2.4	2.6
Total Active Disturbance	12.6	14.6	15.2	14.8
Infrastructure area (sealed)	1.5	1.5	2.3	2.3
Total Mine Footprint	14.1	16.2	17.5	17.1

Note that these areas have been interpolated from Nearmap and Google Earth air photography using 12D modelling software, and are not an accurate survey. A Statement of Accuracy can be supplied on request. The areas are illustrated on the attached *Figures* from the 2018 ARCR.

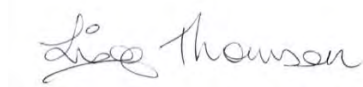
2. Actions Undertaken to Remedy the Non-Compliance

The operator has enlarged and flagged-off areas of the site that are accessed less than once per month to bring the “exposed and active” areas to less than 3 hectares. The unvegetated areas of the site have been managed effectively using water in accordance with the Air Quality Management Plan, as evidenced by the compliant dust results.

I trust this explanation meets your needs. Further information, please contact myself or Stuart Reed, Environmental Office, Hodgson Quarries & Plant Pty Ltd on 0418 277 871 or hodgsonquarries@gmail.com.

Yours sincerely,

For VGT Environmental Compliance Solutions Pty Ltd


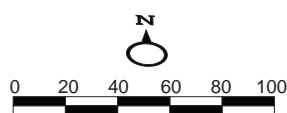
A handwritten signature in black ink that reads 'Lisa Thomson'.

Lisa Thomson, BAppSc(Chem)Hons

0427 334 471

Plan of:	Annual Review & Compliance Report 2018 for Roberts Road Maroota Sand Quarry - Domains 2018	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018	Our Ref:	6772_HMA_ARCR2018_C005_V1_F5.cdr
Figure:	FIVE	Council:	Hills Shire Council	Survey:	N/A	Plan By:	SK/JD
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V1 21/02/2019	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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


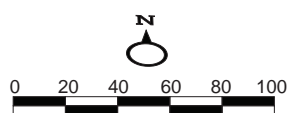

LEGEND		Area (Ha)
	Property Boundary	
DOMAIN TYPE		
Exposed and Active		3.1
	Active Extraction Area	2.2
	Access Tracks & Haul Roads (Unsealed)	0.9
Areas not Actively Creating Dust		
	Stripped Ahead of Mining (Accessed < Once Month)	2.5
	Infrastructure Area (Sealed)	2.3
	Water Management	4.3
	Bundwalls (Including Topsoil)	2.4
	Overburden Emplacement/ Machine Storage	1.1
	Land Being Prepared for Rehabilitation	1.8

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
 Signed: _____
 Date: _____

Project Manager VGT: Lisa Thomson
 Signed: _____
 Date: _____

Plan of:	Annual Review & Compliance Report 2018 for Roberts Road Maroota Sand Quarry - Proposed Domains 2019	Location:	Maroota Quarry, Roberts Road, Maroota, NSW	Source:	nearmap - Image Date 09/12/2018	Our Ref:	6772_HMA_ARCR2018_C006_V1_F6.cdr
Figure:	SIX	Council:	Hills Shire Council	Survey:	N/A	Plan By:	SK/JD
Sheet:	1 of 1	Tenures:	N/A	Projection:	N/A	Project Manager:	LT
Version/Date:	V1 21/02/2019	Client:	Hodgson Quarries & Plant Pty Ltd	Contour Interval:	N/A	Office:	Thornton

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


LEGEND		Area (Ha)
	Property Boundary	
DOMAIN TYPE		
Exposed and Active		2.8
	Active Extraction Area	2.0
	Access Tracks & Haul Roads (Unsealed)	0.8
Areas not Actively Creating Dust		
	Stripped Ahead of Mining (Accessed < Once Month)	2.2
	Infrastructure Area (Sealed)	2.3
	Water Management	4.3
	Bundwalls (Including Topsoil)	2.6
	Overburden Emplacement/ Machine Storage	1.1
	Land Being Prepared for Rehabilitation	1.8

Manager Hodgson Quarries & Plant Pty Ltd: Martin Hodgson
 Signed: _____
 Date: _____

Project Manager VGT: Lisa Thomson
 Signed: _____
 Date: _____



Contact: Elizabeth Williamson
Phone: 02 8289 6610
Email: compliance@planning.nsw.gov.au

Hodgson Quarries & Plant Pty Ltd
106 Erina Street
GOSFORD NSW 2250

Attention: Stuart Reed, Quarry Manager

Email: hodgsonquarries@gmail.com

**Roberts Road Maroota Sand Quarry (DA 267-11-99)
Annual Review Non-Compliance**

Dear Mr Reed,

I refer to the Department of Planning and Environment's (Department) investigation into the non-compliance with Condition 29c of DA 267-11-99 (Consent), as reported to the Department in the revised 2017 Annual Review and Compliance Report (Report).

Thank you for providing responses to the Department's requests for further information. Based on this information provided, the Department has concluded its investigation into the breach of Condition 29c of the Consent. The Department will continue to monitor the development to ensure that the conditions of Consent are being complied with.

Should you need to discuss the above, please contact Elizabeth Williamson on 02 8289 6610 or email to compliance@planning.nsw.gov.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Chris Mathieson'.

05/03/2019

Chris Mathieson
Team Leader – Compliance
as the Secretary's nominee

Our Ref: V15/3875#23 & OUT18/10820

Hodgson Quarry Products PTY LTD
PO Box 1778
GOSFORD NSW 2250

Via email:

info@hodgsonquarryproducts.com.au

Dear Sir/Madam

**RE: Hodgson Quarry Roberts Road Maroota, NSW
Water Management Plan Review (WMP)**

The Natural Resources Access Regulator (NRAR) – previously DPI Water - has had the opportunity to review of the supporting water management plan documents for the Hodgson Quarry Roberts Road Sand Quarry. The documents assessed were:

- Groundwater Management Plan (GMAP), Roberts Road Maroota Sand Quarry, Revision 16-0318-RO2B, prepared by Dundon Consulting Pty Ltd, for Hodgson Quarry and Plant PTY LTD and dated 16 April 2018
- Groundwater Study Report (GWSR), Roberts Road Maroota Sand Quarry, Revision 16-0318-RO3F, prepared by Dundon Consulting Pty Ltd, for Hodgson Quarry and Plant PTY LTD and dated 2 May 2018
- Groundwater Monitoring Program (GMP), Roberts Road Maroota Sand Quarry, Revision 16-0318-RO1C, prepared by Dundon Consulting Pty Ltd, for Hodgson Quarry and Plant PTY LTD and dated 15 April 2018
- Surface Water Management Plan (SWMP), Maroota Quarry Via Maroota, Revision 2801_MA_EMP_SWMP_2018_F4 and dated 20 March 2018.

NRAR is satisfied with the Groundwater Study reports and Surface Water Management Plan for Hodgson Quarry Roberts Road Sand Quarry.

However NRAR would like to request the following amendments to the Groundwater Management and Monitoring Plan.

- A “Make Good Provision” be included. Should there be a significant impact on neighbouring groundwater supply a make good provision will apply. This may include providing water to the impacted neighbouring bore or groundwater work affected.
- In addition if the Process/Tailings dam water is found to be leaking into the underlying aquifer and groundwater, it is expected the pH would be managed to remain between 6.5 and 8.5.

The Department requests further detailed information of the water levels and pumping records for PT84PB1 and PT84PB2 to be included in future monitoring and management reporting for the site.

Please contact Annika Lawrence, Water Regulation Officer (Newcastle) on (02) 4904 2516 or annika.lawrence@nrar.nsw.gov.au if you have further enquiries regarding this matter.

Yours sincerely

A handwritten signature in black ink, appearing to read 'I. Zinger', is positioned above the typed name.

Irene Zinger

**Manager Regional Water Regulation Branch (East)
Natural Resources Access Regulator**

15/07/2018

Dundon Consulting Pty Limited

ACN 083 246 459
ABN 27 083 246 459

PO Box 6219, PYMBLE NSW 2073

telephone: 02-9988 4449
facsimile: none
mobile: 0418 476 799
email: pjdundon@ozemail.com.au

31 July 2018

Irene Zinger – Manager Regional Water Regulation Branch (East)
Natural Resources Access Regulator
Locked Bag 5123
PARRAMATTA, NSW 2124

Attention: Annika Lawrence, Water Regulation Officer (Newcastle)
annika.lawrence@nrar.nsw.gov.au

Dear Annika,

Re: Hodgson Quarry Roberts Road Maroota, NSW – Water Management Plan Review
Your ref: V15/3875#23 & OUT18/10820

This letter is prepared in response to your letter to Hodgson Quarry Products Pty Ltd dated 15 July 2018 (your ref above).

The Groundwater Management Plan and Groundwater Monitoring Program have been modified to include a "Make Good Provision" as per your letter.

However, we have not included any changes in response to your second request, which we consider is inappropriate, as the natural groundwater has a pH range that is largely below the range of 6.5 to 8.5 that you have suggested as a management target. The monitoring results, as detailed in Appendix E of the Groundwater Management Plan, show that the pH of the natural groundwater ranges from 3.23 to 7.00 (apart from a single outlier value of 7.79 at MW3 in July 2002, and all values from MW6 which range up to 10.3, suggesting some contamination within that bore, possibly from cement grout incursion at the time of bore construction).

Not surprisingly, the pH of waters in the Process Dam and the Tailings Dam (4.29 to 4.50) is within the same range as the natural groundwater. The surface water in the Nursery Dam and Farm Dam by contrast has pH in the range 6.6 to 8.8.

We respectfully suggest that in light of the natural groundwater quality, it would be inappropriate to require Hodgson Quarry Products to manage the pH "to remain between 6.5 and 8.5".

We trust that you are in agreement with this position.

Yours faithfully,



Peter Dundon

From: [Ryan Shepherd](#)
To: [Lisa Thomson](#)
Subject: Re: Roberts Rd Maroota Sand Quarry
Date: Monday, 12 November 2018 4:10:55 PM

Hi Lisa,

I will endeavour to get back to you by the end of the week.

Regards,

Ryan Shepherd | A/Manager Regional Water Regulation (East)
Natural Resources Access Regulator
Department of Industry | Lands & Water
Level 3 | 26 Honeysuckle Drive | Newcastle NSW 2300 | PO Box 2213, Dangar NSW 2309
T: 02 4904 2650 | F: 02 4904 2501 | E: ryan.shepherd@nrar.nsw.gov.au
W: www.industry.nsw.gov.au

On Wed, Nov 7, 2018 at 3:58 PM Lisa Thomson <Lisa@vgt.com.au> wrote:

Hi Ryan,

On the 1st August, VGT submitted a letter in response to your reference V15/3875#23 and OUT18/10820 along with a Groundwater Monitoring Program and a Groundwater Management Plan for the Roberts Rd Maroota Sand Quarry. It would be greatly appreciated if you could let us know whether these documents meet your needs

Regards,

Lisa Thomson

Environmental Chemist

VGT Environmental Compliance Solutions Pty Ltd

02 4028 6412

0427 334471

[Have your say! Click here and fill in a short survey so we can improve for you!](#)



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----- Forwarded message -----

From: Irene Zinger <irene.zinger@nrar.nsw.gov.au>
To: Lisa Thomson <Lisa@vgt.com.au>
Cc: Joanna Pajkowska <joanna.pajkowska@nrar.nsw.gov.au>
Bcc:
Date: Mon, 20 Aug 2018 00:25:33 +0000
Subject: Re: FOLLOW-UP: Roberts Rd Maroota Sand Quarry

Hi Lisa

Ryan will be contacting you as he already had some conversation about this with someone in your office.

Best regards
Irene.

Irene Zinger | Manager Regional Water Regulation (East)
Natural Resources Access Regulator
Department of Industry | Lands & Water
Level 11, 10 Valentine Avenue | Parramatta NSW 2150
Locked Bag 5123 | Parramatta NSW 2124
T: 02 9842 8513 M: 0419 406416
E: irene.zinger@nrar.nsw.gov.au
W: www.industry.nsw.gov.au/natural-resources-access-regulator

We work flexibly. If you have received an email from me outside of normal business hours, I'm sending it at a time that suits me. I'm not expecting you to read or reply until normal business hours.

On 17 August 2018 at 15:40, Water Referrals <water.referrals@dpi.nsw.gov.au> wrote:

Hello Lisa

I'm forwarding your status update request to the Manager East Branch, NRAR, since Annika is on long leave and this referral may be with a different Water Regulation Officer.

Irene - our reference details for this referral are:

V15/3875#23 OUT18/10820	Hodgson Quarry Roberts Road Maroota - Hodgson Quarry Products Pty Ltd- DA 267-11-99 - Water Management Plan review: range of pH levels of the natural groundwater
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INW18/22244

Best regards
Joanna Pajkowska
Water Referrals

Natural Resources Access Regulator | NSW Department of Industry
[10 Valentine Avenue | Parramatta NSW 2150](http://10.Valentine.Avenue.Parramatta.NSW.2150) | Locked Bag 5123 | Parramatta NSW 2124
T: 1800 633 362 | E: water.referrals@dpi.nsw.gov.au
W: www.water.nsw.gov.au | www.industry.nsw.gov.au



Requests for review or comment on reports or specific projects can be sent directly to water.referrals@dpi.nsw.gov.au for action.

----- Forwarded message -----

From: **Lisa Thomson** <Lisa@vgt.com.au>
Date: Wed, 15 Aug 2018 at 16:00
Subject: Roberts Rd Maroota Sand Quarry
To: annika.lawrence@nrar.nsw.gov.au <annika.lawrence@nrar.nsw.gov.au>, Water Referrals <water.referrals@dpi.nsw.gov.au>, water.compliance@dpi.nsw.gov.au <water.compliance@dpi.nsw.gov.au>

Dear Annika,

On the 1st August, VGT submitted a letter in response to you reference V15/3875#23 and

OUT18/10820 along with a Groundwater Monitoring Program and a Groundwater Management Plan for the Roberts Rd Maroota Sand Quarry. It would be greatly appreciated if you could let us know whether these documents meet your needs, as the Department of Planning and Environment has been contacting us regarding your feedback.

If you need these documents resent, please let me know. If this is not the correct email for communications, please reply with the correct address.

Regards,

Lisa Thomson

Environmental Chemist

VGT Laboratories Pty Ltd

02 4028 6412

0427 334471

[Have your say! Click here and fill in a short survey so we can improve for you!](#)



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----- Forwarded message -----

From: Water Referrals <water.referrals@nrar.nsw.gov.au>

To: Lisa Thomson <Lisa@vgt.com.au>

Cc:

Bcc:

Date: Fri, 5 Oct 2018 05:13:02 +0000

Subject: Follow up re: Roberts Road Quarry, Maroota - files via WeTransfer

Hi Lisa

I'm going through some old emails and wanted to check if the issues/questions contained in the below documents regarding Roberts Road Quarry, Maroota have been addressed/responded to by NRAR?

- 5336 F1 compiled-signed 180725.pdf
- NRAR-Response to Hodgson Quarry Roberts Road WMP-rev.pdf
- 5336 Amendment Request from DPE 180718.pdf

Please give me a call directly (as we have large volume of referrals) if any action on our behalf is required.

Best regards
Joanna Pajkowska
8838 7831

Water Referrals

Natural Resources Access Regulator | NSW Department of Industry
10 Valentine Avenue | Parramatta NSW 2150 | Locked Bag 5123 | Parramatta NSW 2124
T: 1800 633 362 | E: water.referrals@nrar.nsw.gov.au
W: www.water.nsw.gov.au | www.industry.nsw.gov.au

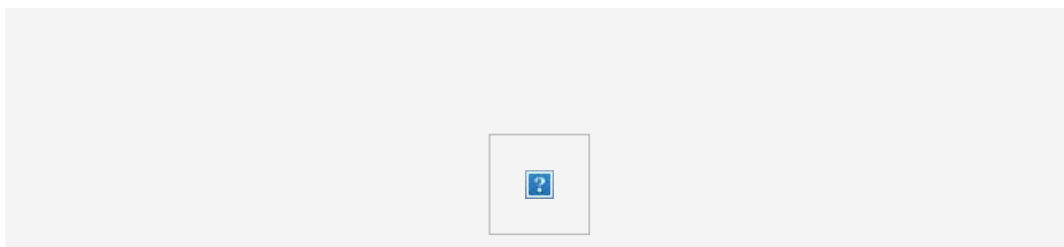


Requests for review or comment on reports or specific projects can be sent directly to water.referrals@nrar.nsw.gov.au for action.

We work flexibly. If you have received an email from me outside of normal business hours, I'm sending it at a time that suits me. Unless it's urgent, I'm not expecting you to read or reply until normal business hours.

----- Forwarded message -----

From: **WeTransfer** <noreply@wetransfer.com>
Date: Thu, Jul 26, 2018 at 10:34 AM
Subject: lisa@vgt.com.au sent you files via WeTransfer
To: annika.lawrence@nrar.nsw.gov.au



lisa@vgt.com.au
sent you some files

3 files, 27.9 MB in total · Will be deleted on 2 August, 2018

Get your files

Dear Elizabeth Williamson (DPE, Compliance), and Annika Lawrence (Water Regulation Officer, Newcastle).

Please find a link to download the Annual Review and Compliance Report

2017 for DA267-11-99, as amended according to the request from the DPE emailed 18/07/18.

The link has also been sent to the Natural Resource Access Regulator in response to a request on 15/7/18 for further information on water-related monitoring and management reporting.

PLEASE NOTE: the expiry date for the link below.

Regards,

Lisa Thomson, for VGT

02 4028 6412

lisa@vgt.com.au

Download link

<https://wettransfer.com/downloads/a572a4c18545fc33bc92346b73bef12120180726002741/2211c39b50f8873df28b69d110abf06020180726002747/08fa22>

3 files

5336 F1 compiled-signed 180725.pdf

NRAR-Response to Hodgson Quarry Roberts Road WMP-rev.pdf

5336 Amendment Request from DPE 180718.pdf

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Annika Lawrence | Water Regulation Officer (East)
Natural Resources Access Regulator
Department of Industry | Lands & Water
[Level 3, 26 Honeysuckle Drive | Newcastle NSW 2300](#)
PO Box 2213, Dangar NSW 2309
T: (02) 4904 2516
E: annika.lawrence@nrar.nsw.gov.au
W: www.water.nsw.gov.au | www.industry.nsw.gov.au

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Annika Lawrence | Water Regulation Officer (East)
Natural Resources Access Regulator
Department of Industry | Lands & Water
[Level 3, 26 Honeysuckle Drive | Newcastle NSW 2300](#)
PO Box 2213, Dangar NSW 2309
T: (02) 4904 2516
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Annika Lawrence | Water Regulation Officer (East)
Natural Resources Access Regulator
Department of Industry | Lands & Water
[Level 3, 26 Honeysuckle Drive | Newcastle NSW 2300](#)
PO Box 2213, Dangar NSW 2309
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Ms Lisa Thomson
Principal Environmental Consultant
VGT – Environmental Compliance Solutions
PO Box 2335
Greenhills NSW 2323

Email: Lisa@vgt.com.au

Dear Ms Thomson

**Roberts Road Quarry – Modification 2 (DA 267-11-99 MOD 2)
Environmental Management Plans**

The Department has reviewed the following revised management plans for the Roberts Road Quarry (DA 267-11-99) including the:

- Groundwater Study, dated April 2018 (condition 39 of Schedule 2);
- Water Management Plan, dated July 2018 (condition 42, Schedule 2);
- Groundwater Monitoring Program, dated July 2018 (condition 43, Schedule 2); and
- Landscape and Rehabilitation Management Plan, dated May 2018 (condition 60, Schedule 2).

The Secretary has approved the above-mentioned plans. Please ensure these plans are made available on the company's website.

Should you have any enquiries in relation to this matter, please contact Jack Murphy at the details above.

Yours sincerely,

Howard Reed

Director

Resource Assessments

As nominee of the Secretary

22.8.18



Contact: Emmanuel Smith-Aspros
Phone: 02 8289 6623
Email: compliance@planning.nsw.gov.au
Our ref: SF18/69205

Stuart Reid
Hodgsons Quarries & Plant Pty Ltd
PO Box 2335
Greenhills NSW 2323

Dear Mr Reid,

**Roberts Road Quarry, Maroota
Noise Monitoring Assessment Report**

Reference is made to the Noise Monitoring Assessment Report prepared by Muller Acoustic Consulting Pty Ltd for the Roberts Road Quarry as required by Schedule 1, Condition 47 of Development Consent DA 267-11-99 (as modified) for Hodgsons Quarries & Plant Pty Ltd (the consent).

The Department considers the Noise Monitoring Assessment Report to generally meet the requirements outlined within the relevant consent conditions. Please note that acceptance of the Noise Monitoring Assessment Report is not an endorsement of the compliance status of the project.

Should you have any questions about this matter, please contact Emmanuel Smith-Aspros, Compliance Officer, as per the details listed above.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'MD' followed by the date '6/9/18'.

Maria Divis
A/Team Leader – Compliance
as the Secretary's nominee



Beyond Compliance

VGT Environmental Compliance Solutions Pty Ltd
ABN 26 621 943 888

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